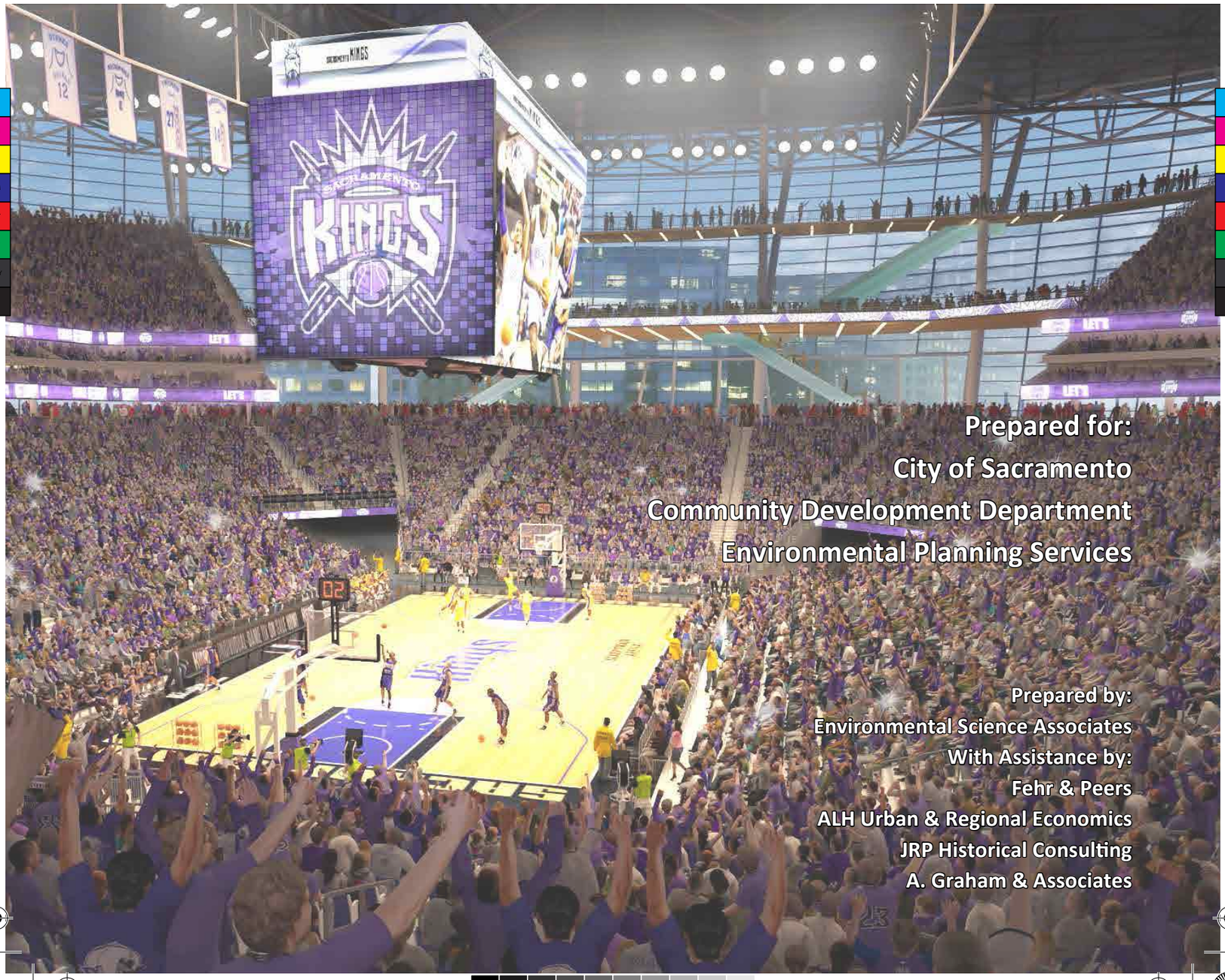
City of SACRAMENTO

Sacramento Entertainment and Sports Center & Related Development

Volume I: Environmental Impact Report

Project Number: P13-065
State Clearinghouse Number: SCH 2013042031

Certified May 20, 2014



Prepared for:
City of Sacramento
Community Development Department
Environmental Planning Services

Prepared by:
Environmental Science Associates
With Assistance by:
Fehr & Peers
ALH Urban & Regional Economics
JRP Historical Consulting
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SUMMARY

Sacramento Entertainment and Sports Center & Related Development Draft EIR

Introduction

This Environmental Impact Report is an informational document intended to inform the public and decision-makers about the environmental consequences of the proposed Sacramento Entertainment and Sports Center (ESC) & Related Development project (collectively, Proposed Project). The EIR considers the environmental impacts of the Proposed Project as well as the additive effects of growth throughout the Sacramento area and the region. These latter impacts are referred to as cumulative impacts. The EIR has been prepared by the City of Sacramento pursuant to the requirements of the California Environmental Quality Act (CEQA).

The EIR describes the existing environmental resources in the vicinity of the project sites, analyzes potential impacts on those resources due to the Proposed Project, and identifies mitigation measures that could avoid or reduce the magnitude of those significant impacts. The environmental impacts evaluated in the EIR concern several subject areas, including aesthetics/light and glare, cultural resources, transportation and circulation, air quality, global climate change, noise, biological resources, hydrology and water quality, hazards and hazardous materials, utilities, public services, as well as potential for growth and urban decay effects.

The EIR evaluates a range of alternatives, including different locations for the proposed ESC and different amounts of mixed use development at the Downtown project site. The EIR also evaluates the development of off-site digital billboards at ten different potential locations around the City.

Initially, this EIR is being published as a Draft EIR. The Draft EIR will be subject to review and comment by the public, as well as responsible agencies and other interested jurisdictions, agencies, and organizations for a period of 45 days beginning on December 16, 2013 and ending on January 31, 2014. During the public review period, an informational workshop will be held on December 18, 2013 at City Hall. A hearing will be held before the City of Sacramento Planning and Design Commission on January 23, 2014 to receive comments on the Draft EIR. The public may comment on the EIR by testifying at the public hearing, or may submit written comments at any time during the 45-day public review period. Information is available online at www.cityofsacramento.org/Arena.

Following the public review period, written responses will be prepared to all comments received on the Draft EIR. Those written responses, and any other necessary changes to the EIR, will be submitted to the City of Sacramento City Council for their consideration, along with the Draft

EIR, as part of the certification action on this EIR. The City Council would also consider adoption of Findings of Fact pertaining to this EIR, specific mitigation measures, a Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan.

Project Description

The proposed Sacramento Entertainment and Sports Center (ESC) and Related Development project (Proposed Project) involves the development of the ESC and mixed use development at the Downtown project site, and six offsite digital billboards at locations around the City.

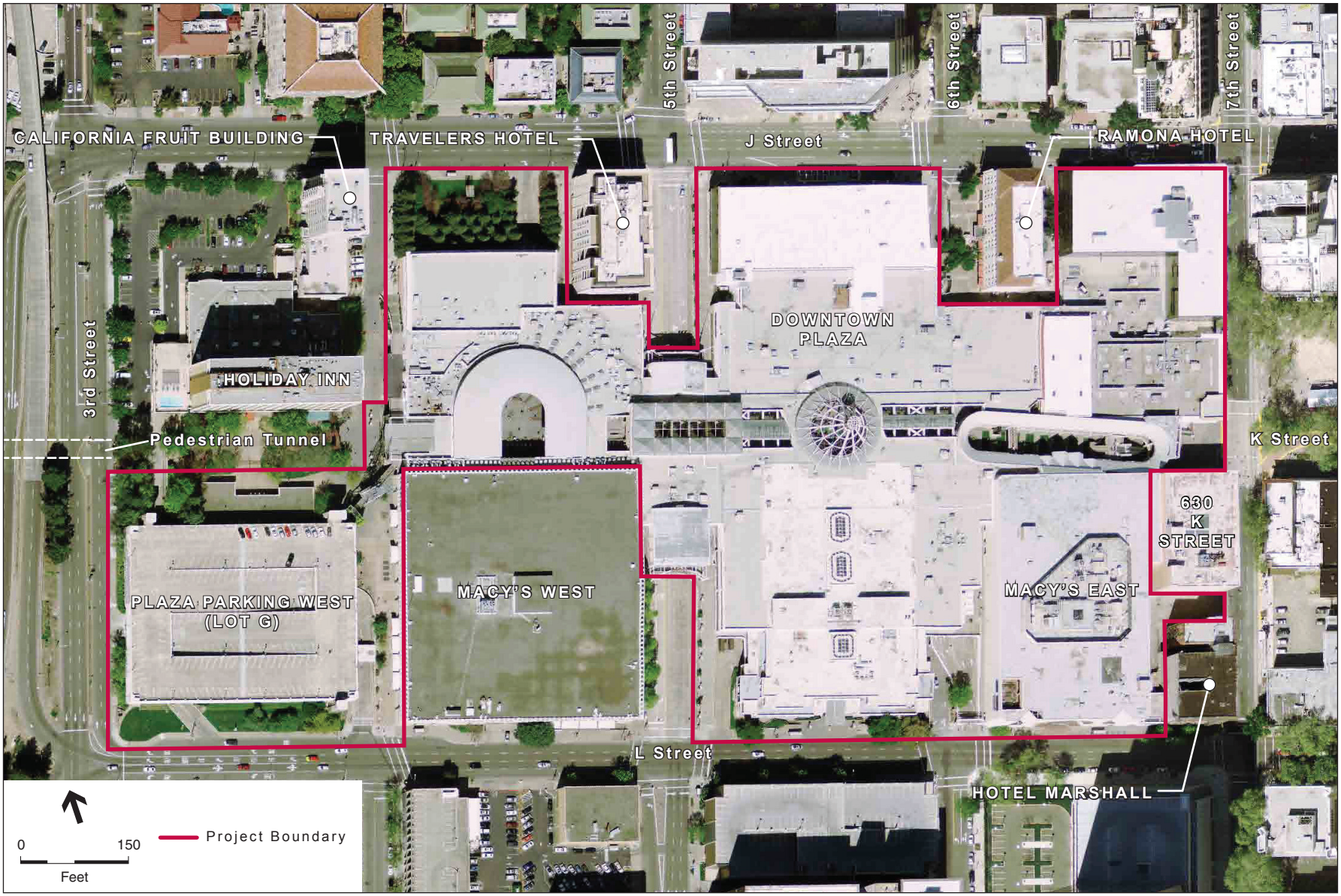
Downtown Project Site

The ESC project would be developed on a six square block area of downtown Sacramento currently developed with the Downtown Plaza regional shopping center, generally bounded by J Street, L Street, 3rd Street, and 7th Street, with the ESC building located east of 5th Street, near the intersection with L Street (see Figure S-1). The Proposed Project would redevelop the Downtown project site with a new ESC, practice facility, and mixed use development, while leaving the existing Macy's West building and City Parking Lot G (Plaza West Garage) (see Figure S-2). The Proposed Project would include the following key elements:

- Development of a 17,500-seat regional sports and entertainment center that would serve as the home of the NBA Sacramento Kings and as a venue for numerous sporting, musical, family, and civic events. The ESC would be approximately 697,000 square feet (sf) of space including the main performance and seating bowl, food service and retail space, and concourse areas. An integrated practice facility of approximately 82,000 sf would include practice courts and team facilities as well as administrative offices and a small amount of retail/restaurant space. The main ESC structure would be approximately 150 feet in height, with rounded corners and multi-faceted facades clad in panels that would be made of a variety of materials, including glass with tinting, metal and/or perforated metal, and precast concrete with stone aggregate. An approximately 50-foot high metal canopy may define the northern edge of an entry plaza area around the ESC;
- Development of up to 1.5 million square feet of retail, restaurant, office, hotel, and residential space; and
- The reconstruction and/or reconfiguration of below- and above-grade off-street parking on the project site, with the result that the current on-site parking supply of 3,700 spaces would be reduced to no more than 3,418 spaces.

The Proposed Project would replace approximately 858,000 square feet of office and retail space on the Downtown project site. In addition, the existing 17,317-seat, 480,000-square foot Sleep Train Arena and adjacent practice facility in Natomas would be closed pending future determinations and City action related to any potential re-use.

It is projected that the proposed ESC would accommodate as many as 189 event days each year with total annual attendance of approximately 1.65 million people per year.



SOURCE: USGS, 2011; ESA, 2013

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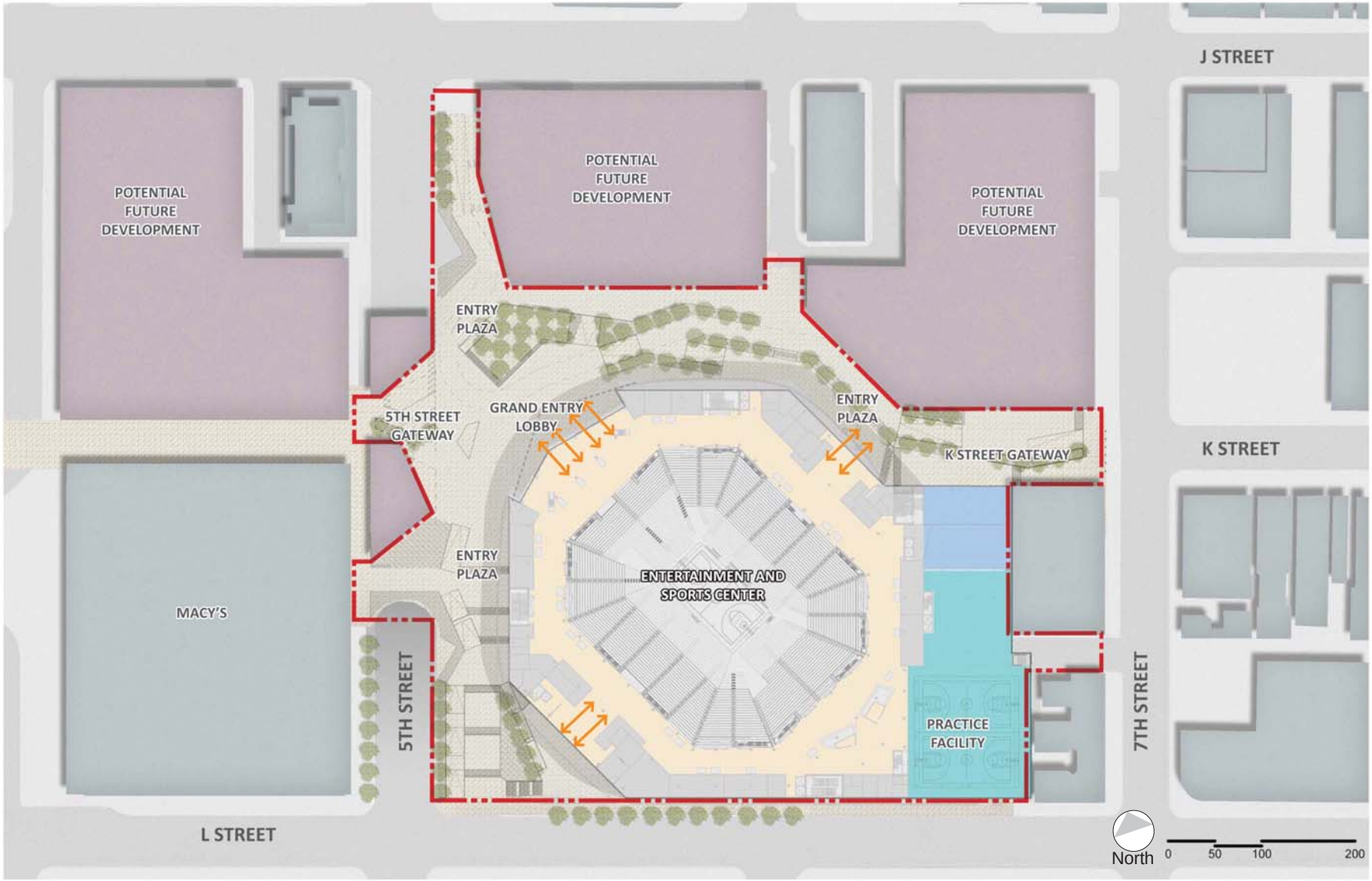
Figure S-1
Project Site



SOURCE: AECOM, 2014

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Figure S-2
Conceptual Site Plan

Offsite Digital Billboards

The proposed project would also include development of up to six digital billboards on City-owned properties located near highways around Sacramento. Digital billboards are expected to be 14 feet high and 48 feet wide, mounted on poles that would rise to a height of about 45 feet above the adjacent freeway. They are planned to be either single- or double-faced signs, oriented to be seen from dead-center by motorists traveling on the adjacent freeway lanes. The EIR considers the potential effects of digital billboard construction and operation on a total of 10 potential sites (see Figure S-3); ultimately six of these sites would be selected for development.

Senate Bill 743/Public Resources Code 21168.6.6

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) which, among other things, added Section 21168.6.6 to the Public Resources Code (PRC Section 21168.6.6).[1] PRC Section 21168.6.6 modifies certain CEQA procedures as they apply to qualifying projects.

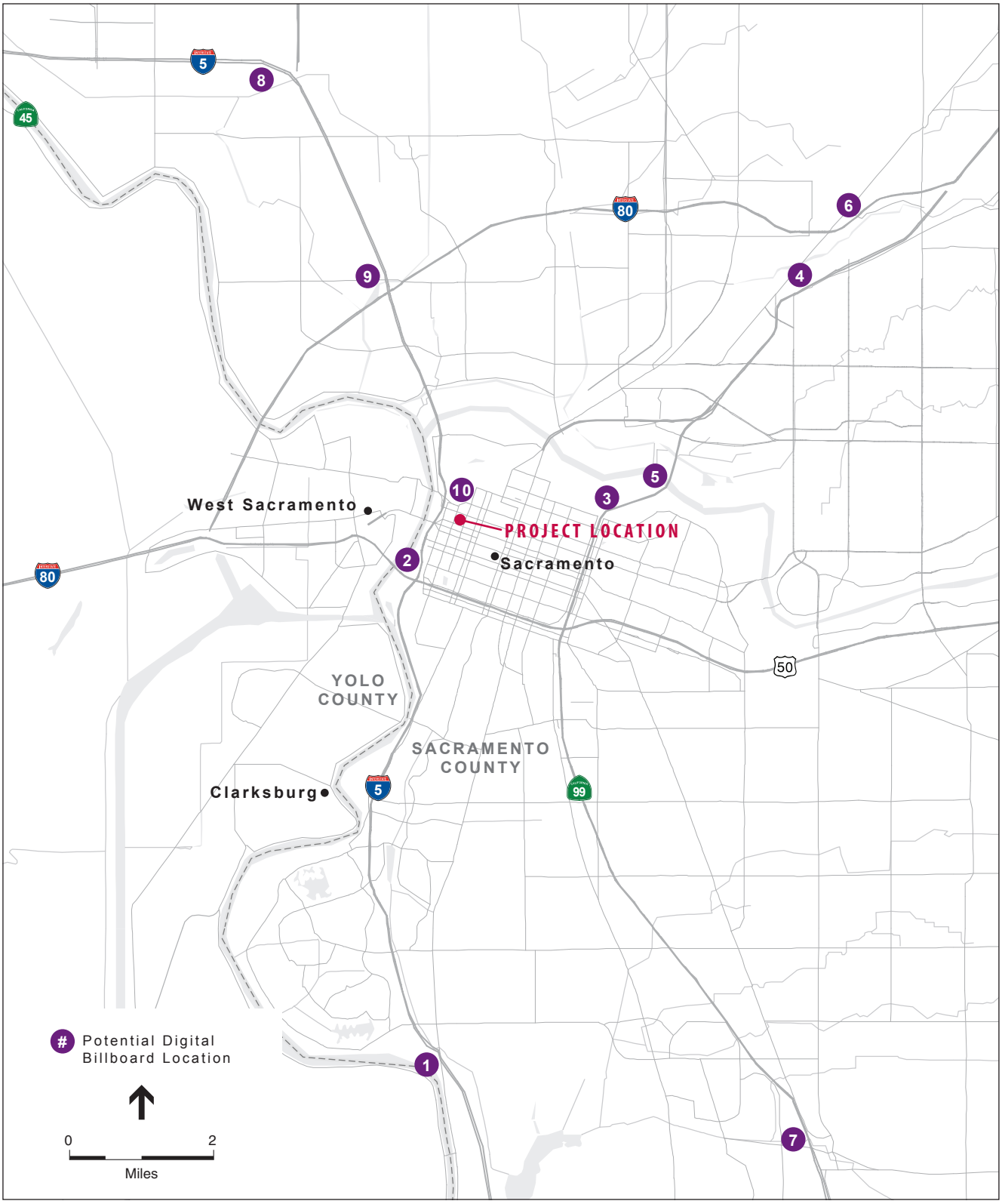
In order to meet the definition of "Downtown arena" under PRC Section 21168.6.6, the proposed ESC must receive Leadership in Energy and Environmental Design (LEED) Gold certification for new construction within one year of completion of the first NBA season. Strategies proposed to qualify the project for LEED Gold certification are described in Chapter 2, Project Description. The "Downtown arena" also must take the following steps to minimize operational traffic congestion and reduce global climate change impacts:

1. Achieve and maintain carbon neutrality or better by reducing to at least zero the net emissions of greenhouse gases from private automobile trips (automobiles and light vehicles) to the Sacramento ESC as compared to the baseline, and as verified by the Sacramento Metropolitan Air Quality Management District (SMAQMD);

2. Achieve a per attendee reduction in greenhouse gas emissions from automobiles and light trucks compared to per attendee greenhouse gas emissions associated with the existing arena during the 2012-13 NBA season that will exceed the carbon reduction targets for 2020 and 2035 achieved in the Sacramento Area Council of Governments (SACOG) sustainable communities strategy; and

3. Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline.

[1] A copy of PRC Section 21168.6.6 is contained in Appendix F of this Draft EIR.



SOURCE: DeLorme Street Atlas USA, 2000; David Nybo, 2013; ESA, 2013

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Figure S-3

Potential Offsite Digital Billboards Location Map

The relationship of the proposed ESC to steps 1 and 2 is discussed in section 4.5, Global Climate Change, and step 3 is discussed in section 4.10, Transportation. As is summarized in Table S-1, the proposed ESC would perform better than each of these criteria, thus complying with the requirements under SB 743. Therefore, the proposed ESC would qualify as a "Downtown arena" under PRC Section 21168.6.6.

TABLE S-1
COMPARISON TO SB 743 TARGETS

SB 743 Criteria	Requirement	Project Performance	Achieve SB 743 Targets?
Achieve LEED Gold Certification	LEED Gold	LEED Gold[1]	**Yes**
Step 1: Carbon Neutral Compared to Baseline	No net new GHG emissions	-268 mt/yr[2]	**Yes**
Step 2: Meet SCS Target for GHG Reduction on Per Attendee Basis	2020: -9% 2035: -16%	2020: -36% 2035: -45%	**Yes**
Step 3: VMT[3] No More than 85% of Baseline	-15%	E+P[4]: -18.8% Cumulative: -21.9%	**Yes**

NOTES:
1. The ESC is being designed to achieve LEED Gold certification, which is to be confirmed by end of first NBA season.
2. Metric tons per year
3. Vehicle miles traveled
4. Existing plus project

SOURCE: ESA 2013.

Areas of Controversy

During the public comment period on the Notice of Preparation (NOP), April 12, 2013 through May 13, 2013, the City of Sacramento received 22 written comment letters regarding the Proposed Project (see Appendix A for the NOP and Comment Letters). The comment letters included a number of specific and detailed comments pertaining to the project and the scope of the EIR. The comments requested that the EIR include analysis of issues such as:

- Vehicular traffic management, particularly along freeways and local streets, and the effects of increased traffic congestion on those streets, intersections, and surrounding uses;
- The supply and availability of onsite and/or offsite parking;
- The potential for air quality degradation as a result of project construction activities and operational activities;
- The increased use of and/or demand for light rail and bus transit services and facilities, pedestrian connections, and bicycle facilities;
- Change in demand for public utilities services and/or infrastructure including potential impacts to electricity demand, potential need for additional or relocated electrical infrastructure, and potential impacts to water, storm drainage, and wastewater collection and treatment facilities,

- Potential economic stimulation and/or urban decay impacts on the surrounding area that could occur from the Proposed Project's provision of entertainment, retail, office, residential, and hotel uses, as well as indirect economic effects as a result of loss of parking or increased congestion;
- Potential effects on nearby and adjacent historic buildings and districts as a result of the proposed project's construction and operation, including those impacts caused by construction vibration;
- Potential impacts to previously undiscovered archeological and/or Native American artifacts on the project site;
- Concerns regarding proposed onsite signage and potential light impacts on surrounding areas;
- Concerns about hazards and hazardous materials, particularly the presence of contaminated groundwater under a portion of the project site due to the Sacramento Railyards South Plume;
- Concerns regarding potential regional and localized flooding and their effects on the proposed entertainment and sports center;
- Changed demand for public services including law enforcement, fire protection, emergency response, and solid waste services; and
- Alternative site locations for the proposed development.

These issues are discussed in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

Environmental Effects

The following discussion provides an overview of the key environmental effects of the Proposed Project. It is generally organized to summarize the effects of the proposed ESC and mixed use development at the Downtown project site and the effects of the Offsite Digital Billboard program. This overview does not constitute a complete summary of every effect of the project described in the EIR, but rather it contains a description of those impacts that the City considers the principal environmental impacts of the Proposed Project. At the end of this chapter, Table S-2, Summary Table, includes a complete summary of all of the impacts and mitigation measures described in Chapter 4 of the EIR.

Downtown Project Site

Aesthetics, Light and Glare

The 150-foot tall, rounded, multi-faceted ESC building would be a distinctive, highly visible, iconic building that would be instantly recognizable due to a design unique in the region, and would be especially visible at night when it would be accentuated by bright lighting and signage.

The distinctive design would be consistent with City policies for iconic buildings in downtown and would be responsive to the intent of the City's Central City Urban Design Guidelines, even though a building of the size and scale of the ESC was not specifically anticipated for the downtown area. The mixed use development could result in several high-rise buildings developed on the Downtown project site, creating a visible urban streetwall along the J Street corridor.

The Proposed Project could contribute new additions to the City's skyline and would extend a visual urban character to a part of downtown Sacramento that currently has the visual character of a suburban shopping mall. New lighting and signage around the project site during construction and around the ESC building in the future would increase the amount of ambient nighttime light around the project site and could create light spillover that could adversely affect nearby residential uses.

A range of mitigation measures would be available to offset potential spillover light. During construction, contractors would be required to shield lights or to direct them away from nearby light-sensitive uses. Over the long-term, spillover light impacts could be mitigated by implementing a range of measures that would ensure that lighting would be reduced at any residential property to no more than two-foot candles, an amount that would typically not disturb sleep or other interior activities.

Air Quality

Construction and operation of the ESC and mixed use development would generate air emissions. Construction activities would generate significant impacts from emissions of nitrogen oxides (NOx) and small particulate matter (PM10). These impacts could be mitigated to a less-than-significant level through the inclusion of SMAQMD Basic Construction Emission Control Practices, SMAQMD Enhanced Exhaust Control Practices, and payment of off-site mitigation fees that are used to implement actions that reduce NOx and PM10 in the air basin.

On an operational basis, most air pollutant emissions associated with the Proposed Project is created by motor vehicle travel to and from the project site. As is documented in the analysis of transportation and circulation impacts, the Proposed Project would result in a decrease in per attendee vehicle miles traveled for trips to and from the ESC (as compared to Sleep Train Arena). In addition, the mixed use character of the future development would tend to decrease the relative amount of trip generation from the development. The combination of these factors results in less-than-significant impacts on operational emissions of particulate matter and carbon monoxide. The project impacts on daily emission of ozone precursors would be less than significant when considering the operations of all elements of the Proposed Project, including the air emission benefits of the proposed ESC compared to existing Sleep Train Arena. Evaluating days when there are no ESC events, the daily emission of ozone precursors from the mixed use development would exceed SMAQMD thresholds and be considered significant. The project emissions from the proposed mixed use development would be 24% less than the emissions from the same amount of development located in less beneficial location or form. In addition, the project would reduce emissions through membership in the Sacramento Transportation Management Association.

Biological Resources

The only biological resources that would be affected by development at the Downtown project site are a number of trees that are on the site, three of which qualify as heritage trees under the City Code, and others which could serve as nesting habitat for migratory or other protected bird species. The removal of these trees could create impacts, especially if the trees are removed during the bird nesting season. These impacts would be mitigated to a less-than-significant level through the conduct of preconstruction surveys prior to any nesting season tree removal, protection of trees with active nest sites during construction, and through protection or replacement of removed heritage and street trees at a ratio to be determined by the City.

Cultural Resources

The Downtown project site is located a part of Sacramento known to contain pre-historic artifacts and with a historic-era record going back to the Gold Rush era. Although there have been prior excavation on the project site, there may continue to be historic and/or pre-historic remains under portions of the project site. In addition, there are historic buildings adjacent to the project site were built in the early part of the 20th Century.

Construction of the Proposed Project has the potential to damage or destroy archaeological resources that may exist under the project site. Further, demolition and construction activities have the potential to damage the adjacent Hotel Marshall as a result of accidental damage during demolition or indirectly as a result of vibration caused by demolition, excavation, or construction activities. Similar indirect effects of vibration could cause damage to other historic buildings near the SPD area, including the Ramona Hotel, Traveler's Hotel, or California Fruit Building.

Discovery of historic or pre-historic archaeological resources during excavation would be mitigated through the implementation of a program involving training of construction personnel and monitoring by a qualified archeologist. In the event of discovery, work would cease during resource evaluation and recovery.

Accidental damage to the Hotel Marshall would be required to be repaired in compliance with the Secretary of Interior's Standards for the Treatment of Historic Properties. Vibration damage to the Hotel Marshall and the other nearby historic buildings would be avoided through the implementation of a mitigation program involving monitoring of vibration levels and potential damage to the buildings, along with repair of any incidental damage consistent with the Secretary of Interior standards.

Global Climate Change

The assessment of effects on global climate change focuses on the project's consistency with the City of Sacramento's recently adopted Climate Action Plan. The evaluation considered the project in comparison to the City's Climate Action Plan Consistency Checklist. The CAP Checklist considers such issues as (1) whether the project would be consistent with the land use and urban form parameters of the 2030 General Plan, (2) reduction in per capita vehicle miles traveled, (3) incorporation of traffic calming measures where appropriate, (4 and 5) conformance to the City's Pedestrian Master Plan and Bicycle Master Plan, (6) energy efficiency, and (7) water

efficiency. Based on this comparison, the Proposed Project would be consistent with the CAP and would therefore have a less-than-considerable contribution to cumulative greenhouse gas (GHG) emissions.

Hazards and Hazardous Materials

Although existing studies suggest that it is unlikely to discover contaminated soils under the Downtown project site, it is possible that previously unidentified contaminated soils could be discovered. Mitigation measures identified, including potential work stoppage in the event of discovery of suspected contaminated soil or groundwater, would reduce this impact to a less-than-significant level.

It is possible that dewatering during construction could expose construction workers or the public to potential health risks from contact with contaminated groundwater. This impact would be mitigated by requiring that a groundwater management plan be prepared to ensure that in the event that contaminated groundwater is encountered, including potentially the South Plume that originates at the Railyards site and extends under portions of the project site, appropriate steps would be undertaken. The Proposed Project would minimize the potential for dewatering of contaminated water through thoughtful location of dewatering wells, and would ensure that any contaminated water extracted during dewatering is discharged consistent with established requirements of the City and the Central Valley Regional Water Quality Control Board (CVRWQCB).

Hydrology and Water Quality

For the most part, potential project effects related to flooding and water quality would be avoided through required compliance with a complex set of permits, codes, and other regulatory plans overseen by the City, County, the Sacramento County Regional Sanitation District, and the Central Valley Regional Water Quality Control Board. In the vicinity of the Downtown project site, the existing storm drainage facilities, including the Combined Sewer System and Basin 52, flood during intense storms due to insufficient capacity; thus, the management of runoff of storm drainage from the project site requires careful planning and design. Because the project drainage systems have not yet been designed, it is possible that the Proposed Project could exacerbate existing conditions. By designing the project stormwater systems to ensure that the project runoff entering the City's drainage systems would not exceed current peak flows, the potential effect would be mitigated to insignificance.

Noise and Vibration

The Downtown project site is close to a number of residential buildings that are home to people who would meet the definition of sensitive noise receptor, including the adjacent Hotel Marshall and Jade Apartments near 7th and L Streets, and the Wong Center, Ping Yuen Apartments, and Riverview Plaza north of J Street. In addition, there are nearby businesses that may be sensitive to noise, including the adjacent Holiday Inn and Vagabond Inn hotels, the 630 K Street building that is home to the University of San Francisco Sacramento Campus, and the Church of Scientology in the landmark Ramona Hotel building. Finally, there are buildings close to the project site,

including four City historic landmarks, which could be sensitive to vibration created during construction.

Residents of adjacent buildings would be exposed to noise from the construction of the Proposed Project, as well as noise created during events and from increased traffic on downtown streets. During building of the proposed ESC and practice facility, and later for other development in the SPD area, demolition, excavation, and construction activities would generate noise levels during day and night times that would disturb people and interrupt sleep, and could potentially harm the hearing of individuals exposed to the highest level of noise. The same activities could generate vibrations that could damage nearby buildings, including historic landmarks that are near the project site. These noise levels would exceed standards established in the City Noise Ordinance.

These construction noise and vibration impacts would be mitigated through the implementation of measures used in combination to reduce construction noise and to block noise (i.e., prevent it from reaching sensitive receptors). Mitigation measures would reduce noise and vibration to a maximum extent feasible and, in doing so, would avoid any potential for the creation of noise that would harm public health or safety. The measures would require use of the best available noise reduction techniques and equipment, shielding of sensitive receptors, monitoring and the establishment of a noise disturbance coordinator with the authority to stop construction activities. The measures would require monitoring of building conditions and repair of any damage that might occur to adjacent or nearby buildings. However, despite the implementation of all potentially feasible mitigation measures, in this urban setting the close proximity of sensitive receptors to the project site would mean that construction noise impacts would remain significant and unavoidable.

Events at the ESC would create noise in the entry plaza from amplified speakers as well as crowd noise generated by attendees in the plazas and on streets around the project site. The project buildings, including the ESC practice facility, would attenuate noise around some existing residences, and the project applicant would limit sound amplification to no more than 100 dBA at the speaker, resulting in noise levels outside of the project site that would be less than the City standards. Future residential units built within the SPD area would be designed to ensure that interior sound levels meet City and State standards for interior sound levels.

In addition to construction noise, the Proposed Project would add traffic to area streets that would experience marginal increases in ambient noise levels. The noise levels on downtown streets would remain within the thresholds established for urban infill areas such as the central business district. However, the incremental project traffic would cause minor increases in noise levels that would exceed the City's Exterior Incremental Noise Standards. While these incremental increases would be barely perceptible, there are no feasible mitigation measures available to reduce the noise increases to less-than-significant levels.

Public Services

The evaluation of public services effects of the Proposed Project considers impacts related to police protection, fire protection, schools, and parks and recreation.

The Sacramento Police Department (Sacramento PD) would provide police protection at the Downtown project site and traffic management, as appropriate, before and after events at the proposed ESC. Traffic management may include physically blocking or controlling traffic routes and forcing lane splits to direct traffic toward appropriate garages, streets or freeway ramps, and would also include facilitating emergency vehicle access and pedestrian flow. Traffic management is addressed in the Draft Event Transportation Management Plan for the ESC, included in Appendix L of the Draft EIR. According to the Sacramento PD, no new facilities or personnel would be required to provide service to the Proposed Project.

Fire protection would be provided by the Sacramento Fire Department (SFD). The SFD anticipates that the Proposed Project would increase call volumes to the SFD. Although Station #2 at 13th and I Street is at capacity, sufficient capacity exists among other stations in the vicinity (Stations #1, 5, and 14) to meet the increased call volumes. Although the construction of a new fire station is not required to serve the proposed project, the SFD has identified that an additional emergency medical vehicle would be necessary to meet the increased needs created by the Proposed Project. The need for this ambulance is an economic matter and would not result in physical effects.

The project site is served by three Sacramento City Unified School District schools: William Land Elementary School, Sutter Middle School, and C.K. McClatchy High School. Under existing conditions, these schools have adequate capacity to serve the enrollment that would be generated by the full development of the mixed use development in the Proposed Project.

While the Proposed Project would generate some increase in the use of City parks and recreational facilities, new development in the SPD area would be required to pay City park development fees which would offset any increase in demand or use, and would avoid any adverse effects on City parks.

Transportation

The analysis of transportation and circulation effects at the Downtown project site involves an assessment of potential effects on roadways, freeways, transit facilities, and bicycle and pedestrian facilities.

The analysis studied effects during several time periods, including weekday AM and PM peak hours, the weekday pre-event peak hour, and the weekday post-event peak hour. A detailed study was undertaken to determine reasonable expectations for use of non-automotive modes of transportation to events at the proposed ESC, including transit, walk, and bicycle. The conclusions of that study are that in the short term, it is estimated that approximately 10% of ESC attendees would travel with non-automotive modes, including 7% of ESC attendees using transit, about 2.5% would walk, and less than 1% would ride bicycles. In the long term, under cumulative conditions, it is anticipated that non-automotive travel would constitute 15% of travel to and from the ESC, with transit use increasing to approximately 11%, walk increasing to 3% and bicycle use rising to 1%.

As proposed, the project would provide event-related parking for approximately 1,000 cars within the project site, and would rely on existing available off-site parking to accommodate event parking. Based on studies conducted for this EIR, within one-half mile of the project site there are approximately 6,700 available off-street parking spaces during weekday daytime periods and approximately 13,500 spaces during weekday evenings. During a sold-out Kings game with 17,500 attendees, there would be a demand for approximately 7,000 spaces (not including employees).

Area Intersections

The EIR studied 52 intersections in the project vicinity, including several in West Sacramento. When added to existing (2013) conditions, the Proposed Project would add an average increase in vehicle delay of about 5 seconds in the AM peak hour, about 3 seconds in the PM peak hour, and about 20 seconds in the pre-event peak hour. Much of the increased delay would occur at the J Street/3rd Street/I-5 ramps intersection, where delays would increase from 93 to 248 seconds in the AM peak hour, and from about 30 seconds to over 10 minutes in the pre-event peak hour.

Under 2030 General Plan Policy M 1.2.2, these impacts would not be considered significant if the project would adequately "improve other parts of the citywide transportation system in the vicinity of the project site." The Proposed Project would improve the citywide system by reducing per attendee VMT associated with events by nearly 20% compared to existing conditions at Sleep Train Arena and by improving pedestrian access in and around the project site. In addition, the project has proposed an Event Transportation Management Plan (TMP) that would be intended to manage vehicular circulation near the project site, and to optimize the safe and efficient use of multiple modes of transportation to and from events at the ESC. Key aspects of the TMP would include pre-event traffic control of a set of intersections around the project site to maximize flow and minimize queuing onto I-5, and post-event measures that include traffic control and temporary street closures (including 7th Street between J and L Streets, and L Street between 8th and 5th Streets). The TMP also calls for use of changeable message signs on local freeways, information dissemination to event attendees, and wayfinding. Each of these elements would assist in optimizing the use of the downtown street grid to convey traffic to and from the site in a decentralized manner. Because the TMP has not yet been finalized and approved by the City, compliance with Policy M 1.2.2 cannot be confirmed and the intersection effects are considered significant. Mitigation for this impact involves finalizing the TMP subject to City approval. If implemented, this mitigation would reduce the intersection improvements to a less-than-significant level.

Although with approval and implementation of the TMP under the City policy intersection queuing would not be significant, the increased queuing from the 3rd Street/J Street intersection onto I-5 during the AM and pre-event peak hours would be significant due to queuing back onto I-5. While mitigation measures could be implemented to reduce the magnitude of delays at this intersection, including signal retiming, traffic management, and additional use of changeable message signs to redirect traffic. Physical capacity improvements are not feasible at the intersection. Traffic management and signal timing adjustments will help reduce queuing and delays. However, traffic will continue to occasionally spill back on the off-ramps onto the freeway.

Freeway Segments

The project would exacerbate some freeway segments while improving others. Southbound I-5 between I-80 and J Street along with westbound segments of SR 160, I-80, and Business 80 would see increases in traffic, while northbound I-5 between downtown and I-80, and segments of I-80 would see decreases in traffic (due to events taking place at the proposed ESC rather than at Sleep Train Arena). Freeway segments that would be significantly impacted would include: northbound I-5 between I Street and Richards Boulevard (PM Peak Hour), and northbound I-5 between P Street and J Street. This impact could be mitigated through payment of the Interstate 5 Sub-Regional Fee that is in effect at the time of issuance of building permits or a fair-share payment calculated in a similar manner. Payment of this fee would contribute funding to projects that would improve operations on the impacted segments of I-5.

Transit

While the analysis concludes that adequate capacity exists to support project-related increased ridership on both bus and LRT systems, there is a recognition in the EIR that conditions could exist where access to light rail transit could be inadequate. The project would generate a large number of LRT riders in a short amount of time, many of whom would access trains from the 7th/K (St. Rose of Lima Park) station. This station features design/physical constraints that may cause boarding challenges. In addition, some transit riders would walk easterly on K Street through the 7th/K station in order to access Blue line to Watt/I-80 trains, further complicating the boarding/queuing process. A number of options exist for how post-event conditions could be managed to improve access to trains, including closure of 7th Street between J and L Streets, use of different stations for transit loading, and/or enhanced transit service. However, the nature and timing of these improvements has not been determined. The EIR also recognizes that purchase of LRT tickets for post-game train travel could be a hindrance to access if not properly planned. Accordingly, a variety of potential ticketing options are discussed in the EIR.

Two bus stops adjacent to the project site (on the north side of L Street between 7th and 6th Streets, and between 6th and 5th Streets) would be removed as part of the Proposed Project. The bus stop located on the north side of L Street between 5th and 4th Streets, in front of the Macy's West store, would be unaffected.

Mitigation of this impact would involve moving the bus stops to other locations in the immediate vicinity. Based on field surveys and preliminary discussions with Regional Transit and the City of Sacramento, it is possible that the two bus stops currently located on L Street between 5th and 7th Streets could be relocated by establishing bus stops to at least two potentially feasible relocation sites, including: (1) the north side of L Street immediately east of 7th Street, in front of the former Greyhound Bus Station that is currently being used as a parking facility, and (2) the west side of 6th Street, immediately north of Capitol Mall. A third location, the north side of L Street, immediately west of 5th Street, is also a possibility but would need further evaluation to determine the adequacy of sight distance for motorists exiting the adjacent Macy's Parking Garage driveway. The determination of whether these stops would be temporary or permanent would be made by the City in consultation with RT, Yolobus, and other regional transit providers that typically use the affected bus stops.

Bicycle and Pedestrian Access

It is not anticipated that the Proposed Project would adversely affect bicycle access. It would provide short-term patron bicycle parking racks and long-term employee bike parking lockers. For events with sufficient demand, the project could provide for valet bicycle parking, which could begin with a small valet space in the underground parking level. For larger events and depending on weather, valet could be expanded to an outdoor location. If feasible based on project design and space utilization, the Proposed Project may make provisions for a Bikeshare location if such a program is initiated by the City/SMAQMD. This provision could involve enclosed space in or around the ESC, or a Bikeshare rack adjacent to the ESC building.

During the pre-event and post-event peak hours, thousands of pedestrians would travel to and from the ESC and nearby parking garages, transit stops, businesses, and residences. Several signalized crosswalks would have very high pedestrian flows during pre-event periods. Pedestrian flow conditions would be even busier during post-event periods as a greater proportion of attendees exit the facility in a short time immediately after an event. Mitigation for these conditions would involve installation of pedestrian countdown heads at signalized crosswalks near the site, widening of the most heavily utilized crosswalks, signal retiming to increase pedestrian capacity, and/or use of traffic control personnel to assist with pedestrian travel during large events. When 7th Street and/or L Street are closed after events, pedestrians would be able to flow across those streets.

Utilities and Service Systems

The demand for water on the Downtown project site is anticipated to increase by approximately 200 acre feet per year as a result of development of the Proposed Project. In compliance with the California Water Code, the City prepared a Water Supply Assessment (WSA) which considers the availability of water to serve the Proposed Project and all other cumulative water demands over a 20-year horizon. Based on the findings of the WSA, it is anticipated that the City's water supplies would be sufficient to provide water to the Proposed Project, except in future years when drought conditions could limit withdrawals from the City's Fairbairn Treatment Plant on the American River. Further, the City's existing water transmission system is sufficient to meet the demands throughout the downtown area, including the Proposed Project, although smaller diameter distribution lines that connect the project to the City's larger diameter transmission mains may need to be replaced.

Wastewater from the project site would be conveyed to the Sacramento Regional Wastewater Treatment Plant through the City's Combined Sewer System (CSS) which has limited capacity and overflows into streets and the Sacramento River during major storm events. The Proposed Project would be expected to include on-site temporary containment vaults that would temporarily store peak wastewater flows during major storm events, ensuring that the peak flow from the Downtown project site in the future would not exceed the peak flow under current conditions. In addition, the Proposed Project buildings would be constructed with waterproof foundation systems, allowing for the incremental elimination of an existing operational dewatering system that currently protects the below-grade parking and discharges potentially

intrusive groundwater to the CSS. With these design features, the Proposed Project would not contribute to increases in CSS overflows.

Storm drainage from the project site would be conveyed to Basin 52 and subsequently to the Sacramento River. The Basin 52 system is currently over capacity and backs up into the streets during major storms. The Proposed Project has the potential to increase flows to the Basin 52 system by incrementally increasing the amount of impervious surface or by directing flows that currently go to the CSS into the Basin 52 system. Because the specific facilities for the ESC and the future development in the SPD area have not yet been designed, a mitigation measure has been included requiring that the project applicant submit, for City approval, studies for the ESC and all future buildings documenting the capacity of the proposed systems to ensure that peak flows from the project site are equal to or less than under current conditions.

Growth Inducement and Urban Decay

Growth inducement considers the potential for the project to remove obstacles to growth or to stimulate additional growth in the region through secondary economic linkages commonly referred to as the multiplier effect. The Proposed Project would be served by local roads and utility infrastructure, and would not remove any obstacles to growth in the project vicinity. It is expected that the Proposed Project's direct employment growth of approximately 2,084 jobs would generate the indirect and induced employment growth associated with the increased employment from the mixed use development in the Proposed Project, adding an additional 1,682 jobs in the Sacramento regional economy, bringing the total increase in jobs associated with the proposed mixed use development to 3,766 jobs. These additional jobs would occur throughout the Sacramento region and would not be expected to stimulate growth that would have environmental consequences beyond that already addressed in local general plans.

Under CEQA "urban decay" is defined as physical deterioration of properties or structures that is so prevalent, substantial, and lasting a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. The urban decay study presented in the EIR considers the supply and demand effects of the retail component of the Proposed Project, and further considers the potential of the Proposed Project to adversely affect businesses in Natomas (through the closure of Sleep Train Arena) and Old Sacramento, or to adversely affect redevelopment efforts on K Street or at the Railyards.

The conclusion of the analysis is that there is sufficient demand from the local market area so that retail and restaurant space in the Proposed Project alone would not be projected to result in closure of retail stores and restaurants. While some existing retail stores in Sacramento or West Sacramento may experience negative impacts following the opening of all of the retail and restaurant space allowed for in the Proposed Project combined with retail and restaurant space in cumulative developments through 2018, there is limited evidence to suggest that closed store spaces would exhibit traditional signs of deterioration and decay, such as graffiti, refuse dumping, and dilapidated fencing. Based upon these findings, the analysis concludes that under the Proposed Project combined with cumulative retail projects would not cause or contribute to urban decay.

The analysis also addressed the potential for the closure of Sleep Train Arena to adversely affect businesses in North Natomas, and concluded that the evidence suggests that there is little connection between Sleep Train Arena attendance and the level of economic activity in Natomas, leading to a conclusion that the closure of Sleep Train Arena would be unlikely to materially affect Natomas businesses or result in any business closures.

The analysis draws on information from the transportation chapter to conclude that the project would not materially increase congestion at intersections that affect traffic flow in and out of Old Sacramento. The analysis concludes that while most businesses in Old Sacramento should benefit from increased passersby if ESC event attendees park in and walk through Old Sacramento on the way to events, some businesses could be adversely affected by increased competition for parking spaces, especially those businesses that operate in the evening with time-specific operations. Although some individual businesses could be affected, the analysis concludes that the overall attractiveness of Old Sacramento as an historic district and place to do business should avoid any potential urban decay as a result of the Proposed Project.

The Proposed Project would tend to attract additional retail customers to the project vicinity, and would tend to benefit rather than hinder the potential redevelopment of K Street from 7th to 9th Streets and the Railyards development.

Offsite Digital Billboards

Aesthetics, Light and Glare

For the most part, the Offsite Digital Billboard sites are surrounded by uses that are not sensitive visual receptors or are at a distance to sensitive receptors that is sufficient to render visual concerns to insignificance. However, the I-5 at Water Tank site is immediately adjacent to a number of residences, including a home that is approximately 50 feet from the proposed billboard location, and the I-5 at San Juan Road site is located across the street from residences. A digital billboard would be visually incompatible and/or could create spillover light effects at residences near the I-5 at Water Tank and I-5 at San Juan Road sites. Mitigation measures are identified which would reduce the magnitude of these impacts by requiring that the billboard face at these locations be oriented to minimize the visibility from adjacent homes and the light emitted by the light emitting diodes (LEDs) that illuminate the billboard face would be limited to no more than two (2) lumens at the closest residential property. Nevertheless, the potential that the changing illuminated images would continue to be visible from indoor and outdoor locations in and around these homes would result in impacts that would be significant and unavoidable.

A digital billboard at the Business 80 at Sutter's Landing Regional Park/American River site would be visible from recreational areas of the American River Parkway and could be inconsistent with policies of the American River Parkway Plan and the 2030 General Plan. In addition, a billboard at this site would visually conflict with plans to restore the site as a natural area as part of an approved mitigation program. While this impact could be mitigated by moving the billboard pole location south and west so that the billboard face would not be visible from the

Jedediah Smith Memorial Trail or the level of the river, the impact would remain significant and unavoidable.

Air Quality

Construction and operation of the offsite digital billboards would generate small amounts of air emissions. If constructed concurrently with the construction of the ESC, the digital billboards would add to the significant construction air emissions impacts identified for the ESC related to emissions of nitrogen oxides (NOx) and small particulate matter (PM10). Like for the ESC and SPD area, these impacts could be mitigated to a less-than-significant level through the inclusion of SMAQMD Basic Construction Emission Control Practices, SMAQMD Enhanced Exhaust Control Practices, and payment of off-site mitigation fees that are used to implement actions that reduce NOx and PM10 in the air basin.

On an operational basis, digital billboards generate no air pollutant emissions.

Biological Resources

There is habitat for federally listed wildlife species at several of the digital billboard sites. The key potential impacts to biological resources include:

- Loss of elderberry shrubs, habitat for the Valley elderberry longhorn beetle, at the Business 80 at Sutter's Landing Regional Park/American River and Business 80 at Sutter's Regional Landing Park sites;
- Adverse effects on habitat for the giant garter snake at the I-5 at San Juan Road site;
- Disturbance to nesting migratory or other protected birds or bats as a result of tree removal at the Business 80 sites at Del Paso Regional Park/Haggin Oaks, Sutter's Landing Regional Park/American River, and Sutter's Landing Regional Park, at the I-5 at Water Tank site;
- Loss of or adverse effects on wetland resources at the I-5 at San Juan Road and SR 99 at Calvine Road sites; and
- Reduction in restorable area for a designated compensatory mitigation site at the Business 80 at Sutter's Landing Regional Park/American River site.

In each case, mitigation measures are available that would avoid or reduce the magnitude of these effects to a less-than-significant level.

Cultural Resources

No historic structures exist on any of the offsite digital billboard sites. Surveys by a qualified archaeologist, as well as archival research, did not identify any archaeological resources and indicates that there is a low potential for unidentified archaeological resources to be located during construction. While unlikely, there is a possibility of inadvertent discovery of archaeological resources during ground disturbing activities.

Discovery of historic or pre-historic archaeological resources during excavation at any of the digital billboard sites would be mitigated through the implementation of a program involving archeological monitoring and, in the event of discovery, ceasing work during resource evaluation and recovery.

Hazards and Hazardous Materials

Existing studies indicate that the potential digital billboard sites at I-80 at Roseville Road, US 50 at Pioneer Reservoir, and I-5 at Sacramento Railyards are adjacent to or overlying locations with known groundwater contamination. Although it is unlikely that contaminated groundwater would be encountered during the limited amount of excavation during installation of the billboard pole, it is possible that previously unidentified contaminated soils could be discovered. In the cases where contaminated groundwater is suspected, as with the three sites noted above, the digital billboard would be supported by a spread foundation which would limit the depth of excavation to approximately 5.5 feet rather than the 35-foot depth required for a pole foundation. Mitigation measures identified, including potential work stoppage in the event of discovery of suspected contaminated soil or groundwater, would reduce this impact to a less-than-significant level.

Noise

A number of the offsite digital billboard sites are in proximity to noise sensitive land uses, including residences, parks, and hotels. Although digital billboard construction activities would be short-term (approximately five days), exterior noise levels during that time period could exceed the City's standards. Mitigation measures are available that, combined with compliance with the City's Noise Ordinance, would reduce the construction noise effects of the digital billboards to insignificance.

Significant and Unavoidable Environmental Effects

Throughout this EIR, many significant environmental impacts are identified, and mitigation measures are described that would eliminate the impacts or decrease them to a less-than-significant level. Similarly, many impacts are identified that would be less-than-significant without the need for additional mitigation measures. There are, however, a number of impacts that are identified that cannot be eliminated or cannot be decreased to a level of insignificance even with the implementation of feasible mitigation measures. The key project-specific unavoidable significant environmental impacts include those listed below.

Downtown Project Site

Impact 4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx.

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Impact 4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.

Impact 4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City's standards.

Impact 4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.

Impact 4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.

Impact 4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-6: Access to light rail transit could be inadequate.

Offsite Digital Billboards

Impact 4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Cumulative Effects

Impact 4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.

Impact 4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.

Impact 4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.

Impact 4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.

Impact 4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.

Impact 4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.

Impact 4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.

Impact 4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-17: Access to light rail transit would be inadequate under cumulative conditions.

Impact 4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.

Impact 4.4-5: The Proposed Project contribute to cumulative losses of archaeological resources.

Alternatives to the Proposed Project

In addition to the analysis of the Proposed Project, the EIR also presents a discussion of a reasonable range of alternatives for each element of the project. Some alternatives initially considered by the City for evaluation in the EIR were eliminated from further consideration because they were either infeasible or would exacerbate impacts compared to the Proposed Project. Over the last 15 years the City and the Sacramento Kings have explored and made efforts to plan for numerous alternative projects to construct a new entertainment and sports venue in Sacramento. Several of the previously considered sites for the ESC are considered as alternatives in this EIR. A range of alternatives are evaluated in the EIR.

No Project Alternative

Under CEQA, the No Project Alternative must consider the effects of forgoing the project. Typically, two "no project" scenarios are considered—a "no development" alternative in which the project site retains existing conditions, and a "no action" alternative in which the project site is assumed to develop at a level that is reasonably foreseeable given the existing zoning and conditions.

Alternative 1, the No Project Alternative, describes the environmental conditions that exist at the time that the environmental analysis commences (CEQA Guidelines, section 15126.6 (e)(2)). In the case of the Proposed Project, the Downtown project site is already in a developed state, so continuation of existing conditions (the "no development" alternative) would involve continued operation of Sleep Train Arena and economic and related activity at the Downtown Plaza at existing levels. It is assumed that the Kings would remain playing at Sleep Train Arena for a limited amount of time. In light of the stated commitment of the Kings ownership to have the team remain in Sacramento, it is reasonable to assume that Kings ownership and the City would seek an alternate location for the development of a new ESC in Sacramento.

Railyards Site Alternative

Alternative 2 assumes that a new entertainment and sports center would be built at the Railyards in a location previously considered by the City in 2011-2012. No major changes would be made to the Downtown Plaza, but it is assumed that occupancy rates would increase due to improvements in the economy and re-tenating efforts.

Natomas Site Alternative

Under this alternative, a new ESC would be constructed near the existing Sleep Train Arena. The Natomas ESC would be similar in size, function and character as the Proposed Project. Downtown Plaza is assumed to operate at improved occupancy as described for the No Project Alternative under 2004 conditions.

Smaller Mixed Use Development Alternative

Under this alternative, the ESC would be constructed as described in Chapter 2 in this EIR, Project Description. The SPD area would also be developed, but at a lower intensity and a different mix of uses than under the Proposed Project. Under this alternative, the amount of retail/restaurant, residential, hotel and office space would be reduced, with the most substantive differences involving a 79% reduction in office and a 44% reduction in retail/commercial uses.

For purposes of this analysis, it is assumed that the retail/commercial uses would include the following: Retail - 70,000 sf, Restaurant - 24,000 sf, Fast Food - 3,000 sf, Cinema - 50,000 sf, and Health Club - 50,000 sf. The office uses would be 100,000 sf. Hotel and residential uses would be identical to the Proposed Project. This development would occur within the same area as the SPD under the Proposed Project. However, the size of buildings would be reduced. As a result, buildings might have smaller footprints with more public space and/or towers might be more slender and/or shorter than under the Proposed Project.

Offsite Digital Billboards

A total of ten offsite digital billboard sites were evaluated, although, as identified in the March 2013 nonbinding preliminary term sheet, no more than six (6) sites would ultimately be selected. For the most part, the impacts of the digital billboards would involve the location and orientation of the billboard face, and the billboard construction activities. Because there is such limited feasible variation in the size, height, or specifications of digital billboards, the primary potential variation that can be captured in alternatives involves the location of the site. Thus, the ten potential billboard sites represent a range of reasonable alternatives for the offsite digital billboards.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. If the No Project Alternative is considered environmentally superior, the EIR must identify which among the others is environmentally superior. It should be noted that environmental considerations are one set of the factors that must be considered by the public and the decision makers in deliberations on the project. Other factors of importance include but are not limited to urban design, economics, social factors, and fiscal considerations.

Downtown Project Site

Aside from the No Project Alternative, the environmentally superior alternative would be Alternative 4. Locating the ESC in the downtown and developing dense mixed uses would result in substantial reductions in vehicle miles traveled, which would reduce traffic, air emissions, and greenhouse gas emissions. When these environmental benefits are taken into consideration, Alternative 4 would be considered environmentally superior to the other alternatives because it would achieve the VMT reductions, but would have lessened impacts due to the reduction in office and retail development.

Offsite Digital Billboards

Aside from the No Project Alternative, the environmentally superior alternative would be construction and operation of digital billboards at the following six sites: I-80 at Roseville Road, SR 99 at Calvine Road, I-5 at Bayou Road, I-5 at Sacramento Railyards, Business 80 at Del Paso Regional Park/Haggin Oaks, and US 50 at Pioneer Reservoir. These sites are generally further from sensitive receptors and less likely to involve effects to natural or cultural resources.

Summary Table

Table S-2 (Summary of Impacts and Mitigation Measures), has been organized to correspond with the environmental issues discussed in Chapter 4. The summary table is arranged in four columns:

1. Environmental impacts ("Impact").

2. Level of significance without mitigation ("Significance Before Mitigation").

3. Mitigation measures ("Mitigation Measure").

4. The level of significance after implementation of mitigation measures ("Significance After Mitigation").

If an impact is determined to be significant or potentially significant, mitigation measures are identified, where appropriate. 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 section 4.0, Introduction to the Analysis.

TABLE S-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation: ESC/SPD	Significance Before Mitigation: DB	Mitigation Measure	Significance After Mitigation: ESC/SPD	Significance After Mitigation: DB
4.1 Aesthetics, Light, and Glare					
4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.	LS	S	4.1-1(a) (DB – I-5 at Water Tank; I-5 at San Juan Road) *At the I-5 at Water Tank and I-5 at San Juan Road sites, the digital billboard shall be oriented and designed, including the addition of screening and shielding features, to minimize the visibility of the lighted northern billboard face to homes on El Morro Court and El Rito Way, and to minimize the visibility of the lighted southern billboard face to homes on San Juan Road, Almoneti Avenue, and Tice Creek Way. Once the precise location and design of the digital billboard at this location has been proposed, the visibility of the LED face from windows and backyards of nearby homes shall be assessed and screening of the billboard face from view at nearby homes and yards shall be confirmed through a visibility study prepared by the applicant to the satisfaction of the Planning Director.* 4.1-1(b) (DB – Business 80 at Sutter's Landing Regional Park/American River) *At the Business 80 at Sutter's Landing Regional Park/American River site, the digital billboard pole shall be located to eliminate the visibility of the billboard from the Jedediah Smith Memorial Trail and from the level of the river. Once the precise location and design of the digital billboard at this location has been proposed, the visibility of the billboard shall be assessed and compliance with the requirements of Policy 7.24 of the American River Parkway Plan shall be confirmed through a visibility study prepared by the applicant to the satisfaction of the Planning Director.*	NA	SU
4.1-2: The Proposed Project could create substantial new sources of light.	S	PS	4.1-2(a) (ESC/SPD) *The project applicant shall require construction contractors to ensure that all lighting related to construction activities shall be shielded or directed to restrict any direct illumination onto property located outside of the Downtown project site boundaries that is improved with light-sensitive uses.* 4.1-2(b) (ESC/SPD) *Exterior lighting included within the ESC or SPD area shall incorporate fixtures and light sources that focus light on-site to minimize spillover light.* 4.1-2(c) (ESC/SPD) *The project applicant shall submit a conceptual signage and lighting design plan for the ESC to the Department of City Planning to establish lighting design standards and guidelines.* 4.1-2(d) (ESC/SPD) *Prior to issuance of a building permit for the ESC signage displays, the project applicant shall retain a lighting design expert who shall develop plans and specifications for the proposed lighting displays, establish maximum luminance levels for the displays, and review and monitor the installation and testing of the displays, in order to insure compliance with all City lighting regulations and these mitigation measures.* 4.1-2(e) (ESC/SPD) *Project lighting shall not cause more than two foot-candles of lighting intensity or direct glare from the light source at any residential property. This would preclude substantial spillover light from bright lighting sources.*	LS	LS

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.1 Aesthetics, Light, and Glare (cont.)					
			4.1-2(f) (ESC/SPD) *The project applicant shall comply with City Code Section 8.072.010, which establishes regulations regarding the use of searchlights.* 4.1-2(g) (ESC/SPD) *At the Downtown project site, all light emitting diodes used within the integral electronic display shall have a horizontal beam spread of maximum 165 degrees wide and 65 degrees vertically, and shall be oriented downwards to the plaza/street, rather than upwards.* 4.1-2(h) (DB – I-5 at Water Tank and I-5 at San Juan Road) *The maximum ambient light output level for any digital billboard shall be two (2) foot-candles at the closest residential property line from the billboard.*		
4.1-3: The Proposed Project could create new sources of glare.	S	LS	4.1-3 (SPD) *In the SPD area, highly reflective mirrored glass walls shall not be used as a primary building material (no more than 35 percent) for building facades adjacent to J Street and 7th Street. Instead, low emission (Low-E) glass shall be used in order to reduce the reflective qualities of the buildings, while maintaining energy efficiency.*	LS	NA
4.1-4: The Proposed Project could contribute to cumulative impacts related to changes in the visual character of the project vicinity.	LS	LS	None required.	NA	NA
4.1-5: The Proposed Project, in conjunction with other cumulative development in the City, could create substantial new sources of light.	LS	LS	None required.	NA	NA
4.1-6: The Proposed Project, in conjunction with other cumulative development in the project vicinity, could create new sources of glare.	LS	LS	None required.	NA	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.2 Air Quality					
4.2-1: The Proposed Project could conflict with or obstruct implementation of an applicable air quality plan.	LS	LS	None required.	NA	NA
4.2-2: Construction of the Proposed Project would result in short-term emissions of NOx.	S	S	4.2-2(a) (ESC/SPD/DB) *City approval of any grading or improvement plans shall include the following SMAQMD Basic Construction Emission Control Practices, including:* • *All exposed surfaces shall be watered two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.* • *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways shall be covered.* • *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.* • *Limit vehicle speeds on unpaved roads to 15 miles per hour.* • *All roadways, driveways, sidewalks, parking lots shall be paved as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.* • *Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.* • *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment shall be checked by a certified mechanic and determine to be running in proper condition before it is operated.* 4.2-2(b) (ESC/SPD/DB) *City approval of any grading or improvement plans shall include the following SMAQMD Enhanced Exhaust Control Practices, including:* • *Provide 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 Proposed Project to the City and the SMAQMD. The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The construction contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. This information shall be submitted at*	LS	LS

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.2 Air Quality (cont.)					
			least 4 business days prior to the use of subject heavy-duty off-road equipment. The inventory shall be updated and submitted monthly throughout the duration of the Proposed Project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. • *Provide a plan in conjunction with the equipment inventory, approved by the SMAQMD, demonstrating that the heavy-duty (50 horsepower or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOx reduction and 45% particulate reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.* • *Emissions from all off-road diesel powered equipment used on the project site shall not exceed 40% 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 the City and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this measure shall supercede other SMAQMD or state rules or regulations.* • *If at the time of granting of each building permit, the SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction will be necessary to make this determination.* 4.2-2c (ESC/SPD/DB) *The project applicant shall coordinate with SMAQMD to determine and ensure payment of off-site mitigation fees to offset the significant NOx emissions associated with the Proposed Project.*		
4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx or ROG.	S	LS	4.2-3 (ESC/SPD) *The Proposed Project shall join and maintain membership in the Sacramento Transportation Management Association (TMA).*	SU	NA
4.2-4: The Proposed Project would generate construction emissions of PM10.	PS	PS	4.2-4 (ESC/SPD/DB) *Implement Mitigation Measure 4.2-2(a).*	LS	LS

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.2 Air Quality (cont.)					
4.2-5: The Proposed Project would increase CO concentrations.	LS	LS	None required.	NA	NA
4.2-6: Implementation of the Proposed Project could create objectionable odors.	LS	LS	None required.	NA	NA
4.2-7: Implementation of the Proposed Project could result in short-term and long-term exposure to Toxic Air Contaminants (TACs).	LS	LS	None required.	NA	NA
4.2-8: The Proposed Project would contribute to cumulative increases in short-term (construction) emissions.	S	S	4.2-8 (ESC/SPD/DB) *Implement Mitigation Measures 4.2-2(a) through 4.2-2(c).*	LS	LS
4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.	S	LS	4.2-9 (ESC/SPD) *Implement Mitigation Measures 4.2-3.*	SU	NA
4.2-10: The Proposed Project would contribute to cumulative increases in PM10 concentrations.	PS	PS	4.2-10 (ESC/SPD/DB) *Implement Mitigation Measure 4.2-2(a).*	LS	LS
4.2-11: The Proposed Project would contribute to cumulative increases in short- and long-term exposures to Toxic Air Contaminants.	LS	LS	None required.	NA	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources					
4.3-1: Construction of the Proposed Project could disturb or harm listed wildlife species and/or destroy or degrade their habitat.	NI	S	4.3-1(a) (DB – Business 80 at Sutter's Landing Regional Park) (1) *Prior to construction at the Business 80 at Sutter's Landing Regional Park digital billboard site, the site shall be surveyed for the presence of the valley elderberry longhorn beetle and its elderberry host plant by a qualified biologist in accordance with USFWS protocols. If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the project site, or are otherwise located where they may be directly or indirectly affected by the Proposed Project, minimization and compensation measures, which include transplanting existing shrubs and planting replacement habitat (conservation plantings), are required (see below). Surveys are valid for a period of two years. Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with all stems measuring 1.0 inch or less in diameter at ground level.* (2) *For shrubs with stems measuring 1.0 inch or greater, the City shall ensure that elderberry shrubs within 100 feet of proposed development be protected and/or compensated for in accordance with the "U.S. Fish and Wildlife Services' (USFWS) Conservation Guidelines for the Valley Elderberry Longhorn Beetle and the Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office."* 4.3-1(b) (DB – I-5 at San Juan Road) (1) *No more than 24-hours prior to the commencement of construction activities at the I-5 at San Juan Road digital billboard site, a preconstruction survey shall be conducted to survey for* giant *garter snakes by a USFWS-approved biologist. The biologist shall provide the USFWS with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The project site shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.* (2) *Construction activity within giant garter snake habitat (e.g., riverine and fresh* emergent *wetland) shall be conducted between May 1 and September 30. This is the active period for the snake and direct mortality is lessened as snakes are expected to actively move and avoid danger. If it appears that construction activity may go beyond September 30, the City shall contact the USFWS as soon as possible, but not later than September 15 of the year in question, to determine if additional measures are necessary to minimize take. Construction activities within 200 feet from the banks of aquatic snake habitat will be avoided during the snake's inactive season. If this is not feasible, the City shall consult with USFWS to determine measures to avoid impacts to giant garter snake. If project activities are approved to continue into the inactive season, a USFWS-approved biologist shall inspect construction-related activities daily during this period for unauthorized take of federally listed species or destruction of their habitat. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to the giant garter snake.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources (cont.)					
			(3) *Any dewatered habitat shall remain dry for at least 15 consecutive days after April 15 and prior to excavating or filing the dewatered habitat.*	NA	LS
			(4) *A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the snake, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under FESA, and an explanation of the relevant terms and conditions of project permits. Written documentation of the training shall be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.*		
			(5) *Prior to the commencement of construction activities, high visibility fencing shall be erected around the habitats of giant garter snake to identify and protect these designated areas from encroachment of personnel and equipment. These areas shall be avoided by all construction personnel. The fencing shall be inspected by the Contractor before the start of each work day and maintained by the Contractor until completion of the project. The fencing may be removed only when the construction of the project is completed. Fencing shall be established in upland habitat immediately adjacent to aquatic snake habitat and extending up to 200 feet from construction activities. Silt fencing, if properly installed and maintained, may serve as suitable snake exclusion fencing.*		
			(6) *Signs shall be posted by the Contractor every 50 feet along the edge of the GGS habitat, with the following information: "This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and shall be maintained by the Contractor for the duration of construction.*		
			(7) *The Contractor shall minimize the potential for harm, harassment, and direct* mortality *of the snake resulting from project-related activities by implementation of the project. The Contractor shall ensure that the temporary loss of giant garter snake habitat is confined to the Proposed Project site.*		
			(8) *Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.*		
			(9) *Temporary impacts shall be restored to pre-project conditions. Areas subject to temporary impacts shall be limited to one season (the calendar year period between May 1 and October 1) and be restored within two seasons. Permanent impacts to giant garter snake habitat shall be replaced at a 3:1 ratio which must include both upland and aquatic habitat components. A portion of the mitigation for permanent loss of wetlands at a ratio no less than 1:1 may fulfill a portion of the 3:1 mitigation obligation for permanent impacts to giant garter snake habitat. This mitigation may be fulfilled through in-kind, onsite or off-site, out-of-kind mitigation as approved by the U.S. Fish and Wildlife Service and the Corps.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources (cont.)					
4.3-2: Construction of the Proposed Project could disturb nesting raptors, migratory birds, and/or maternity roosts for special-status bat species.	S	S	4.3-2(a) (ESC/SPD/DB – I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park, Business 80 at Del Paso Regional Park/Haggin Oaks, and Business 80 at Sutter's Landing Regional Park/American River) *The project applicant shall conduct any tree removal activities required for project construction outside of the migratory bird and raptor breeding season (February 1 through August 31) where feasible. For any construction activities that will occur between February 1 and August 31, the applicant shall conduct preconstruction surveys in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds. Surveys shall be conducted by a qualified biologist. In addition, all trees slated for removal during the nesting season shall be surveyed by a qualified biologist no more than 48-hours before removal to ensure that no nesting birds are occupying the tree. For Swainson's hawk nesting habitat, surveys shall be conducted in accordance with the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley).* *If active nests are found during the survey, the applicant shall implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone as, approved by CDFW, around the active nest.* *Measures may include, but would not be limited to:* *(1) Maintaining a 500-foot buffer around each active raptor nest. No construction activities shall be permitted within this buffer. For migratory birds, a no-work buffer zone shall be established, approved by CDFW, around the active nest. The no-work buffer may vary depending on species and site specific conditions as approved by CDFW.* *(2) Depending on conditions specific to each nest, and the relative location and rate of construction activities, it may be feasible for construction to occur as planned within the buffer without impacting the breeding effort. In this case (to be determined on an individual basis), the nest(s) shall be monitored by a qualified biologist during construction within the buffer. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until the nest is no longer active.* 4.3-2(b) (DB – Business 80 at Del Paso Regional Park/Haggin Oaks) *Pre-construction surveys for burrowing owls shall be conducted by a qualified biologist (as approved by CDFW) within 30-days prior to the start of work activities at the Business 80 at Del Paso Regional Park/Haggin Oaks billboard site where land construction is planned in known or suitable habitat. If construction activities are delayed for more than 30 days after the initial preconstruction surveys, then a new preconstruction survey shall be required. All surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation.*	LS	LS

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources (cont.)					
			(1) If burrowing owls are discovered in the Proposed Project site vicinity during construction, the CDFW-approved project biologist shall be notified immediately. Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. *(2) Occupied burrows during the nesting season shall be avoided by establishment of a no-work buffer of 250-foot around the occupied/active burrow. Where maintenance of a 250-foot no-work buffer zone is not practical, the City shall consult with the CDFW to determine appropriate avoidance measures. Burrows occupied during the breeding season (February 1 to August 31) will be closely monitored by the biologist until the young fledge/leave the nest. The onsite biologist shall have the authority to stop work if it is determined that construction related activities are disturbing the owls.* *(3) If approved by CDFW, the biologist may undertake passive relocation techniques by installing one-way doors in active and suitable burrows (that currently do not support eggs or juveniles). This would allow burrowing owls to escape but not re-enter. Owls should be excluded from the immediate impact zone and within a 160-foot buffer zone by having one-way doors placed over the entrance to prevent owls from inhabiting those burrows.* 4.3-2(c) (DB – Business 80 at Del Paso Regional Park/Haggin Oaks and Business 80 at Sutter's Landing Regional Park) *If tree removal activities commence on the project site during the breeding season of special-status bat species (April 1 to August 31), then a field survey shall be conducted by a qualified biologist to determine whether active roosts are present on site or within 50 feet of the project boundaries. Field surveys shall be conducted early in the breeding season before any construction activities begin, when bats are establishing maternity roosts but before pregnant females give birth (April through early May). If no roosting bats are found, then no further mitigation is required.* *If roosting bats are found, then disturbance of the maternity roosts shall be avoided by halting construction until the end of the breeding season or a qualified bat biologist excludes the roosting bats in consultation with CDFW.*		
4.3-3: The Proposed Project could remove, fill, interrupt or degrade protected wetlands.	NI	S	4.3-3 (DB – I-5 at San Juan Road and SR 99 at Calvine Road) (a) *The City shall require that the applicant(s) for the I-5 at San Juan Road and SR 99 at Calvine Road proposed billboard site (if the project encroaches into the detention basin) conduct a formal wetland delineation of wetlands and other waters of the U.S. within those project sites. The wetland delineation shall be submitted to the Corps for verification. If jurisdictional wetlands or other waters of the U.S. are not present, no further action is required.* (b) *If jurisdictional wetlands or other waters of the U.S. are present, the applicant shall avoid them if feasible. The Proposed Project shall minimize disturbances and construction footprints near avoided wetlands and other waters of the U.S to the extent feasible.*	NA	LS

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources (cont.)					
			(c) *If avoidance is not feasible, then the applicant shall demonstrate that there is no net loss of wetlands through compensation. This measure may be satisfied by obtaining a Section 404 permit. To ensure that there is no net loss of wetland habitat and no significant impact to potential jurisdictional features, the project shall compensate for impacted wetlands at a ratio no less than 1:1. Compensation shall take the form of wetland preservation, enhancement or creation in accordance with Corps and CDFW mitigation requirements, as required under project permits. Preservation and creation may occur on-site (through a conservation agreement) or off-site (through purchasing credits at a Corps approved mitigation bank).* (d) *At the I-5 at San Juan Road proposed billboard site, the project applicant shall compensate for loss of habitat in the Natomas Basin at a 0.5-to-1.0 ratio, per the requirements of the NBHCP.*		
4.3-4: The Proposed Project could require removal of Street Trees and/or Heritage Trees.	S	NI	4.3-4 (ESC/SPD) *The applicant for any project within the Downtown project site that would remove street and/or heritage trees shall submit a tree removal permit application for the removal of protected trees, as defined by City Codes 12.56 and 12.64. The application shall include proposed mitigation measures to protect retained trees and proposed replacement measures to mitigate for the loss of tree resources (replacement measures may be determined in consultation with the City's Director of the Department of Public Works). Several standard tree protection measures for retained trees are listed below; these measures may be revised in consultation with the City's Director of the Department of Transportation as appropriate.* • *A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The formula typically used is defined as 1.5 times the radius of the dripline or 5 feet from the edge of any grading, whichever is greater. The TPZ may be adjusted on a case-by-case basis after consultation with a certified arborist.* • *The TPZ of any protected trees shall be marked with permanent fencing (e.g., post and wire or equivalent), which shall remain in place for the duration of construction activities in the area. Post "keep out" signs on all sides of fencing.* • *Construction-related activities, including grading, trenching, construction, demolition, or other work shall be prohibited within the TPZ. No heavy equipment or machinery shall be operated within the TPZ. No construction materials, equipment, machinery, or other supplies shall be stored within a TPZ. No wires or signs shall be attached to any tree. Any modifications must be approved and monitored by a certified arborist.* • *Prune selected trees to provide necessary clearance during construction and to remove any defective limbs or other parts that may pose a failure risk. All pruning shall be completed by a certified arborist or tree worker and adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.* • *The TPZs of protected trees shall be monitored on a weekly basis.* • *A certified arborist shall monitor the health and condition of the protected trees and, if necessary, recommend additional mitigations and appropriate actions. This shall include the monitoring of trees adjacent to project facilities in order to determine if construction activities (including the removal of nearby trees) would affect protected trees in the future.*	LS	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.3 Biological Resources (cont.)					
4.3-5: The Proposed Project could install a digital billboard within a habitat mitigation area, resulting in a net loss in restorable area.	NI	S	4.3-5 (DB – Business 80 at Sutter's Landing Regional Park/American River) *To mitigate for potential temporary and permanent impacts to Sutter's Landing Regional Park's "Triangle" mitigation area, the applicant shall restore all temporary project-related impacts immediately following the completion of installation of the digital billboard. The applicant shall implement additional site restoration and enhancement within the "Triangle" mitigation area to ensure no net loss of habitat values. Restoration and enhancement activities may include the planting of additional oak trees and other vegetation (native shrubs, vines, forbs, and/or grasses) consistent with the 28th Street Landfill Tree Removal Mitigation Committee Report.*	NA	LS
4.3-6: The Proposed Project would contribute to the cumulative harm to special-status species or species of special concern and/or loss of degradation of their habitat.	S	S	4.3-6 (ESC/SPD/DB) *Implement Mitigation Measures 4.3-1(a), 4.3-1(b), 4.3-2(a), 4.3-2(b), 4.3-2(c), and 4.3-5.*	LS	LS
4.3-7: The Proposed Project would contribute to the cumulative loss and degradation of wetlands.	NI	S	4.3-7 (DB – I-5 at San Juan Road and SR 99 at Calvine Road**)** *Implement Mitigation Measure 4.3-3.*	NA	LS
4.3-8: The Proposed Project would contribute to the cumulative loss of street trees and heritage trees.	S	NI	4.3-8 (ESC/SPD) *Implement Mitigation Measure 4.3-4.*	LS	NA
4.4 Cultural Resources					
4.4-1: The Proposed Project could damage, degrade and/or destroy historic resources.	PS	NI	4.4-1(a) (ESC/SPD) *The Project applicant shall protect the Hotel Marshall from physical damage during demolition to ensure that the building's historic integrity of material is not significantly diminished and the Project Proponents will be responsible for repairs to the Hotel Marshall for damage caused by the demolition of the loading dock. If necessary, repairs shall be conducted in compliance with the "Treatment of Preservation" under the Secretary of Interior's Standards for the Treatment of Historic Properties (SOI Standards). The Project Proponents shall provide the City Preservation Director for review and approval of work plans for documenting the pre-construction condition of the Marshall Hotel, for protocols as to determining damage from demolition work, for the means and methods of protecting the Marshall Hotel during demolition, and for the means and methods of the demolition work itself alongside the Marshall Hotel, for the means and methods for making any of the repairs to be undertaken as a result of construction damage, and a*	LS	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.4 Cultural Resources (cont.)					
			completion report to ensure compliance with the SOI Standards. The Project Proponents shall be responsible for repairs related to project impacts and not for general rehabilitation or restoration activities on the Hotel Marshall. 4.4-1(b) (ESC/SPD) *Implement Mitigation Measure 4.8-3.*		
4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.	S	S	4.4-2(a) (ESC/SPD/DB) *The project applicant shall retain a qualified archaeologist (i.e., defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology) to carry out all actions related to archaeological and historical resources. Prior to the start of any ground disturbing activities, the qualified archaeologist shall conduct a Cultural Resources Sensitivity Training for all construction personnel working on the project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The project applicant shall inform the City Preservation Director prior to ground disturbing activities. During ground disturbing activities, archaeological monitoring shall be undertaken by the qualified archaeologist and Native American monitor as approved by the City Preservation Director.* 4.4-2(b) (ESC/SPD/DB) *If items of historic or archaeological interest are discovered, the construction contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, baked clay fragments, or faunal food remains (bone and shell); stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and/or battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include the remains of stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation the contractor shall immediately contact the City. The contractor shall not resume work until authorization is received from the City.* *Any inadvertent discovery of cultural resources during construction shall be evaluated by a qualified archaeologist. If deemed appropriate by the qualified archaeologist, an Archaeological Testing and Recovery Plan shall be prepared and implemented for the area subject to excavation. The qualified archaeologist shall determine whether monitoring is appropriate when construction activities resume.* *If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the State CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with State CEQA Guidelines section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and*	SU	SU

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.4 Cultural Resources (cont.)					
			covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, the archaeologist shall develop a treatment plan in consultation with the City and appropriate Native American representatives (if the find is of Native American origin). 4.4-2(c) (ESC/SPD/DB) *If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.* 4.4-2(d) (DB – I-5 at Bayou Road) *Prior to project construction at the I-5 at Bayou Road digital billboard site, on-site construction personnel shall attend a mandatory pre-project training led by a Secretary of the Interior-qualified archaeologist. The training will outline the general archaeological sensitivity of the area (without providing site specifics) and the procedures to follow in the event an archaeological resource and/or human remains are inadvertently discovered.* *Prior to installation of the billboard, a Secretary of the Interior-qualified archaeologist shall establish an Archaeologically Sensitive Area (ASA) that shall remain in place during construction activities within and adjacent to the ASA. The ASA will include the electrical box and a 15-foot radius around the electrical box, as well as a 10-foot buffer around that radius. No personnel associated with project activities would be allowed access within the ASA without an archaeologist present. The archaeologist shall also monitor any activities within the ASA to ensure that ground disturbing activities do not adversely affect the known archaeologically-sensitive resources within the ASA.* *Monitoring shall be required during all earthmoving activities associated with the installation of the billboard including, but not limited to site preparation, excavation of the footing for the billboard, and utility trenching.* *If archaeological materials are encountered during billboard construction, all soil disturbing activities within 25 feet in all directions of the find shall cease until the resource is evaluated. The monitor shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological resource. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the State CEQA Guidelines section 15064.5), mitigation shall be implemented in accordance with PRC Section 21083.2 and section 15126.4 of the State CEQA Guidelines, with a preference for preservation in place. Consistent with State CEQA Guidelines section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, the archaeologist shall develop a treatment plan in consultation with the City. At the conclusion of constructions activities, the archaeological monitor shall submit a memorandum to the City describing what, if any, archaeological resources were encountered during construction activities.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.4 Cultural Resources (cont.)					
4.4-3: Construction of the Proposed Project could damage and/or destroy paleontological resources.	S	S	4.4-3(a) (ESC/SPD/DB) *The project applicant shall retain a qualified paleontologist to carry out all actions related to paleontological resources. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Sensitivity Training for all construction personnel working on the project. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.* 4.4-3(b) (ESC/SPD/DB) *If discovery is made of items of paleontological interest, the contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery. After cessation of excavation the contractor shall immediately contact the City. The contractor shall not resume work until authorization is received from the City. Any inadvertent discovery of paleontological resources during construction shall be evaluated by a qualified paleontologist. If it is determined that the project could damage a unique paleontological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City.*	LS	LS
4.4-4: The Proposed Project would contribute to cumulative losses of historical resources.	S	NI	4.4-4 (ESC/SPD/DB) *Implement Mitigation Measure 4.4-1.*	LS	NA
4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.	S	S	4.4-5 (ESC/SPD/DB) *Implement Mitigation Measure 4.4-2.*	SU	SU
4.4-6: The Proposed Project would contribute to cumulative losses of paleontological resources.	S	S	4.4-6 (ESC/SPD/DB) *Implement Mitigation Measure 4.4-3.*	LS	LS
4.5 Global Climate Change					
4.5-1: Implementation of the Proposed Project could conflict with the City's Climate Action Plan.	LS	LS	None required.	NA	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.6 Hazards and Hazardous Materials					
4.6-1: The Proposed Project could expose people to previously unidentified contaminated soil during construction activities.	PS	S	4.6-1(a) (ESC/SPD/DB) *If unidentified or suspected contaminated soil or groundwater evidenced by stained soil, noxious odors, or other factors, is encountered during site preparation or construction activities at the Downtown project site and/or digital billboard site, work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a Registered Environmental Assessor (REA) or qualified professional. The REA or qualified professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of anticipated contaminants and contaminant concentrations, and recommendations for appropriate handling and disposal. Site preparation or construction activities shall not recommence within the contaminated areas until remediation is complete and a "no further action" letter is obtained from the appropriate regulatory agency.* 4.6-1(b) (DB – US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards) *Prior to final project design and any earth disturbing activities at the US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards billboard sites, the City shall require that the applicant conduct a Phase I Environmental Site Assessment. The Phase I Site Assessment shall be prepared by a REA or other qualified professional to assess the potential for contaminated soil or groundwater conditions at the project site. The Phase I Site Assessment shall include a review of appropriate federal and State hazardous materials databases, as well as relevant local hazardous material site databases for hazardous waste on-site and off-site locations within a one-quarter mile radius of the subject project site. The Phase I Site Assessment shall also include a review of existing or past land uses and aerial photographs, summary of results of reconnaissance site visit(s), and review of other relevant existing information that could identify the potential existence of contaminated soil or groundwater. If no contaminated soil or groundwater is identified or the Phase I ESA does not recommend any further investigation than no further action is required.* *The Phase 1 ESA for the Sacramento Railyards shall include contacting DTSC to obtain information to identify any remediation infrastructure within the vicinity of the proposed billboard site. No remediation system, monitoring well network, extraction wells, associated conveyance piping or treatment systems shall be altered, disturbed or destroyed without prior approval by DTSC.* *No excavation and/or removal of soil at the Sacramento Railyards billboard site, except as allowed pursuant to section 3.01.C of the 1994 covenant, shall occur without prior written approval of DTSC. Excavated soil must be tested for those compounds noted in the preamble of the 1994 covenant and properly used, treated and/or disposed of as required by law and DTSC.* 4.6-1(c) (DB – US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards) *If existing soil or groundwater contamination is identified and the Phase I ESA recommends further review, the applicant shall retain a REA to conduct follow-up sampling to characterize the contamination and to identify any required remediation that shall be conducted consistent with applicable regulations prior to any earth-disturbing activities. The environmental professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of anticipated contaminants and contaminant*	LS	LS

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.6 Hazards and Hazardous Materials (cont.)					
			concentrations at the proposed construction site, and recommendations for appropriate handling of any contaminated materials during construction. These recommendations shall be implemented and the site shall be deemed remediated by the appropriate agency (e.g., DTSC, Sacramento County EMD) prior to earth disturbance continuing in the vicinity of the contamination.		
4.6-2: Demolition of existing structures could expose people to asbestos-containing materials, lead-based paint and/or other hazardous materials.	LS	NI	None required.	NA	NA
4.6-3: The Proposed Project could expose people to existing contaminated groundwater during dewatering activities.	LS	PS	4.6-3 (DB – US 50 at Pioneer Reservoir and I-80 at Roseville Road) *Implement Mitigation Measure 4.6-1 (a) through (c).*	NA	LS
4.6-4: Dewatering activities associated with the Proposed Project could interfere with remediation of the Railyards South Plume.	PS	NI	4.6-4 (ESC/SPD) *Prior to initiating dewatering activities for the ESC and/or SPD development, the project applicant shall demonstrate that dewatering activities would adequately protect construction workers and minimize interference with remediation activities subject to approval from DTSC. If during project dewatering, monitoring data indicate that the remediation of the groundwater plume is being adversely affected, dewatering activities shall cease until measures are developed and implemented, subject to DTSC approval. Measures might include: (1) limiting the duration of pumping during periods of high groundwater flow; (2) relocating dewatering wells; or (3) equally effective measures to be developed in consultation with DTSC which eliminate demonstrated adverse effects to on-going remediation.*	LS	NA
4.6-5: The Proposed Project could increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site.	LS	LS	None required.	NA	NA
4.6-6: The Proposed Project would contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume.	S	NI	4.6-6 (ESC/SPD) *Implement Mitigation Measure 4.6-4.*	LS	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.6 Hazards and Hazardous Materials (cont.)					
4.6-7: The Proposed Project could contribute to cumulative risk of exposure of people due to inadvertent or accidental releases of hazardous substances transported on local or regional roadways or rail lines.	LS	LS	None required.	NA	NA
4.7 Hydrology and Water Quality					
4.7-1: The Proposed Project could degrade water quality.	LS	LS	None required.	NA	NA
4.7-2: Implementation of the Proposed Project could increase the risk of flooding on- or off-site.	S	LS	4.7-2 (ESC/SPD) *Implement Mitigation Measure 4.11-5.*	LS	NA
4.7-3: The Proposed Project could substantially deplete groundwater supplies.	LS	LS	None required.	NA	NA
4.7-4: The Proposed Project could contribute to the cumulative degradation of water quality.	LS	LS	None required.	NA	NA
4.7-5: The Proposed Project could contribute to cumulative increases in the risk of flooding.	S	LS	4.7-5 (ESC/SPD) *Implement Mitigation Measure 4.7-2.*	LS	NA
4.7-6: The Proposed Project could contribute to cumulative depletion of groundwater supplies.	LS	LS	None required.	NA	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.8 Noise					
4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.	S	LS	4.8-1(a) (ESC/SPD) *On-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks) shall be located as far as possible and/or shielded from nearby noise sensitive land uses to meet City noise standards.* 4.8-1(b) (ESC) *The project applicant shall retain a qualified acoustical consultant to verify that the architectural and outdoor amplified sound system designs incorporate all acoustical features in order to comply with the City of Sacramento Noise Ordinance.*	SU	NA
4.8-2: The Proposed Project could result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation.	PS	LS	4.8-2(a) (SPD) *Prior to the issuance of building permits, the City shall require project applicants for residential development to submit a detailed noise study, prepared by a qualified acoustical consultant, to identify design measures necessary to achieve the City interior standard of 45 Ldn in the proposed new residences. The study shall be submitted to the City for review and approval. Design measures such as the following could be required, depending on the specific findings of the noise study: double-paned glass windows facing noise sources; solid-core doors; increased sound insulation of exterior walls (such as through staggered-or double-studs, multiple layers of gypsum board, and incorporation of resilient channels); weather-tight seals for doors and windows; or sealed windows with an air conditioning system installed for ventilation. This study can be a separate report, or included as part of the Noise and Vibration Reduction Plan for the SPD. The building plans submitted for building permit approval shall be accompanied by certification of a licensed engineer that the plans include the identified noise-attenuating design measures and satisfy the requirements of this mitigation measure.* 4.8-2(b) (ESC) *Implement Mitigation Measure 4.8-1(b) to minimize noise from outdoor amplified sound systems.*	LS	NA
4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City standards.	S	LS	4.8-3 (ESC/SPD) *Prior to the issuance of any building permit for each phase of project development, the project applicant shall develop a Noise and Vibration Reduction Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor, and submit the Plan to the City Chief Building Official for approval. The Plan shall include the following elements:* • *To mitigate noise, the Plan shall include measures such that off-road equipment will not exceed interior noise of 45 dBA Leq (between 10 p.m. and 7 a.m.) and 75 dBA Leq (between 7 a.m. and 10 p.m.) at nearby receptors.* • *To mitigate vibration, the Plan shall include measures such that surrounding buildings will be exposed to less than 80 VdB and 83 VdB where people sleep and work, respectively, and less than 0.2 PPV for historic buildings and 0.5 PPV for non-historic buildings to prevent building damage.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.8 Noise (cont.)					
			Measures and controls shall be identified based on project-specific final design plans, and may include, but are not limited to, some or all of the following: • *Buffer distances and types of equipment selected to minimize noise and vibration impacts during demolition/construction at nearby receptors in order to meet the specified standards.* • *Haul routes that affect the fewest number of people shall be selected and subject to preapproval by the City.* • *Construction contractors shall utilize equipment and trucks equipped with the best available noise control techniques, such as improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible.* • *Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used to lower noise levels from the exhaust by up to about 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.* • *Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.* • *Erection of a six-foot or greater solid plywood construction/noise barrier, where feasible, around the outside perimeter of the project site where the demolition or construction activity area faces occupied uses (i.e., excluding parking garages). The barrier shall not contain any significant gaps at its base or face, except for site access and surveying openings.* • *Use of "quiet" pile driving technology (such as auger displacement installation), where feasible in consideration of geotechnical and structural requirements and conditions.* • *Erection of a scaffold with reinforced noise blankets to completely block the line of sight of the Jade Apartments and accessible faces of the Hotel Marshall prior to commencement of demolition, and shall extend the scaffold to screen the Hotel Marshall incrementally as access is provided by demolition of the adjacent Macy's building. Alternatively, residents of these two buildings could be temporarily relocated during demolition, excavation, and construction activities that could result in noise and vibration levels that exceed the above listed thresholds.* • *Implement a vibration, crack, and line and grade monitoring program at existing historic and non-historic buildings located within 20 feet and 10 feet of demolition/construction activities, respectively. The following elements shall be included in this program:*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.8 Noise (cont.)					
			o *Pre-Demolition and Construction:* ▪ *To assist with measures regarding impacts to historical resources, the project applicant and construction contractor shall solicit input and review of plan components from a person(s) who meets the SOI Professional Qualification Standards for Architectural History, and, as appropriate, an architect that meets the SOI Professional Qualification Standard for Historic Architect. These qualification standards are defined in Title 36 Code of Federal Regulations Part 61.* ▪ *Photos of current conditions shall be included as part of the crack survey that the construction contractor will undertake. This includes photos of existing cracks and other material conditions present on or at the surveyed buildings. Images of interior conditions shall be included if possible. Photos in the report shall be labeled in detail and dated.* ▪ *The construction contractors shall install crack gauges on cracks in the walls of the historical and non-historical buildings to measure changes in existing cracks during project activities. Crack gauges shall be installed on multiple representative cracks, particularly on sides of the building facing the project.* ▪ *The construction contractor shall determine the number and placement of vibration receptors at the affected historic and non-historic buildings in consultation with the consulting architectural historian and/or architect. The number of units and their locations shall take into account proposed demolition and construction activities so that adequate measurements can be taken illustrating vibration levels during the course of the project, and if/when levels exceed the established threshold.* ▪ *A line and grade pre-construction survey at the affected historic and non-historic buildings shall be conducted.* o *During Demolition and Construction:* ▪ *The construction contractor shall regularly inspect and photograph crack gauges, maintaining records of these inspections to be included in post-construction reporting. Gauges shall be inspected every two weeks, or more frequently during periods of active project actions in close proximity to crack monitors, such as during demolition of the Macy's Men's and Furniture Department Building near the Hotel Marshall.* ▪ *The construction contractor shall collect vibration data from receptors and report vibration levels to the City Chief Building Official on a monthly basis. The reports shall include annotations regarding project activities as necessary to explain changes in vibration levels, along with proposed corrective actions to avoid vibration levels approaching or exceeding the established threshold.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.8 Noise (cont.)					
			▪ *With regards to historic structures, if vibration levels exceed the threshold and monitoring or inspection indicates that the project is damaging the building, the historic building shall be provided additional protection or stabilization. If necessary and with approval by the City Chief Building Official, the construction contractor shall install temporary shoring or stabilization to help avoid permanent impacts. Stabilization may involve structural reinforcement or corrections for deterioration that would minimize or avoid potential structural failures or avoid accelerating damage to the historic structure. Stabilization shall be conducted following the Secretary of Interior Standards Treatment of Preservation. This treatment shall ensure retention of the historical resource's character-defining features. Stabilization may temporarily impair the historic integrity of the building's design, material, or setting, and as such, the stabilization must be conducted in a manner that will not permanently impair a building's ability to convey its significance. Measures to shore or stabilize the building shall be installed in a manner that when they are removed, the historic integrity of the building remains, including integrity of material.*	SU	NA
			o *Post-Construction*		
			▪ *The applicant (and its construction contractor) shall provide a report to the City Chief Building Official regarding crack and vibration monitoring conducted during demolition and construction. In addition to a narrative summary of the monitoring activities and their findings, this report shall include photographs illustrating the post-construction state of cracks and material conditions that were presented in the pre-construction assessment report, along with images of other relevant conditions showing the impact, or lack of impact, of project activities. The photographs shall sufficiently illustrate damage, if any, caused by the project and/or show how the project did not cause physical damage to the historic and non-historic buildings. The report shall include annotated analysis of vibration data related to project activities, as well as summarize efforts undertaken to avoid vibration impacts. Finally, a post-construction line and grade survey shall also be included in this report.*		
			▪ *The project applicant (and its construction contractor) shall be responsible for repairs from damage to historic and non-historic buildings if damage is caused by vibration or movement during the demolition and/or construction activities. Repairs may be necessary to address, for example, cracks that expanded as a result of the project, physical damage visible in post-construction assessment, or holes or connection points that were needed for shoring or stabilization. Repairs shall be directly related to project impacts and will not apply to general rehabilitation or restoration activities of the buildings. If necessary for historic structures, repairs shall be conducted in compliance with the Secretary of Interior Standards Treatment of Preservation. The project applicant shall provide the City Chief Building Official and City Preservation Officer for review and comment both a work plan for the repairs and a completion report to ensure compliance with the SOI Standards.*		

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation: ESC/SPD	Significance Before Mitigation: DB	Mitigation Measure	Significance After Mitigation: ESC/SPD	Significance After Mitigation: DB
4.8 Noise (cont.)					
			• *Designate a disturbance coordinator and conspicuously post this person's number around the project site, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any local complaints about construction activities. This disturbance coordinator shall receive all public complaints about construction noise disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem. The disturbance coordinator shall have the authority to halt noise- or vibration-generating activity if necessary to protect public health and safety.* • *Adjacent noise-sensitive residents and commercial uses (i.e., educational, religious, transient lodging) within 200 feet of demolition and pile driving activity shall be notified of the construction schedule, as well as the name and contact information of the project disturbance coordinator.*		
4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.	PS	LS	4.8-4 (ESC/SPD) *Implement Mitigation Measure 4.8-3.*	SU	NA
4.8-5: The Proposed Project would expose adjacent residential and commercial buildings, and persons within, to significant vibration due to rail operations.	LS	LS	None required.	NA	NA
4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.	S	LS	4.8-6 (ESC/SPD) *Implement Mitigation Measures 4.8-1(a) and 4.8-1(b).*	SU	NA
4.8-7: Implementation of the Proposed Project would contribute to cumulative increases in residential interior noise levels of 45 dBA Ldn or greater.	PS	LS	4.8-7 (ESC/SPD) *Implement Mitigation Measures 4.8-2(a) and 4.8-2(b).*	LS	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.8 Noise (cont.)					
4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.	S	LS	4.8-8 (ESC/SPD) *Implement Mitigation Measure 4.8-3.*	SU	NA
4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.	S	LS	4.8-9 (ESC/SPD) *Implement Mitigation Measure 4.8-3.*	SU	NA
4.9 Public Services					
4.9-1: The Proposed Project would increase demand for police protection services within the City of Sacramento.	LS	NI	None required.	NA	NA
4.9-2: The Proposed Project would contribute to cumulative increases in demand on police protection services in the City of Sacramento.	LS	NI	None required.	NA	NA
4.9-3: The Proposed Project would increase demand for fire protection services within the City of Sacramento.	LS	NI	None required.	NA	NA
4.9-4: The Proposed Project would contribute to cumulative increases in demand for fire protection services in the City of Sacramento.	LS	NI	None required.	NA	NA
4.9-5: The Proposed Project would increase enrollment at SCUSD schools.	LS	NI	None required.	NA	NA
4.9-6: The Proposed Project would contribute to cumulative increases in school enrollment in SCUSD schools.	LS	NI	None required.	NA	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.9 Public Services (cont.)					
4.9-7: The Proposed Project would increase the use of existing parks and recreational facilities within the City of Sacramento.	LS	LS	None required.	NA	NA
4.9-8: The Proposed Project would contribute to cumulative increases in demand on City parks and recreational facilities in the City of Sacramento.	LS	LS	None required.	NA	NA
4.10 Transportation					
4.10-1: The Proposed Project would worsen conditions at intersections in the City of Sacramento.	S	NI	4.10-1 (ESC/SPD) *The applicant shall be required to prepare and implement an Event Transportation Management Plan (TMP) that would provide a range of transportation management strategies designed to address the travel associated with various events at the ESC, and to improve operations in downtown before, during, and after ESC events. The TMP will be subject to review and approval of City of Sacramento Traffic Engineer, in consultation with affected agencies such as Caltrans and Regional Transit.*	LS	NA
4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.	S	NI	4.10-2 (ESC/SPD) *Prior to the issuance of each building permit for the project, the project applicant shall pay its fair-share contribution to fund planned transportation improvements which are included in the SACOG Metropolitan Transportation Plan (MTP) and are located within the I-5 freeway corridor in proximity to the project. The payment shall cover the fair-share portion allocable to the portion of the project subject to the building permit. This mitigation measure is required with each phase of development, regardless of whether it is the ESC or a non-ESC land use.*	SU	NA
4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.	S	NI	4.10-3 (ESC/SPD) *The City shall coordinate with Caltrans, as necessary, to implement the following measures to benefit operations at the J Street/3rd Street/I-5 off-ramps intersection:* a) *AM Peak Hour: Street/3rd Street/I-5 off-ramps Intersection – Revise the traffic signal green splits for the 3rd Street north-south, southbound off-ramp, and northbound off-ramp phases. The applicant shall be required to pay a fair share contribution to the City Traffic Operation Center (TOC) to revise the signal timing at this intersection.* b) *Pre-Event Peak Hour (for large events): Implement Mitigation Measure 4.10-1 (Prepare/Implement TMP which includes potential traffic management strategies at the J Street/3rd Street/I-5 off-ramps intersection for pre-event conditions).*	SU	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.10 Transportation (cont.)					
			c) *Pre-Event Peak Hour (for large events): The City shall coordinate with Caltrans to use existing changeable message signs (CMS) located on southbound I-5 (south of West El Camino Ave.), northbound I-5 (at Sutterville Road), and westbound Capital City Freeway (at 9th Street) to broadcast real-time information to travelers regarding preferred travel routes to access the ESC. These broadcasts would operate in conjunction with City, State, and ESC Traffic Management Centers.*		
4.10-4: The Proposed Project would adversely affect the transit system's ability to accommodate the projected ridership demand.	LS	NI	None required.	NA	NA
4.10-5: The Proposed Project would cause inadequate access to bus transit.	LS	NI	4.10-5 (ESC) *The project applicant, in coordination with the City of Sacramento, Regional Transit, and other transit providers within the project vicinity, shall identify new bus stop locations and cause replacement bus stop facilities to be constructed. Service providers should then collaborate/agree on which bus routes should use which relocated stops. The proposed bus stop location would be located on the north side of Capitol Mall between 8th Street and 7th Street.*	LS	NA
4.10-6: Access to light rail transit would be inadequate.	S	NI	4.10-6 (ESC) *The project applicant, the City of Sacramento, and Regional Transit shall identify and implement feasible operational strategies to improve access to light rail transit before and after events at the ESC. These strategies, which shall be documented in the TMP, may include, but are not limited to, the following:* a) *7th Street Closure (City/Applicant responsibility): Close 7th Street between J Street and L Street to vehicular traffic (buses and LRT trains would be permitted on 7th Street) prior to the completion of an evening event and extending for a certain period after the event ends (events warranting closure and duration of closures to be identified in the TMP).* b) *Train Boarding/Queuing at 7th/K Station (City/RT responsibility): During post-event conditions, permit pedestrians to board trains at the 7th/K (St. Rose of Lima Park) stop from both the left and right sides of the train. This measure would increase pedestrian staging space, and provide improved access to trains. Also implement strategies (wayfinding, barriers, personnel) that would enable transit riders to "queue" (stand in line) while waiting for post-game trains.* c) *Alternative Station Loading Strategies (City/RT/Applicant responsibility): To better distribute passenger loadings, consider loading the Gold line and Blue line (to Meadowview) from different stations (i.e., one would load only at 7th/K and the other would load only at 7th/Capitol). Also consider a mid-block loading location for the Gold line on the closed portion of 7th Street from J to K Streets.*	SU	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.10 Transportation (cont.)					
			d) *Enhanced LRT Service (City/RT/Applicant responsibility): As warranted, operate the first post-event trains (i.e., after the game ends) in each direction with four cars (versus current two-car capacity) to provide a spike in transit system capacity in response to demand.* e) *Enhanced LRT Ticket Purchasing (City/RT/Applicant responsibility): Consider approaches such as selling LRT passes inside the ESC, special passes (valid for use on trains until midnight) sold at the box office, smartphone applications, and/or special transit ticket provisions.*		
4.10-7: The Proposed Project would adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.	LS	NI	None required.	NA	NA
4.10-8: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	S	NI	4.10-8 (ESC) *The project applicant, in coordination with the City and subject to the City's Traffic Engineer approval, shall implement pedestrian system enhancements consistent with the Project's TMP to accommodate pedestrian access before and after special events at the ESC. Potential improvements may include, but are not limited to, the following:* a) *Upgrade traffic signals (if necessary) at the following locations to include pedestrian countdown heads (i.e., displays number of seconds remaining in "flashing don't walk" phase) and other required enhancements (e.g., special signage or signal control equipment for temporary closures) subject to the review and approval by the City Traffic Engineer:* • *L Street/4th Street* • *L Street/5th Street* • *L Street/6th Street* • *L Street/7th Street* • *Capitol Mall/5th Street* • *J Street/5th Street* • *J Street/6th Street* • *J Street/7th Street* • *K Street/7th Street* *b) Increase the width of the following crosswalks from 10 to 15 feet:* • *L Street/4th Street – crossing of L Street on the east side* • *J Street/5th Street Intersection - crossing of J Street on the east side* • *L Street/5th Street Intersection - crossing of L Street on the east side* • *J Street/6th Street Intersection - crossing of J Street on the west side* • *L Street/6th Street Intersection – crossing of L Street on the west side* • *L Street/7th Street Intersection – crossing of L Street on the west side*	LS	NA

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TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.10 Transportation (cont.)					
			• *J Street/7th Street Intersection – all crossings of both J Street and 7th Street* • *Capitol Mall/5th Street Intersection - crossing of Capitol Mall on the east side* *c) Position traffic control personnel, as determined in the TMP, at intersections on L Street, 7th Street, and J Street to monitor/assist with pedestrian travel during events that generate large pedestrian volumes (i.e. NBA games, concerts, major community events).* *d) Modify traffic signal timings for the pre-event and post-event peak hours at each of the intersections listed in part a) above to provide longer WALK intervals for north-south travel, while maintaining signal coordination along each corridor.*		
4.10-9: The Proposed Project would result in inadequate emergency access.	LS	NI	None required.	NA	NA
4.10-10: The Proposed Project would cause construction-related traffic impacts.	S	NI	4.10-10 (ESC/SPD) *The applicant shall be required to implement the following mitigation measures.* *a) Before issuance of demolition permits for the project site, the project applicant shall prepare a detailed Construction Traffic Management Plan that will be subject to review and approval by the City Department of Public Works, in consultation with Caltrans, affected transit providers, and local emergency service providers including the City of Sacramento Fire and Police departments. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. At a minimum, the plan shall include:* ▪ *The number of truck trips, time, and day of street closures* ▪ *Time of day of arrival and departure of trucks* ▪ *Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting* ▪ *Provision of a truck circulation pattern* ▪ *Identification of detour routes and signing plan for street closures* ▪ *Provision of driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas)* ▪ *Maintain safe and efficient access routes for emergency vehicles* ▪ *Manual traffic control when necessary* ▪ *Proper advance warning and posted signage concerning street closures* ▪ *Provisions for pedestrian and bicycle safety* *A copy of the construction traffic management plan shall be submitted to local emergency response agencies and transit providers, and these agencies shall be notified at least 30 days before the commencement of construction that would partially or fully obstruct roadways.*	LS	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.10 Transportation (cont.)					
			b) The project applicant, in coordination with the City of Sacramento, Regional Transit, and other transit providers within the project vicinity and subject to their approval, shall identify temporary bus stop locations and cause ADA-compliant replacement bus stop facilities to be constructed. Potential bus stop locations include (but are not limited to): J Street to the west of 4th Street, J Street to the west of 5th Street, and J Street to the east of 6th Street. The relocation of bus stops may have a secondary impact related to the loss/relocation of a small number of on-street parking spaces and/or loading zones. This secondary impact would not be significant. *c) The project applicant shall implement the planned conversion of 3rd Street, from Capitol Mall to L Street, from its current one-way (southbound-only) configuration to a two-way configuration prior to the closure of 5th Street. This project will provide an alternative travel route during the 5th Street closure. This shall include the installation of lane/intersection restriping, signing, and traffic signal modifications. It may include the elimination of on-street parking on the east side of 3rd Street. The improvements shall include the provision for eastbound buses on Capitol Mall to turn left on 3rd Street and travel along 3rd Street to J Street.*		
4.10-11: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of Sacramento.	S	NI	4.10-11 (ESC/SPD) *Implement Mitigation Measure 4.10-1.*	LS	NA
4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.	S	NI	None available (both intersections are currently constructed to provide as much capacity as is physically possible).	SU	NA
4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.	S	NI	4.10-13 (ESC/SPD) *Implement Mitigation Measure 4.10-2.*	SU	NA
4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.	S	NI	4.10-14 (ESC) *Implement Mitigation Measure 4.10-3.*	SU	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.10 Transportation (cont.)					
4.10-15: The Proposed Project would adversely affect the transit system's ability to accommodate the projected ridership demand under cumulative conditions.	LS	NI	None required.	NA	NA
4.10-16: The Proposed Project would cause inadequate access to bus transit under cumulative conditions.	S	NI	4.10-16 (ESC) *Implement Mitigation Measure 4.10-5.*	LS	NA
4.10-17: Access to light rail transit would be inadequate under cumulative conditions.	S	NI	4.10-17 (ESC) *Implement Mitigation Measure 4.10-6.*	SU	NA
4.10-18: The Proposed Project would adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.	LS	NI	None required.	NA	NA
4.10-19: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	S	NI	4.10-19 (ESC) *Implement Mitigation Measure 4.10-8.*	LS	NA
4.10-20: The Proposed Project would result in inadequate emergency access.	LS	NI	None required.	NA	NA
4.10-21: The Proposed Project would cause construction-related traffic impacts.	S	NI	4.10-21 (ESC/SPD) *Implement Mitigation Measure 4.10-10.*	LS	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation: ESC/SPD	Significance Before Mitigation: DB	Mitigation Measure	Significance After Mitigation: ESC/SPD	Significance After Mitigation: DB
4.11 Utilities and Service Systems					
4.11-1: The Proposed Project would increase demand for potable water.	LS	LS	None required.	NA	NA
4.11-2: The Proposed Project could require additional water conveyance and treatment.	LS	LS	None required.	NA	NA
4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.	S	LS	4.11-3 (ESC/SPD) *To ensure that sufficient capacity would be available to meet cumulative demands, the City shall implement, to the extent needed in order to secure sufficient supply, one or a combination of the following:* *(a) Maximize Water Conservation* *(b) Implement New Water Diversion and/or Treatment Infrastructure* *(c) Implement Additional Groundwater Pumping*	SU	NA
4.11-4: The Proposed Project would contribute to cumulative increases in demand for water conveyance in the vicinity of the Downtown project site.	LS	LS	None required.	NA	NA
4.11-5: The Proposed Project would discharge additional flows to the City's sewer and drainage systems, which could exceed existing infrastructure capacity.	PS	NI	4.11-5 (ESC/SPD) *The project applicant shall manage wastewater, drainage and dewatered groundwater from the Proposed Project such that they shall not exceed existing CSS and Basin 52 system capacity by implementing one or more of the following or equally effective methods to be designed according to City standards and approved by the City Department of Utilities:* *a. Install one or more tanks to hold wastewater, stormwater and/or construction period groundwater dewatering flows for a period of time and incrementally release flows at a rate that would not exceed existing capacity;* *b. Suspend construction period dewatering activities during storm events; and/or* c. *Design and implement off site improvements to increase capacity to accommodate project flows.*	LS	NA
4.11-6: The Proposed Project would discharge additional wastewater to the SRWWTP.	LS	NI	None required.	NA	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation ESC/SPD	Significance Before Mitigation DB	Mitigation Measure	Significance After Mitigation ESC/SPD	Significance After Mitigation DB
4.11 Utilities and Service Systems (cont.)					
4.11-7: The Proposed Project would contribute to cumulative increases in demand for wastewater and stormwater facilities.	S	NI	4.11-7 (ESC/SPD) *Implement Mitigation Measure 4.11-5.*	LS	NA
4.11-8: The Proposed Project would contribute to cumulative increases in demand for wastewater treatment capacity at the SRWWTP.	LS	NI	None required.	NA	NA
4.11-9: The Proposed Project would generate additional solid waste.	LS	LS	None required.	NA	NA
4.11-10: The Proposed Project would contribute to cumulative increases in solid waste.	LS	LS	None required.	NA	NA
4.11-11: The Proposed Project would increase demand for energy, specifically electricity and natural gas.	LS	LS	None required.	NA	NA
4.11-12: Project construction could interfere with a buried, existing 115-kV power line.	PS	NI	4.11-12 (ESC/SPD) *Prior to the initiation of construction, the project applicant shall work with SMUD to identify the location of the 115-kV, and shall implement measures to avoid the use of heavy machinery or the placement of heavy objects on or in the immediate vicinity (i.e., within 10 feet on either side of the line) of the line during construction. The applicant shall work with SMUD to identify maximum weight limits within the 10-foot buffer area prior to the initiation of construction activities on site.*	LS	NA
4.11-13: The Proposed Project would contribute to cumulative increases in demand for energy.	LS	LS	None required.	NA	NA

LS = less than significant; PS = potentially significant; S = significant; SU = significant and unavoidable; NI = no impact; NA = not applicable.

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CHAPTER 1
Introduction

The project applicant proposes entitlement, construction and operation of the proposed Sacramento Entertainment and Sports Center (ESC), approximately 1.5 million square feet of surrounding mixed-use development, the entitlement of up to six (6) offsite digital billboards on City of Sacramento-owned property, and the transfer of ownership of certain City-owned properties to the project applicant. These activities are referred to collectively as the Proposed Project.

This Environmental Impact Report (EIR) has been prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines in order to disclose the potential environmental consequences of implementing the Proposed Project. As required under CEQA, the EIR evaluates and describes potentially significant environmental impacts, identifies mitigation measures to avoid or reduce the significance of potential impacts, and evaluates the comparative effects of potentially feasible alternatives to the Proposed Project.

1.1 Background

The Downtown project site is a superblock in downtown Sacramento roughly bound by 4th Street to the west, J Street to the north, 7th Street to the east, and L Street to the south. In the late 1960s and early 1970s the Downtown Plaza development was constructed as a pedestrian-only regional shopping mall. Downtown Plaza was redeveloped in the early 1990s, at which time the shopping mall's pedestrian-only configuration was retained. The Downtown Plaza portion of K Street remains closed to vehicle traffic. As late as the mid-2000s, Downtown Plaza's retail space was nearly fully occupied and the office space more than 60% occupied. In subsequent years, occupancy and economic activity have fallen. In summer 2012, the Downtown Plaza property was sold to its current owner, Downtown Plaza Sacramento, LLC. At that time, approximately 60% of the retail/commercial space and about 35% of the office space was occupied.

The existing Sleep Train Arena (formerly Arco Arena) opened in the North Natomas area of Sacramento in 1988, and has served as the home of the National Basketball Association (NBA) Sacramento Kings ever since. At the time of its opening, Sleep Train Arena was the smallest arena in the NBA in terms of square footage, and the second smallest in terms of seating capacity. Community discussions regarding construction of a new entertainment and sports center have been ongoing since the late 1990s. Over the past 14 years, there have been numerous studies and proposals for replacement of Sleep Train Arena at various locations around the City.

In 2012, the City approved a preliminary term sheet with the previous Sacramento Kings ownership group to develop a multi-purpose facility in the downtown Railyards. This effort failed when the previous owners rejected the terms of the preliminary term sheet and broke off any further discussions with the City.

In January 2013, the previous owners entered into an agreement to sell the Sacramento Kings to a group in Seattle, Washington. During this time period when it appeared the Kings were going to be relocated to Seattle, City leaders and members of the public worked to identify a new ownership group to retain the team in Sacramento and to prepare a proposal for the development of a new entertainment and sports center in downtown Sacramento. In March 2013, the Sacramento City Council approved a non-binding preliminary term sheet outlining possible development of a publicly owned Sacramento ESC at the Downtown project site, and set forth the nonbinding deal terms for such a development. In May 2013, the Kings were purchased by a new ownership group that is the project applicant.

1.2 Purpose and Use of this EIR

As described in the CEQA Guidelines section 15121(a), an EIR is a public information document that assesses potential environmental effects of a Proposed Project, as well as identifies mitigation measures and alternatives to the Proposed Project that could reduce or avoid adverse environmental impacts. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority. The Proposed Project constitutes a discretionary action under CEQA and is the subject of this EIR. The EIR is an informational document used in the planning and decision-making process. It is not the purpose of an EIR to recommend either approval or denial of a proposed project.

1.3 Recent Relevant Legislation

1.3.1 Senate Bill 743/Public Resources Code 21168.6.6

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) which, among other things, added Section 21168.6.6 to the Public Resources Code (PRC Section 21168.6.6).[1] PRC Section 21168.6.6 modifies certain CEQA procedures as they apply to qualifying projects.

[1] A copy of PRC Section 21168.6.6 is contained in Appendix F of this Draft EIR.

Pursuant to PRC Section 21168.6.6, the Draft EIR and Final EIR shall include the following notice:

> THIS EIR IS SUBJECT TO SECTION 21168.6.6 OF THE PUBLIC RESOURCES CODE, WHICH PROVIDES, AMONG OTHER THINGS, THAT THE LEAD AGENCY NEED NOT CONSIDER CERTAIN COMMENTS FILED AFTER THE CLOSE OF THE PUBLIC COMMENT PERIOD FOR THE DRAFT EIR. ANY JUDICIAL ACTION CHALLENGING THE CERTIFICATION OF THE EIR OR THE APPROVAL OF THE PROJECT DESCRIBED IN THE EIR IS SUBJECT TO THE PROCEDURES SET FORTH IN SECTION 21168.6.6 OF THE PUBLIC RESOURCES CODE. A COPY OF SECTION 21168.6.6 OF THE PUBLIC RESOURCES CODE IS INCLUDED IN THE APPENDIX TO THIS EIR.

In accordance with PRC Section 21168.6.6, the City is making available to the public in a readily accessible electronic format the Draft EIR and all other documents submitted to or relied on by the City in preparing the Draft EIR. These documents may be accessed from the City's website at http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.aspx and then clicking on "Sacramento Entertainment and Sports Center Draft EIR." The Draft EIR will be circulated for a 45-day public review and comment period beginning on December 16, 2013, and ending on January 31, 2014.

To meet the definition of "Downtown arena" under PRC Section 21168.6.6, the proposed ESC must receive Leadership in Energy and Environmental Design (LEED) Gold certification for new construction within one year of completion of the first NBA season. Strategies proposed to qualify the project for LEED Gold certification are described in Chapter 2, Project Description. The "Downtown arena" also must take the following steps to minimize operational traffic congestion and reduce global climate change impacts:

1. Achieve and maintain carbon neutrality or better by reducing to at least zero the net emissions of greenhouse gases from private automobile trips (automobiles and light trucks) to the Sacramento ESC as compared to the baseline, and as verified by the Sacramento Metropolitan Air Quality Management District (SMAQMD);

2. Achieve a per attendee reduction in greenhouse gas emissions from automobiles and light trucks compared to per attendee greenhouse gas emissions associated with the existing arena during the 2012-13 NBA season that will exceed the carbon reduction targets for 2020 and 2035 achieved in the Sacramento Area Council of Governments (SACOG) sustainable communities strategy; and

3. Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline.

1.3.2 Senate Bill 31

On October 4, 2013, Governor Brown signed SB 31 pertaining specifically to the Proposed Project. Division 3, Chapter 2 of the Business and Professions Code, also known as the Outdoor Advertising Act, regulates the placement and type of advertising signs and displays permitted

near state highways. Currently, the Outdoor Advertising Act exempts specified advertising displays at an arena located on public land with a capacity of 5,000 seats or more that provides a permanent venue for professional sports, and that advertises products, goods, or services that are or will be sold on the premises of the arena on a regular basis pursuant to a specified agreement.

SB 31 amended Section 5272 of the Business and Professions Code by adjusting the arena advertising exception to exempt from the act specified advertising displays authorized by local ordinance at the premises of an arena, defined as a venue with a capacity of 15,000 seats or more that is capable of providing a permanent venue for professional sports, or a contiguous development project or district encompassing or adjacent to the venue that extends not more than 1,000 feet from a structure connected to the venue. These advertising displays are authorized to advertise any products, goods, or services sold within that area on a regular basis, or marketed or promoted in that area pursuant to a sponsorship marketing plan. SB 31 additionally authorizes up to two advertising displays that are not required to comply with the act, but are required to be visible when approaching off ramps from the interstate, primary, or state highways used to access the premises of an arena.

1.4 Environmental Review

1.4.1 Preliminary Project Evaluation

In its preliminary review of the application for the Proposed Project, the City, as the Lead Agency under CEQA, determined that the Proposed Project is subject to CEQA and determined that a project EIR pursuant to CEQA Guidelines section 15161 is the appropriate environmental document. Having determined an EIR would be required to evaluate changes in the environment that would result from construction and operation of the Proposed Project, the City elected not to prepare an Initial Study Checklist, as permitted by section 15060(d) of the CEQA Guidelines.

1.4.2 EIR Scoping

On April 12, 2013, the City issued a Notice of Preparation (NOP) of the Draft EIR to governmental agencies and organizations and persons interested in the project (included in Appendix A). The NOP review period ended on May 13, 2013. The NOP was distributed in particular to governmental agencies, organizations, and persons interested in the Proposed Project. The City sent the NOP to agencies with statutory responsibilities in connection with the Proposed Project with the request for their input on the scope and content of the environmental information that should be addressed in the EIR. The City Community Development Department's Planning Division held a Scoping Meeting on April 24, 2013 to take comments regarding the scope of the EIR in response to the NOP.

The City of Sacramento received 22 written comment letters regarding the Proposed Project. Although many specific comments were mentioned in the NOP comment letters, the comments generally tended toward larger themes such as:

- Hazards and hazardous materials, particularly the presence of contaminated groundwater under a portion of the project site due to the Sacramento Railyards South Plume;
- Vehicular traffic management, particularly along freeways and local roadways and the effects of increased traffic congestion on those roadways, intersections, and surrounding uses;
- Onsite and/or offsite parking supply and availability;
- The potential for air quality degradation as a result of project construction activities and operational activities;
- The increased use of and/or demand for light rail and bus transit services and facilities, pedestrian connections, and bicycle facilities;
- Change in demand for public utilities services and/or infrastructure including potential impacts to electricity demand, potential need for additional or relocated electrical infrastructure, and potential impacts to water, storm drainage, and wastewater collection and treatment facilities;
- Potential economic stimulation and/or urban decay impacts on the surrounding area that could occur from the Proposed Project's provision of entertainment, retail, office, residential, and hotel uses;
- Potential impacts to nearby and adjacent historic buildings and districts as a result of the Proposed Project's construction and operation, including those impacts caused by construction vibration;
- Potential impacts to previously undiscovered archeological and/or Native American artifacts on the project site;
- Concerns regarding proposed onsite signage and potential light impacts on surrounding areas;
- Concerns regarding potential regional and localized flooding and their effects on the proposed entertainment and sports center;
- The suggestion of alternative site locations for the proposed development; and
- Recognition of the changed demand for public services including law enforcement, fire protection, emergency response, and solid waste services.

The scope of this EIR includes environmental issues determined to be potentially significant as determined through preparation of the NOP, responses to the NOP, scoping meetings, and discussions among the public, consulting staff, and the City of Sacramento. This process identified potentially significant impacts associated with the construction and/or operation of the Proposed Project in the following issue areas:

- Aesthetics, Light and Glare
- Air Quality

- Biological Resources
- Cultural Resources
- Seismicity, Soils, and Geology
- Greenhouse Gas Emissions
- Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise and Vibration
- Public Services (Police, Fire, Schools, and Parks)
- Transportation
- Utilities (Wastewater, Drainage, Water Supply, Solid Waste, and Energy)

This EIR evaluates the direct, indirect, and cumulative impacts resulting from construction and operation of the Proposed Project in these issue areas in accordance with CEQA.

1.4.3 Public Review

The Draft EIR is available for public review and comment beginning December 16, 2013 and concluding at 5:00 p.m. on January 31, 2014. During the review and comment period written comments (including email) regarding the Draft EIR may be submitted to the City at the address below.

Scott Johnson, Associate Planner
City of Sacramento, Community Development Department
Environmental Planning Services
300 Richards Boulevard, Third Floor
Sacramento, CA 95811
Email: SRJohnson@cityofsacramento.org

The City will conduct an informational workshop to inform the public of key analyses and conclusions reached in this Draft EIR. The informational workshop will be held on December 18, 2013 at 6:00 p.m., at City Hall, 915 I Street, 1st Floor Foyer, Sacramento, California.

A public hearing to receive testimony on the Draft EIR will be held before the City's Planning and Design Commission on January 23, 2014 at 5:30 p.m. at City Hall, 915 I Street, 1st Floor Council Chamber, Sacramento, California.

1.4.4 Final EIR and EIR Certification

Following the public review and comment period for the Draft EIR, the City will prepare responses that address all substantive written and oral comments on the Draft EIR's environmental analyses received within the specified review period. The responses and any other revisions to the Draft EIR will be prepared as a Response to Comments document. The Draft EIR and its Appendices, together with the Response to Comments document, will constitute the Final EIR (commonly referred to collectively as the EIR) for the Proposed Project.

1.4.5 Mitigation Monitoring and Reporting Program

Throughout this EIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a mitigation monitoring and reporting program. As required under CEQA, a mitigation monitoring and reporting program will be prepared at the time of certification of the Final EIR for the Proposed Project and will identify the specific timing and roles and responsibilities for implementation of adopted mitigation measures.

1.5 Later Project Approvals

This EIR discloses the environmental effects of construction and operation of the Proposed Project pursuant to the requirements of the State CEQA Guidelines, as described in Chapter 2, Project Description. As described in Chapter 2, the Proposed Project includes approval of a Conditional Use Permit (CUP), and establishment of an ESC Special Planning District (ESC-SPD). Development within the Downtown project site must be consistent with the requirements of the CUP and ESC-SPD, as appropriate.

Use of this EIR to cover later project activities is addressed in PRC section 21166 and State CEQA Guidelines section 15162(a). Under those sections, if the proposed future activities are consistent with the Proposed Project as analyzed in this EIR, and would not create new significant or substantially more severe significant impacts that were not examined in this EIR, the later activities are considered to be within the scope of the EIR and no further review under CEQA is required. More specifically, CEQA Guidelines section 15162(a) states:

> When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

To the extent appropriate and consistent with the requirements of CEQA and the State CEQA Guidelines, the City would rely on this EIR in conjunction with its consideration of subsequent project development.

1.6 Document Organization

This Draft EIR document is organized as follows:

Summary – This section summarizes the Proposed Project and the conclusions of the Draft EIR. A summary table is included and organized to allow the reader to easily identify potentially significant effects, proposed mitigation measures, and any residual environmental impacts after implementation of mitigation measures. A summary of the project alternatives and the environmentally superior alternative is also provided. The Summary also identifies areas of controversy regarding the Proposed Project that are known to the City as of publication of this Draft EIR.

Chapter 1, Introduction – This chapter describes the purpose and organization of the EIR.

Chapter 2, Project Description – This chapter describes the Proposed Project. The description includes, with text and graphics, the location and boundaries of the Proposed Project, statements of objectives from the project applicant and the City, and a description of the Proposed Project's components and characteristics.

Chapter 3, Land Use, Population and Housing – This chapter provides an overview of the land use and planning issues that may arise in connection with development of the Proposed Project. In addition, it describes population and housing conditions and trends in the City of Sacramento.

Chapter 4, Environmental Setting, Impacts, and Mitigation Measures – For each environmental issue, this chapter discusses the environmental and regulatory setting, the methodology used, the detailed analysis of potential impacts (including direct, indirect, and cumulative impacts), and, if necessary, a discussion of potentially feasible mitigation measures.

Chapter 5, Other CEQA Required Considerations – This chapter discusses several issues required to be included in an EIR, including effects not found to be significant, significant and unavoidable impacts, significant irreversible environmental changes, cumulative impacts, the potential for the project to cause urban decay, and the potential for the Proposed Project to induce urban growth and development.

Chapter 6, Alternatives – This chapter describes potentially feasible alternatives to the Proposed Project that may avoid or substantially reduce one or more significant impacts while attaining most of the basic objectives of the project, and evaluates the comparative environmental effects of the alternatives.

Chapter 7, List of Preparers and Persons Consulted – This chapter identifies the agency staff and consultants who prepared the EIR, and agencies or individuals consulted during preparation of the EIR.

Chapter 8, List of Acronyms – This chapter lists the acronyms used in this Draft EIR in alphabetical order.

Appendices – The appendices include environmental scoping information and technical reports and data used in the preparation of the Draft EIR. These documents are included on CD at the back of the Draft EIR.

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CHAPTER 2
Project Description

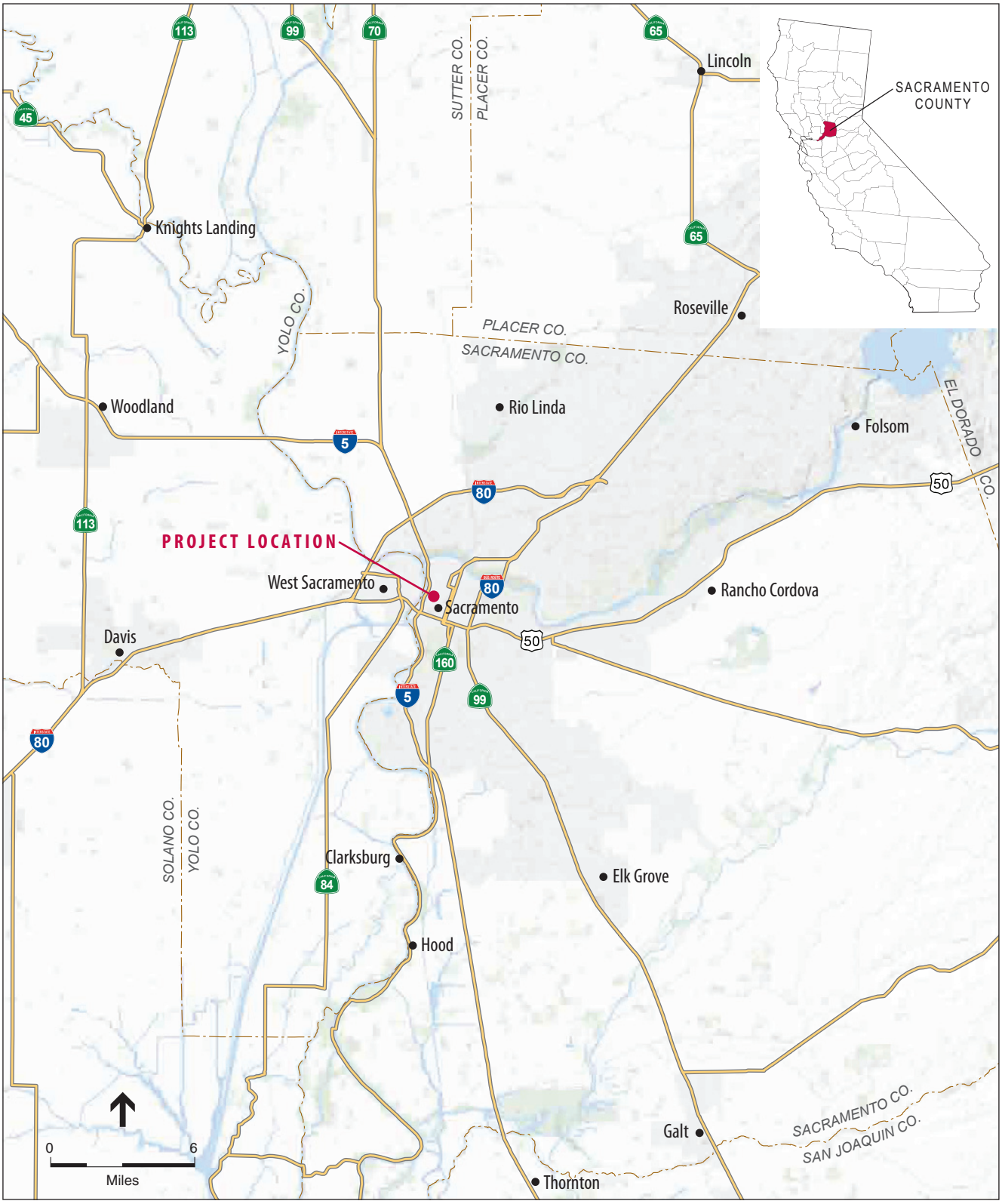
2.1 Introduction

This chapter presents information regarding the components and characteristics of the Proposed Project and the discretionary approvals required to implement it. A concise outline of the project elements is provided in the Summary. This section describes the project and the project vicinity, which are defined in this section as follows:

- *Downtown project site*: The entire project site, including the ESC site and project mixed use sites, but exclusive of the digital billboard sites;
- *ESC site*: The area in which the ESC arena and practice facilities/office building would be located;
- *SPD area*: The portion of the project site where the mixed use development would be located, which excludes the ESC site;
- *project vicinity*: The area surrounding and near the project site; and
- *offsite digital billboard sites*: The ten potential sites where digital billboards could be located.

2.2 Project Location

The project site is located in Sacramento, California, approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe. Sacramento is a major transportation hub, the point of intersection of transportation routes that connect Sacramento to the San Francisco Bay area to the west, the Sierra Nevada mountains and Nevada to the east, Los Angeles to the south, and Oregon and the Pacific Northwest to the north. The City is bisected by a number of major freeways including Interstate 5 (I-5) that traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno; and U.S. Highway 50 which provides an east-west connection between Sacramento and South Lake Tahoe. The Union Pacific (UP) Railroad also transects Sacramento. Daily Amtrak service is provided from the Sacramento Valley Station two blocks north of the project site, and links Sacramento to the Bay Area, the Central Valley south to Bakersfield, Amtrak regional bus connections throughout northern California, and points east. Figure 2-1 shows the location of the project site in the Sacramento region.



SOURCE: CaSIL, 2013

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

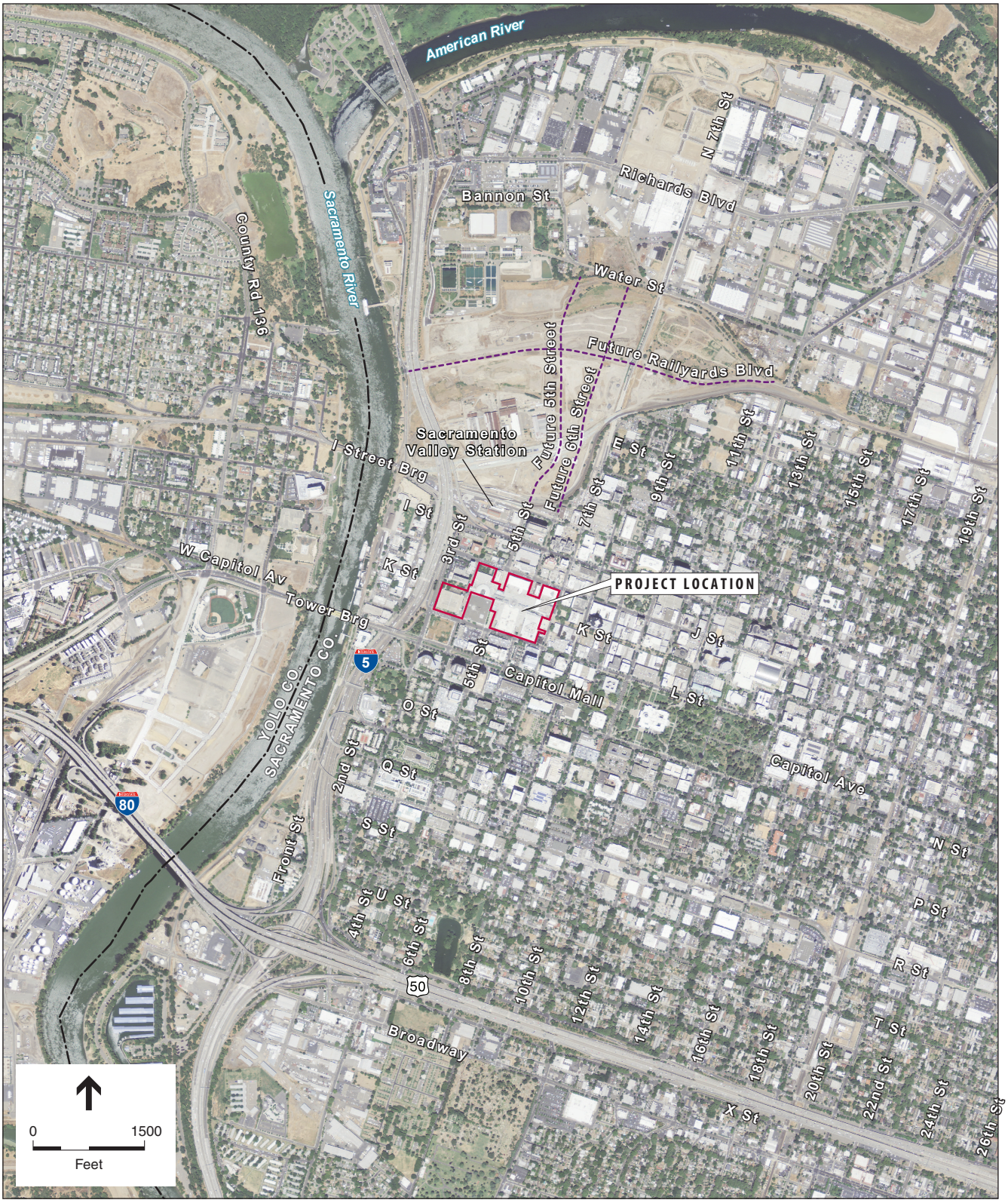
Figure 2-1
Regional Location Map

The project site is generally bounded by 3rd Street to the west, 7th Street to the east, J Street to the north, and L Street to the south. Figure 2-2 and Figure 2-3 illustrate the Proposed Project location in Sacramento's Central City.

2.3 Project Objectives

The following are the project applicant's stated objectives for the Proposed Project:

- Develop a state-of-the-art entertainment and sports center (ESC) with approximately 17,500 seats that will serve as the long-term home of the National Basketball Association (NBA) Sacramento Kings;
- Develop up to 1.5 million square feet of mixed use development (office, hotel, retail, and residential) within the property formerly known as Downtown Plaza;
- Locate the ESC on a site that can be readily assembled and that enables the development of the facility within budget and on schedule to meet the applicant's commitments to the NBA and the City of Sacramento;
- Locate, develop, and design the ESC so that it is usable for major entertainment and civic events;
- Locate the ESC on a site where it will be compatible with and enhance the surrounding area, and catalyze redevelopment of previously blighted areas;
- Locate the ESC on a site that is readily accessible by public transportation, preferably two or more modes of regional public transit;
- Locate the ESC on a site that is served by existing streets and highway infrastructure that can reasonably accommodate local and regional automobile circulation;
- Ensure that adequate parking for ESC patrons and employees is available for use during events;
- Ensure that parking is available and sufficient to support the patrons and employees of the mixed use development and other adjacent uses;
- Develop a project that maximizes the density of uses downtown to further City and regional smart growth principles;
- Create a range of development adjacent to the ESC that is sufficient to activate the ESC open space plazas, and help ensure the future success of the ESC by creating an active and vibrant hub of activity; and
- Provide for signage that supports and enhances the future success of the ESC.



SOURCE: Microsoft 2012; ESA, 2013

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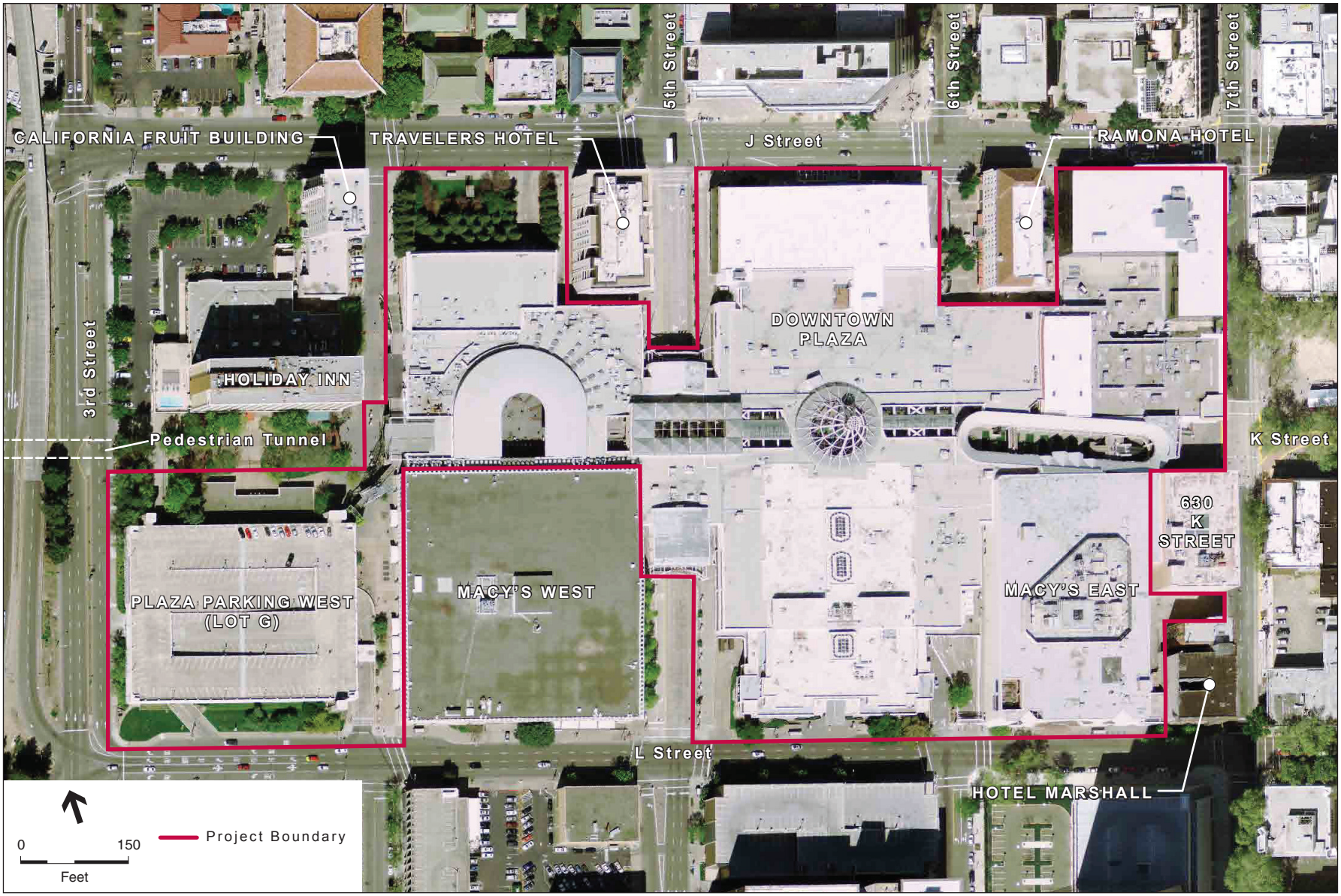
Figure 2-2
Project Vicinity



SOURCE: USGS, 2011; ESA, 2013

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Figure 2-3
Project Site

The following are the City's stated objectives for the Proposed Project:

- *Regional Center*: Develop an entertainment and sports center district that is a world-class destination and serves as a central gathering place for the community;
- *Continuously Active Place*: Create an iconic civic open space and energize that space, the arena, and the downtown district through regular events, activities, and programming year round;
- *Uniquely Sacramento*: Create an active entertainment and sports center district that is uniquely Sacramento and embraces our culture, our climate, and our community;
- *Unparalleled Entertainment Venue*: Design and build the country's most technologically innovative and advanced entertainment venue that is capable of accommodating the Sacramento Kings and a broad array of other events in a unique and enjoyable experience for fans and performers;
- *Sustainable Project*: Develop a sustainable entertainment and sports center project that is certified LEED-Gold, supports smart growth principals, and encourages public transit use as well as pedestrian and bicycle transportation;
- *Connect Downtown*: Develop an entertainment and sports center project that connects with and enhances downtown from the waterfront to the Convention Center and from the Capitol to the Railyards and intermodal facilities;
- *Strengthen Downtown*: Establish a framework for successful development surrounding Downtown Plaza;
- *Regional Economic Catalyst*: Leverage the entertainment and sports center to develop our workforce and local businesses and help spark redevelopment of underutilized downtown properties throughout the Central Business District;
- *A Multimodal Place*: Locate, design, and develop an entertainment and sports center that complements a variety of transportation modes including public transit, bicycling, walking, and driving, as well as the nearby intermodal facilities;
- *Embracing the Arts*: Utilize the entertainment and sports center project to honor and add to the vibrant arts community in Sacramento by applying the talent of local and regional artists;
- *A First-Class Destination*: Operate and maintain the City-owned entertainment and sports center and surrounding district so that they remain a first class destination; and
- *Natomas Reuse*: Achieve economic reuse of the Natomas arena site that supports and builds upon the goals and needs of the community.

2.4 Downtown Project Site

2.4.1 Existing Conditions

Location

As is presented on Figure 2-3, the Downtown project site consists of approximately 19 acres spread over six city blocks in downtown Sacramento, generally known as Downtown Plaza. The project site is, located on the blocks bounded by 3rd, 7th, J, and L Streets, including the adjacent City-owned parking lot (Lot G or Plaza West Garage) between 3rd and 4th Street, and J and L Street, and excluding the existing Macy's West property, the Traveler's Hotel building, the Ramona Hotel building, 630 K Street, the Jade Apartments and the Hotel Marshall. Between J and L Street, 4th and 6th Streets previously were abandoned and no longer function as City streets. Fifth Street between J and L Streets passes below grade and under the developed uses on K Street. South of J Street, 4th Street provides access for service and delivery vehicles for the California Fruit Building, the Holiday Inn, and adjacent Downtown Plaza buildings. North of L Street, 4th Street provides egress from the Plaza West Parking Structure. South of J Street, 6th Street provides access for service and delivery vehicles to the Church of Scientology and loading docks serving Downtown Plaza businesses, including the 660 J Street office building and 24 Hour Fitness. K Street, through the ESC project site, is a pedestrian-only public space. West of 4th Street, K Street descends below grade, passing under 3rd Street and Interstate 5, and returning to street grade where K Street intersects Second Street in Old Sacramento.

General Plan and Zoning

The project site is currently designated Central Business District (CBD) on the City of Sacramento 2030 General Plan Land Use and Urban Form Diagram. According to the 2030 General Plan, "[t]he Central Business District is Sacramento's most intensely developed area. The CBD includes a mixture of retail, office, governmental, entertainment and visitor-serving uses built on a formal framework of streets and park spaces laid out for the original Sutter Land Grant in the 1840s. The vision for the CBD is a vibrant downtown core that will continue to serve as the business, governmental, retail, and entertainment center for the city and the region. A significant element in the future CBD includes new residential uses. Increasing the residential population will add vitality to the CBD by extending the hours of activity and the built-in market for retail, services, and entertainment."

The project site is zoned C-3: CBD Zone as defined in chapters 17.216.800 through 17.216.880 of the Sacramento Planning and Development Code. The C-3 zone is intended for the most intense residential, retail, commercial and office developments in the City and is the only classification which has no height limit, aside from height limits imposed by the Capitol View Protection requirements (17.216.860). Generally, office, retail, restaurant, residential, fitness, and theaters are permitted by right in the C-3 zone. A sports complex is allowed in the C-3 zone subject to the approval of a conditional use permit by the City Planning and Design Commission. Additional detail on the site zoning is provided in Chapter 3.0, Land Use, Population and Housing.

Existing and Adjacent Uses

The existing Downtown Plaza development is made up of a number of retail and office buildings, including the Downtown Plaza theaters, the adjacent food court, 24 Hour Fitness, an array of small in-line retail and restaurant spaces, and the office buildings located at 560 J Street and 660 J Street. The two buildings that contain Macy's stores are under separate ownership.[1] As described in Table 2-1, at the time of the publication of the Notice of Preparation, Downtown Plaza contained approximately 1,190,443 total square feet (sf) of retail/commercial and office space, including the 332,500 sf Macy's West building, which is not proposed to be changed as part of the Proposed Project.

TABLE 2-1
DOWNTOWN PLAZA CURRENT USES[1]

Entire Property	Space (SF)	Percent
Cinema	42,370	3.6%
Fitness	50,848	4.3%
Small Shop (Restaurant/Retail)	317,057	26.6%
Subtotal Cinema/Fitness/Small Shop	**410,275**	**34.5%**
Dept Store (Macy's East)	171,000	14.4%
Dept Store (Macy's West)[2]	332,500	27.9%
Total Retail	**913,775**	**76.8%**
Office Buildings	276,668	23.2%
Total Gross Leasable Area (GLA)	**1,190,443**	**100.0%**

NOTES:
1. Estimated at time of publication of Notice of Preparation.
2. The Macy's West building is not part of the Proposed Project.

SOURCE: Downtown Plaza Sacramento, LLC, 2013.

Over the last decade, the space at Downtown Plaza has experienced varied levels of occupancy. With the exception of the Macy's buildings, the theater and fitness space, the small scale retail space in Downtown Plaza has experienced a decline in occupancy from over 90% in 2004 to approximately 50% in 2013. Since 2012, Downtown Plaza has experienced a substantial decrease in occupancy in anticipation of redevelopment of the property. The office space in Downtown Plaza has experienced an average occupancy of approximately 50% during that same period. See Appendix K, Table K-1 for additional detail on historical occupancy at Downtown Plaza.

The ESC project site includes several different above- and below-grade parking resources with a total of 3,700 parking spaces. The Downtown Plaza West Garage (also known as Lot G), located at 3rd and L Streets, is a six-story above grade parking structure that includes 1,320 parking spaces. The Downtown Plaza Central Garage (accessible from J Street) accommodates 460 parking spaces

1 At the time of publication of the Notice of Preparation, Macy's occupied two buildings in the Downtown Plaza development. In September 2013, the Macy's East building was vacated and the menswear and home furnishings departments that had been previously located in the Macy's East building were consolidated into the Macy's West building.

on two below-grade parking levels, and the Downtown Plaza East Garage, accessible from J, L and 7th Streets, contains a total of 1,920 parking spaces on two levels below grade.

Although not on the project site, the Macy's Garage contains 299 spaces on two levels of below-grade parking under the Macy's West building. The Macy's Garage would be unaffected by the Proposed Project and would not be available for use by attendees to events at the ESC.

The project site includes an approximately one-half acre property located at 408 J Street. The parcel is currently owned by the City of Sacramento Redevelopment Agency Successor Agency (RASA). The parcel is landscaped and currently accommodates a marquee sign for the Downtown Plaza theaters.[2] The project site also includes an approximately one-half acre, City-owned property located at 324 K Street. The parcel includes a retail building that currently is leased to Navin's Custom Clothiers, and paved and landscaped area surrounding the building.

Several buildings that are currently located within the contiguous property bounded by 3rd, 7th, J and L Streets are not part of the Proposed Project and would remain unchanged. These buildings include the California Fruit Building (4th/J), the Traveler's Hotel (428 J Street), the Ramona Hotel (1007 6th Street), the 630 K Street Office Building, Jade Apartments (1118 7th Street), Hotel Marshall (1122 7th Street), Macy's West (including 299 below-grade parking spaces), and the Holiday Inn Sacramento Capitol Plaza (300 J Street).

Access

Primary access to the project site is provided by J Street, L Street, and 3rd, 5th, and 7th Streets (see Figure 2-3). On the project's northern boundary, J Street is an eastbound street that serves as a primary gateway into downtown Sacramento, starting with five lanes at 3rd Street, and reducing to three lanes by east of 6th Street. At 3rd Street, J Street provides connections to north- and south-bound off-ramps from Interstate 5 and a connection to eastbound lanes of the I Street Bridge from West Sacramento. J Street is also a primary access to the existing Downtown Plaza below-grade parking, with entries and exits to and from the Plaza Central and Plaza East Garages.

On the southern edge of the project site, L Street is a four-lane one-way westbound street that serves as a primary connector from Midtown and the State Capitol area to the project site. West of 3rd Street, L Street connects to a ramp to I-5 northbound, and also connects directly to a westbound slip ramp that leads to Capitol Mall, the Tower Bridge, West Sacramento, and I-80 westbound. L Street also serves as a primary access to the Plaza East Garage (at 6th Street), the Macy's Garage, and the Plaza West Garage.

Seventh Street serves as the eastern boundary of the project site, running one-way between J and L Streets. North of J Street, 7th Street is the primary connector between downtown Sacramento and the River District (Richards Boulevard). Seventh Street is also a key corridor served by Regional Transit light rail trains.

[2] As is described later in this chapter, this parcel would be proposed to be transferred from the City's RASA to the City then to the applicant and is proposed to be developed in the future subject to the proposed land use framework described herein.

Sixth Street does not exist through the project site, between J and L Streets. North of J Street, 6th Street connects the project site to the Sacramento Railyards at H Street, and is currently under construction to extend to the future Railyards Blvd. Eventually, 6th Street will connect to the River District. South of L Street, 6th Street is a one block street connecting L Street to Capitol Mall, but does not connect south of Capitol Mall.

Fifth Street runs north-south through the project site, connecting J and L Streets through a below-grade viaduct that passes under the existing Downtown Plaza development. Fifth Street is a primary connector that allows vehicles entering downtown at Q Street to access the project site as well as Capitol Mall, J Street, the I Street ramps to I-5 (north and southbound), and the Sacramento Valley Station at 5th and I Streets. The City is currently in the process of extending 5th Street north from H Street to Railyards Blvd, and it will eventually be extended north to the River District where it will connect to Richards Blvd and the I-5/Richards Blvd interchange.

Third Street is a north-south street on the western boundary of the project site, providing access to the Plaza West Garage, Capitol Mall, and the north- and southbound I-5 ramps at P Street.

2.4.2 Project Elements

The Proposed Project would include demolition of approximately 858,043 square feet of existing retail/commercial and office space and approximately 2,380 below-grade parking spaces, and the subsequent construction of a 17,500-seat (approximately 697,000-square foot) entertainment and sports center, including a practice court facility and associated arena and team operations (approximately 82,000 square feet), along with up to 1.5 million square feet of retail/commercial, office, hotel, and residential space, along with up to approximately 2,100 below-and-above grade parking spaces and associated public and private open spaces. On a net basis, the Proposed Project would add the proposed ESC and approximately 1.0 million square feet of mixed use development, and would decrease parking by at least about 280 spaces, In addition, the existing 442,000-square foot Sleep Train Arena and the adjacent 38,000-square foot practice facility, located approximately six (6) miles north of the project site in the Natomas area of the City of Sacramento, would be closed. These existing facilities would cease operations concurrent with the opening of the proposed Sacramento ESC. Table 2-2 summarizes the existing and proposed development in the Proposed Project.

2.4.3 Entertainment and Sports Center

The ESC building would be located in the south central quadrant of the project site, generally along L Street from 5th Street to midway between 6th and 7th Street (see Figure 2-4). The ESC structure itself would be a multi-faceted structure with rounded corners and edges, set within roughly a square block defined generally by L Street, 5th Street, K Street, and the rear side of buildings that face on 7th Street. The former K Street alignment would be re-oriented to the north, wrapping around the ESC, and would become a large entry plaza open space defined by the ESC on the south and the southern edge of the mixed-use development in the SPD area on the north.

TABLE 2-2
EXISTING AND PROPOSED DEVELOPMENT

Type of Development	Existing Built[1] SF	2004-2012 Average Occupied SF	2004-2012 Average Occupied Units	2012 Occupied SF	2012 Occupied Units	Proposed SF	Proposed Units	2012 Proposed Change[2] SF	2012 Proposed Change[2] Units	2004-2012 Average-Proposed Change SF	2004-2012 Average-Proposed Change Units
Sports and Entertainment Center											
Sports and Entertainment Center	480,000[3]	480,000[3]	17,317 seats	480,000[3]	17,317 seats	779,000[9]	17,500 seats	+299,000	+33 seats	+299,000	+33 seats
Mixed Use Development											
Retail/Commercial	581,275[4]	493,294		368,371[5]		350,000[8]		-18,371		-143,294	
Office	276,668	139,057		103,867		475,000		+371,133		+335,943	
Hotel	0	0	0 rooms	0	0 rooms	approx. 175,000	250 rooms	+175,000	+250 rooms	+175,000	+250 rooms
Residential	0	0	0 rooms	0	0 units	approx. 500,000	550 units	+500,000	+550 units	+500,000	+550 units
Subtotal	857,943	632,351		472,238		1,500,000		+1,027,762		+867,649	
Macy's West[7]	332,500	332,500		332,500		332,500		0		0	
Total Mixed Use Development	**1,190,443**	**964,851**		**804,738**		**1,832,500**		**+1,027,762**		**+867,649**	
Parking											
Below Grade Parking: Downtown Plaza Central & East Garages	460 spaces (Central) 1,920 spaces (East) 2,380 spaces (Total)					400 J St. Garage – up to 568 spaces (accessible from J St @ 4th St.) 500 J St. Garage– up to 500 spaces (accessible from J St. @ 5th St.) 600 J St. Garage – up to 290 spaces (accessible from 7th St.) ESC Garage – up to 200 spaces (accessible from L or 7th Sts.) Total – up to 1,558 spaces		-822 spaces		-822 spaces	
Downtown Plaza West Garage (3rd/L Street)	1,320 spaces					Up to 1,860 spaces		+540 spaces		+540 spaces	
Total On-site Parking[6]	**3,700 spaces**					**Up to 3,418 spaces**		**-282 spaces**		**-282 spaces**	

1. Existing built physical space.
2. Difference between Proposed and 2012 Occupied.
3. Sleep Train Arena in Natomas contains 442,000 square feet ("sf") and seats up to 17,317 attendees for basketball games, including 30 luxury suites and 412 club seats. The adjacent practice facility is comprised of 38,000 sf, including two basketball courts and associated office and training facilities. Both buildings would be closed upon opening of the ESC.
4. This is the total of 410,275 sf of small retail, fitness, and theater space in Downtown Plaza, plus the 171,000 sf Macy's East (Macy's Mens) store.
5. In 2012, a total of 161,153 sf of small-scale retail, 50,848 sf of fitness, and 42,370 sf of cinema space was leased and occupied in Downtown Plaza. In addition, while the entire 171,000 sf Macy's East building was leased during 2012, it is estimated that only two floors (approximately 114,000 sf) was occupied and open to the public with retail uses.
6. This total does not include the 299-space Macy's parking garage under the Macy's West store, accessible from L Street between 4th and 5th Streets.
7. Macy's is under separate ownership, but operates in coordination with other retail and commercial uses at the project site, including associated parking.
8. Assumes full occupancy for all future uses, which is conservative. Typically, a retail development would include for 5-10% vacancy on an average basis.
9. Includes 697,000 sf in ESC building and 82,000 sf in integrated adjacent practice facility.

SOURCE: Sacramento Kings, 2013; Downtown Plaza Sacramento, LLC, 2013; ESA, 2013.

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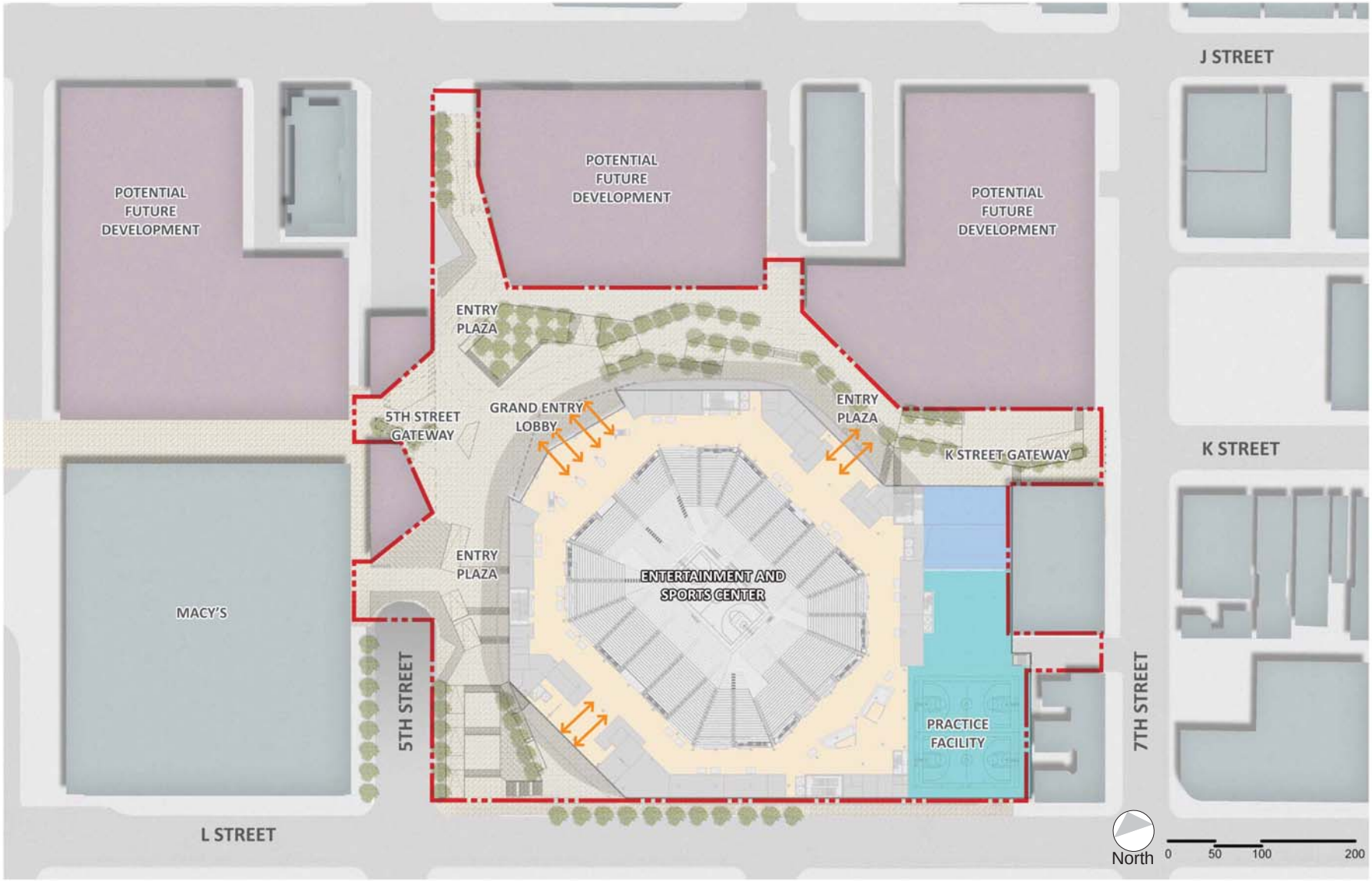

SOURCE: AECOM, 2014

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Figure 2-4
Conceptual Site Plan

The main entrance to the ESC would be located on the northeast side of the building oriented toward 5th and K Street, and would open onto an entry plaza that would wrap around the ESC from the northwest to the northeast. A portion of this entry plaza area in front of the ESC main entrance could be cordoned for certain events and integrated with the ESC for programming purposes, or in other cases left completely open. There would be an additional entrance/exit on the northeast side of the ESC, oriented toward the 7th and K Streets entrance to the project site, and two limited entrances along L Street. Use of the L Street entrances would be limited in most cases to premium ticket holders, employees, media, and Paratransit riders.

The ESC would be a total of approximately 779,000 square feet, as described in Table 2-3. The ESC would include the performance bowl with general and premium seating, suites, indoor standing viewing areas, and outdoor entry plaza and terrace areas. Integrated into the ESC would be a practice facility that would include administrative offices for the Sacramento Kings, a two-court practice facility, and a retail/restaurant space.

TABLE 2-3
PROPOSED ENTERTAINMENT AND SPORTS CENTER PROGRAM

ESC Component	Example Uses	Total Square Footage
Seating Bowl	Lower bowl premium seating; and general seating in upper and lower bowl	115,000
Premium Spaces	Suites; clubs; restaurants	74,000
Circulation	Concourses; corridors; plaza, team, staff, and VIP entrances; ticket lobbies; elevators for passengers, service and freight; stairwells; escalators	234,000
Food & Beverage and Spectator Support Facilities	Concession stands; kitchens; food service offices and lockers; retail stores; restroom facilities; first aid, lost & found, and additional support facilities	90,000
Team and Performer Facilities	Kings home team locker room; training and treatment rooms; staff lockers; NBA visitor team locker room; NBA officials locker room, performer dressing rooms and lounges	24,000
Operations Support and Event Level Facilities	Event floor; event personnel space; building operations staff space; staging/marshaling area; security office space; maintenance and janitorial storage and shops; mechanical and electrical rooms	90,000
Press and Media Facilities	Press box and workrooms; scoreboard and video control rooms; production facilities; interview room and studio; camera boxes	19,000
Non-useable Spaces	Interstitial spaces, chases, wall thicknesses	51,000
ESC Subtotal		**697,000**
Team Training and Administration Building (Practice Facility)	Team locker room, showers, and support spaces; video room; training and treatment; auxiliary locker rooms, basketball support and security, administrative offices	82,000
Total		**779,000**

SOURCE: AECOM, 2013

The ESC would provide spectator seating for 17,500 ticketed attendees, including approximately 24 suites that would accommodate seating for 384 attendees, approximately 160 accessible and companion seats, and standing-room-only areas that would accommodate potentially up to 350 of the ticketed attendees who may choose to watch portions of the event from these areas.

The ESC would contain a performance venue that could be configured for basketball, other sporting events, concerts, conferences and conventions, trade shows, circuses, and family-oriented shows. Although there are no current plans for a National Hockey League (NHL) or minor league hockey team, the venue could be configured to accommodate a temporary ice floor. A permanent ice floor is not currently part of the project.

There would be retail stores and restaurants in the ESC, including restaurant and retail store spaces that face north onto the entry plaza that could be accessible to the public from outside the facility and would operate during regular non-event business hours as well as during ESC events. Additional retail and restaurant space would be internal to the building and would operate only during ESC events.

Projected Number and Schedule Of Events

The proposed ESC would be a venue for an array of various sporting and entertainment events during the year. The total number of events would be affected by a number of factors, such as the success of the Sacramento Kings in reaching the playoffs, potential additional professional sports teams using the facility, the number of touring concert acts each year, and the relative success of the ESC operators in booking events. Table 2-4 provides an estimate of the type and number of events that could be expected during successful operation of the ESC. It is estimated that the ESC would be booked for a total of 189 event days, with annual attendance of approximately 1.65 million persons.[3]

Different types of events typically are presented on different days and at different times. Most events at the ESC would occur on weekday evenings or weekends; it is estimated that 141 of the 189 annual event days would take place during these time periods. Based on past experience at Sleep Train Arena and at other similar arenas in similar-sized markets around the country, it is estimated that the most highly attended events would be Sacramento Kings games. For purposes of a conservative analysis, it has been assumed that several of those games would be attended by full-capacity crowds with 17,500 ticketed attendees, and all other games would be attended at rates similar to the attendance rates during past years in which the Kings averaged sell-outs during their entire season (assumed to be 16,750 per game). Assuming a modest number of playoff games in any given year, the estimates suggest that while the Sacramento Kings games would represent only 47 out of 189 event days, over half of the annual attendance at the ESC would be for Sacramento Kings games. Typically weekday and Saturday Kings games start at approximately 7:00pm and conclude between 9:30 and 10:00pm. On Sundays, Kings games typically start at 6:00pm and conclude between 8:30 and 9:00pm. Earlier or later starting times could occasionally occur due to the requirements of national broadcasts, but would be extremely infrequent and are not reasonably predictable at this time.

[3] For comparison purposes, information on annual attendance at Sleep Train Arena since 2000 is provided in Appendix K, Table K-2.

TABLE 2-4
SACRAMENTO ESC ESTIMATED ANNUAL EVENT ATTENDANCE

Event Type	Event Daily Attendance	Average Annual Events	Event duration (in days)	Total Days	Weekday 7:30am-5:00pm	Weekday 5:30-11:30pm	Weekend	Annual Attendance
NBA Preseason	15,500	3	1	3	0	2	1	46,500
NBA Reg. season (peak attendance)	17,500	5	1	5	0	3	2	87,500
NBA Reg. season (average attendance)	16,750	36	1	36	0	18	18	603,000
NBA Post season	17,500	3	1	3	0	2	1	52,500
Other Sporting Events	5,000	16	1	16	0	13	3	80,000
Family Ice Shows	6,000	16	0.5	8	0	4	4	96,000
Circus, Premium	7,500	8	0.5	4	1	1	2	60,000
Civic Events	5,000	9	1	9	9	0	0	45,000
Trade Shows	4,500	4	3	12	4	4	4	54,000
Family Shows	5,200	9	1	9	2	2	5	46,800
Conventions	3,750	3	5	15	9	0	6	56,250
Other med. events	6,000	8	1	8	2	5	1	48,000
Other small events	2,000	10	1	10	6	2	2	20,000
Graduations	5,000	20	1	20	16	2	2	100,000
Concerts (small)	5,000	12	1	12	0	7	5	60,000
Concerts (med)	10,000	12	1.2	15	0	10	5	148,800
Concerts (large)	15,000	3	1.2	4	0	2	2	55,800
Total		**177**		**189**	**48**	**78**	**63**	**1,654,150**

NOTE: Total number of shows will not equal the number of show days; some family shows will have multiple shows per day.
SOURCE: ICON Venue Group, 2013; Sacramento Kings, 2013.

Other major components of the attendance profile for the ESC would include concerts (estimated to be 27 concerts with total annual attendance of approximately 265,000) and other sporting events (estimated to be 16 events with total annual attendance of 80,000). Typically concert events start at approximately 7:00pm and conclude at approximately 11:00pm or later. Other sporting events could include college and high school basketball, volleyball or similar events, professional boxing or mixed martial arts, indoor soccer or tennis, or similar sporting events. It is currently not expected that the ESC would house National Hockey League or minor league hockey games.

It is reasonable to expect that weekday events at the ESC would include a range of conferences, family show matinees, trade shows, graduations and other similar events. It is estimated that about 83 of these events would occur and would typically have 2,000 to 5,000 attendees.

On rare occasions certain events may be held that would exceed the seated capacity of the proposed ESC. In these cases, the building could accommodate approximately 1,000-2,000 additional attendees in standing-room-only spaces in the Main Concourse, the Upper Concourse, or cordoned portions of the entry plaza. The types of events that could attract such crowds would include such infrequent events as the Olympics, NBA Finals games, a national political convention, or extremely rare major concerts. Data collected by the Kings reflects the infrequency of such events. In a survey of 13 other arenas in similar-sized cities around the country, out of over 1,000 events, only 3 had attendance over 18,000. In the event that one of these infrequent events were to be planned for the Proposed ESC, the applicant would coordinate with the City on event traffic management, crowd management, as well as other related event planning. Because of the infrequency of these events, they are not evaluated further in this EIR.

ESC Employment

ESC employment would include permanent employment associated with the operations of the ESC and the Sacramento Kings, as well as temporary employment to support events throughout the year.

Permanent

The Sacramento Kings currently have approximately 265 permanent employees. About 225 staff work in business operations, which include operation and maintenance of Sleep Train Arena. About 40 staff are associated with basketball operations, including players, coaches, trainers and scouts. The proposed ESC would support approximately the same level of permanent employment as under current conditions.

Temporary/event-related

To support major events at the ESC, such as a Kings game or major concert, approximately 1,200 temporary employees are needed in a variety of jobs, including ushers, food service, ticketing, security, janitorial, and similar positions. For medium-sized events, including weekend family shows and medium-sized concerts or sporting events, temporary event-related employment is estimated to be approximately 830 jobs. For smaller events, including small concerts, weekday family shows, graduations, and conventions or conferences, temporary event employment is estimated to be approximately 580 jobs. Depending on the nature of the event,

some temporary employees would work on days leading up to the event. Event-day employees would begin to arrive several hours before an event, and depending on their jobs, some employees would remain at the ESC for several hours or longer after events. An estimate of the arrival and departure characteristics of event-related employment is presented in Table 2-5.

TABLE 2-5
SACRAMENTO ESC EVENT-RELATED EMPLOYMENT

Employment Type	Employee Count	Work Hours
Large Event		
Event Management Staff	90	8:00am-5:00pm
All Day Event Staff	175	8:00am-10:00pm
During Event Staff[1]	850	5:00pm-10:00pm
Event Cleaning[2]	85	9:00pm-3:00am
Total Event Employment	**1,200**	
Medium Event		
Event Management Staff	55	8:00am-5:00pm
All Day Event Staff	115	8:00am-5:30pm[3]
During Event Staff[1]	600	6:00am-5:30pm[3]
Event Cleaning[2]	60	5:00pm-10:30pm[3]
Total Event Employment	**830**	
Small Event		
Event Management Staff	38	8:00am-5:00pm
All Day Event Staff	80	8:00am-5:30pm[3]
During Event Staff[1]	420	6:00am-5:30pm[3]
Event Cleaning[2]	42	5:00pm-10:30pm[3]
Total Event Employment	**580**	

1. Starts 2 hours before event until 30 minutes after event.
2. Starts 30 minutes before end of event until 5 hours after event.
3. Assumes an 8:00am-5:00pm event; could vary during the day depending on the starting and ending time of events.

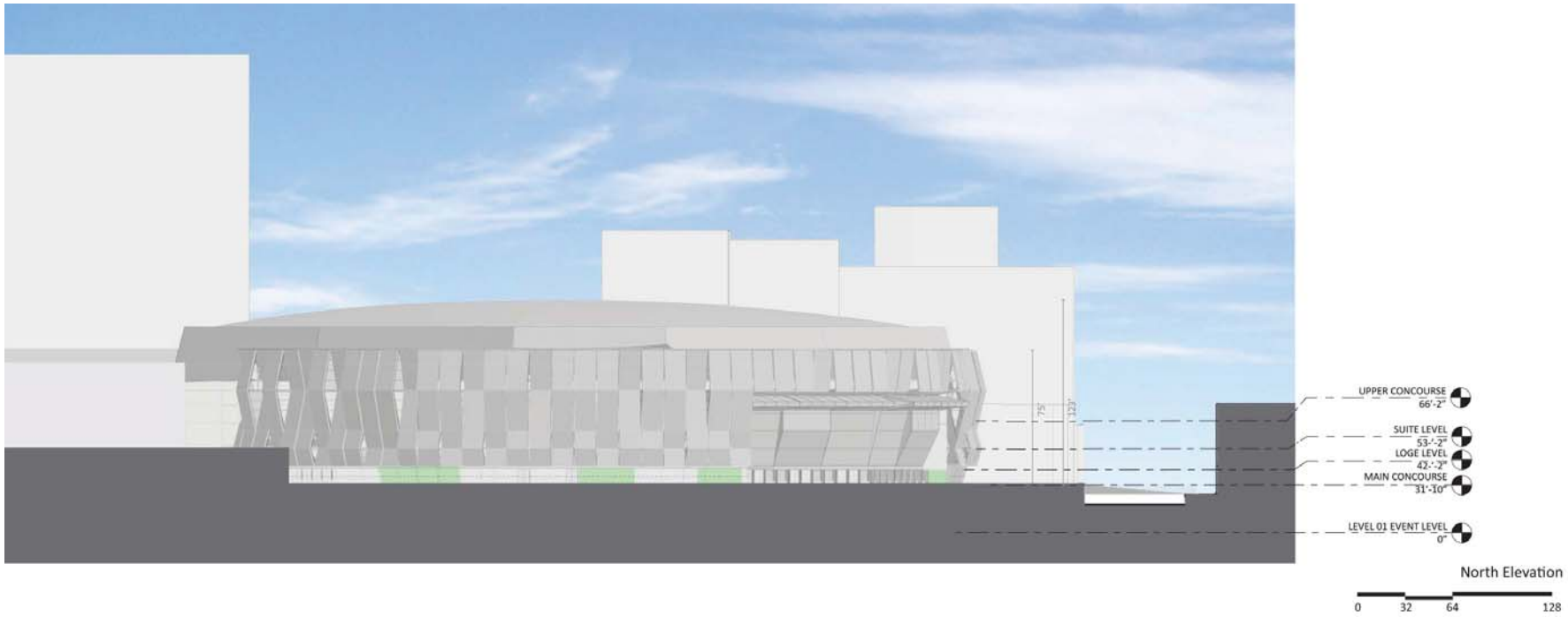
SOURCE: Sacramento Kings, 2013

Building Design

ESC Building

The ESC would be a multi-faceted structure with rounded corners, with the primary entrance on the Main Concourse level on the northwest edge of the building and a secondary entrance on the northeast side of the building. The ESC would create a streetwalls along L Street with a number of entrances for employees, media, VIPs, Paratransit, and an entrance to the administrative lobby above the practice facility. The parapet of the roof of the ESC building would rise approximately 90 feet above the main entrance and entry plaza (see Figure 2-5),[4] about 105 feet above L Street (see Figure 2-6), and a varying height along the rising entryway along 5th Street (Figure 2-7).

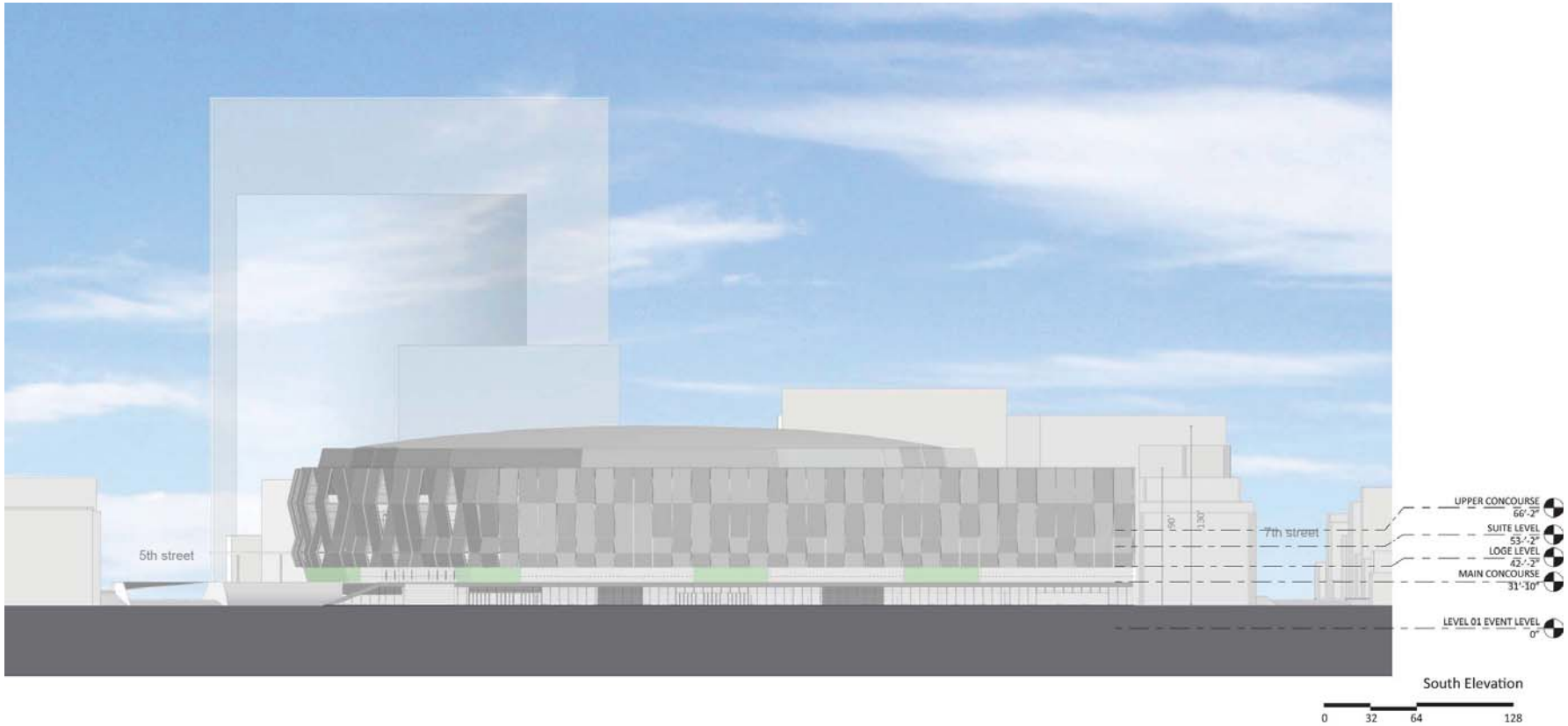
[4] The entry plaza at the main entrance to the ESC would be approximately ten (10) feet above J and K Streets, an increase of about six feet over the existing Downtown Plaza ground floor elevation. This is addressed further under Open Space, below.



SOURCE: AECOM, 2014

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 2-5
ESC Entry Plaza North Elevation



SOURCE: AECOM, 2014

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Figure 2-6
ESC L Street Elevation

SOURCE: AECOM, 2014

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Figure 2-7
ESC 5th Street Elevation

The ESC building would be a multi-level structure. The Event level would be located approximately five (5) feet below the existing bottom grade of the Plaza East Parking Garage (see Figure 2-8 and Figure 2-9). The Event level would include the event floor, locker rooms, lounges, kitchens, storage, loading docks and marshaling areas (see Figure 2-10).

The Lower Mezzanine level would include spaces that would front on and be accessed directly from L Street as well as some interior premium clubs (see Figure 2-11). Along L Street there would be entry to a lobby serving the administrative space above the practice courts; entries for VIPs, media, employees, and Paratransit riders; ticket and box offices, and a retail space that could be used for a team store.

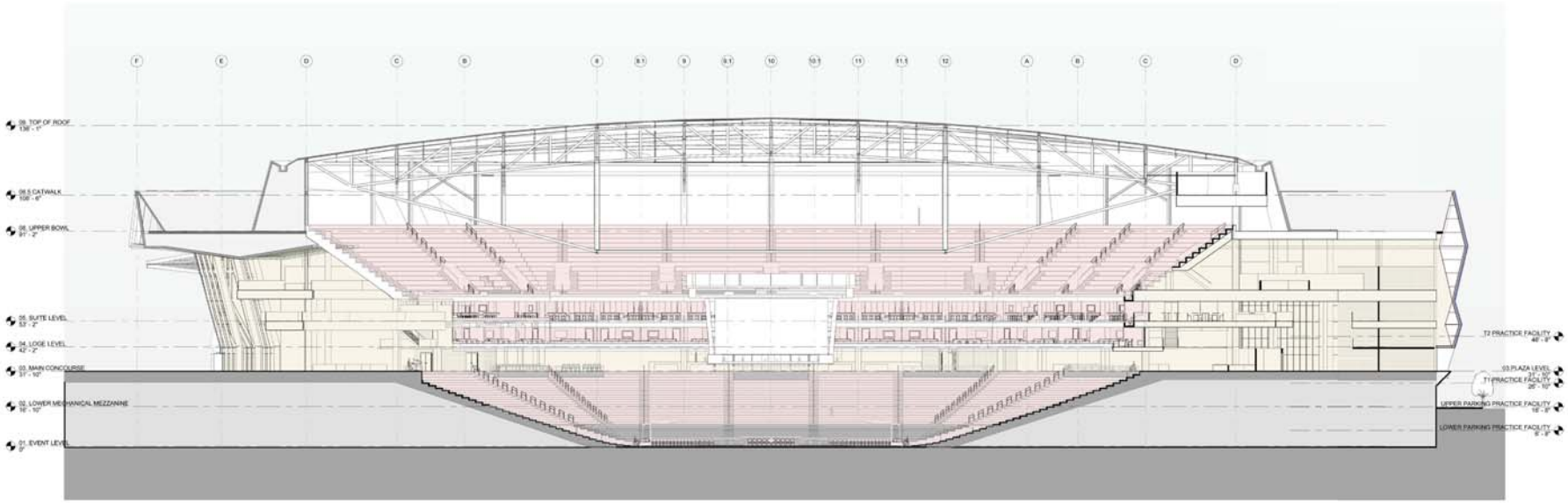
The Main Concourse level would be located at the same level as the entry plaza, approximately 32-feet over the Event level. The Main Concourse would include the main entrances to the ESC, horizontal circulation space, concession spaces, restaurant and retail space, and an exterior terrace overlooking L and 5th Streets. The terrace would be landscaped, and during events would be equipped with video screens and speakers so that patrons could observe activities inside the ESC while on the terrace. The lower seating bowl would descend from the Main Concourse level to the floor on the Event level (see Figure 2-12).

A portion of the entry plaza area near the main entrance could be cordoned off and operated as part of the ESC space. When weather permits and when it would be conducive for the specific type of event, the perimeter wall of the ESC at the main entrance, facing the entry plaza, could be opened, providing the opportunity for ticketed patrons to flow freely between the main concourse and the cordoned portion of the entry plaza. The outdoor entry plaza could be equipped with video screens and speakers, which would allow patrons to watch and hear the ongoing events while experiencing the outdoor spaces.

Approximately 11 feet above the Main Concourse level would be the Loge level, which would provide a limited number of premium seats along with clubs for premium ticket holders and associated concessions and horizontal circulation (see Figure 2-13). Above the Loge level, the Suite level would accommodate 24 suites along with a limited amount of premium seating, concessions, retail, and other support and circulation space (see Figure 2-14). A standing room only bridge would connect the sides of the Suite level over the open end of the bowl, allowing attendees to have views directly to the Event floor while circulating around the Suite level.

The Upper Concourse level would be approximately 37 feet above the Suite level and would provide access to seats in the Upper Bowl (see Figure 2-15 and Figure 2-15a). The Upper Concourse would include numerous concessions, retail outlets, three restaurant/bar spaces along with other support and circulation space. A standing room only bridge would connect the upper concourse over the open end of the bowl, allowing attendees to have views directly to the Event floor while circulating around the Upper Concourse. The Upper Concourse may include several small exterior balconies equipped with video screens and speakers.

The top of the roof of the ESC would rise approximately an additional 30 feet above the roof perimeter heights. Satellite dishes would be fixed on the roof of the ESC near the southwest corner. The number of satellite dishes and their exact placement on the ESC roof is undetermined at this time.



SOURCE: AECOM, 2014

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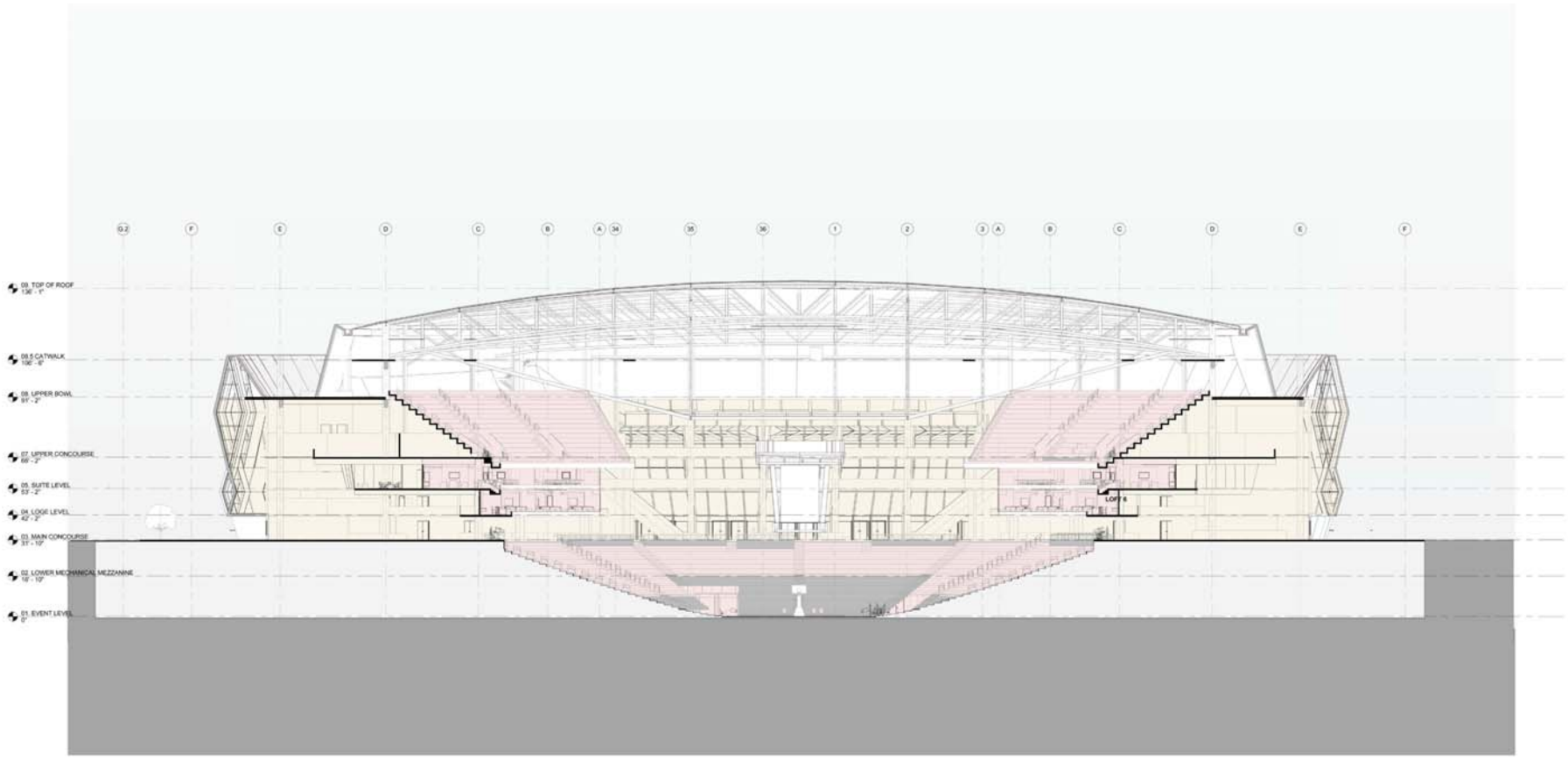
Figure 2-8

ESC Longitudinal Building Section



SOURCE: AECOM, 2014

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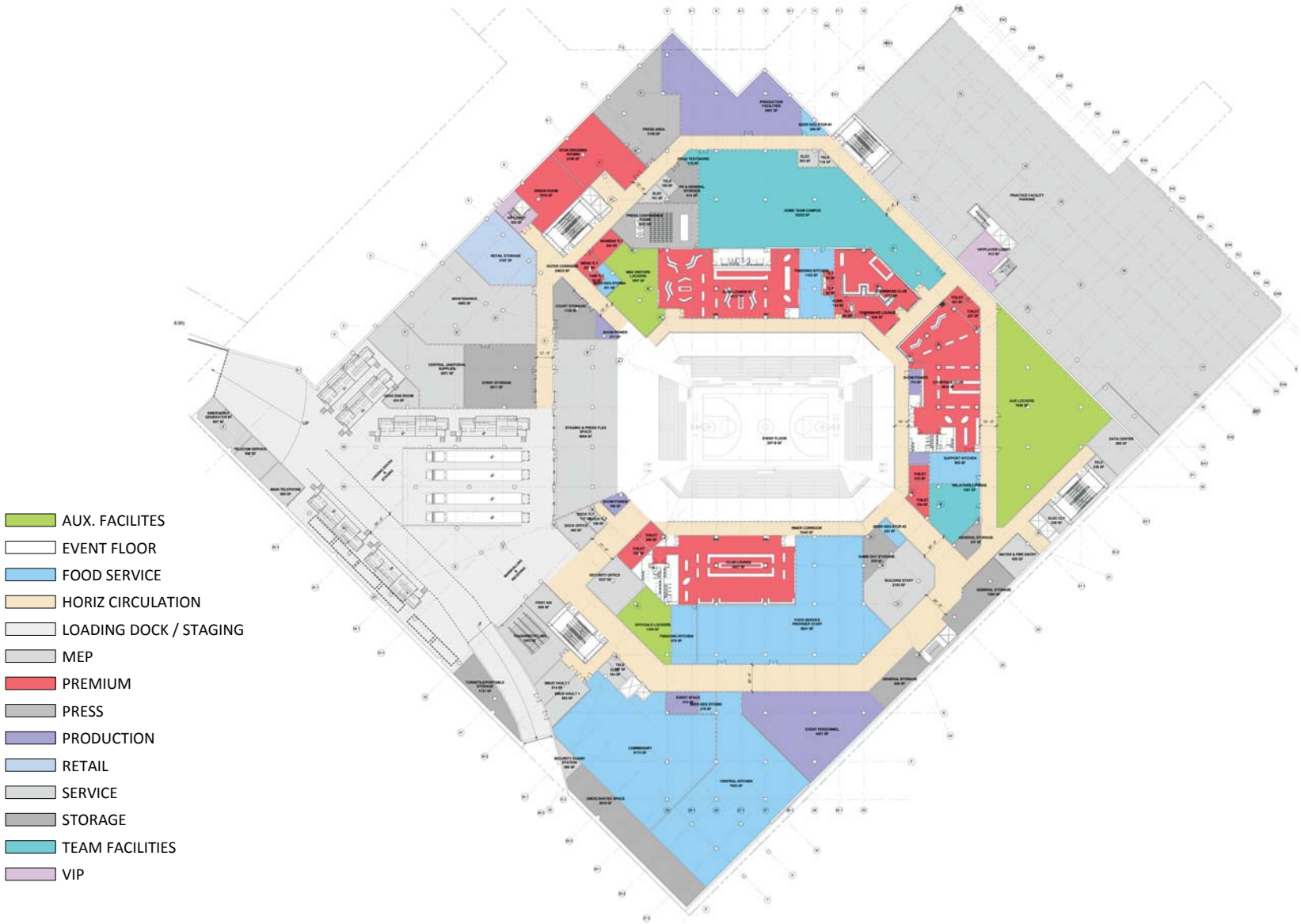
Figure 2-9

ESC Transversal Building Section



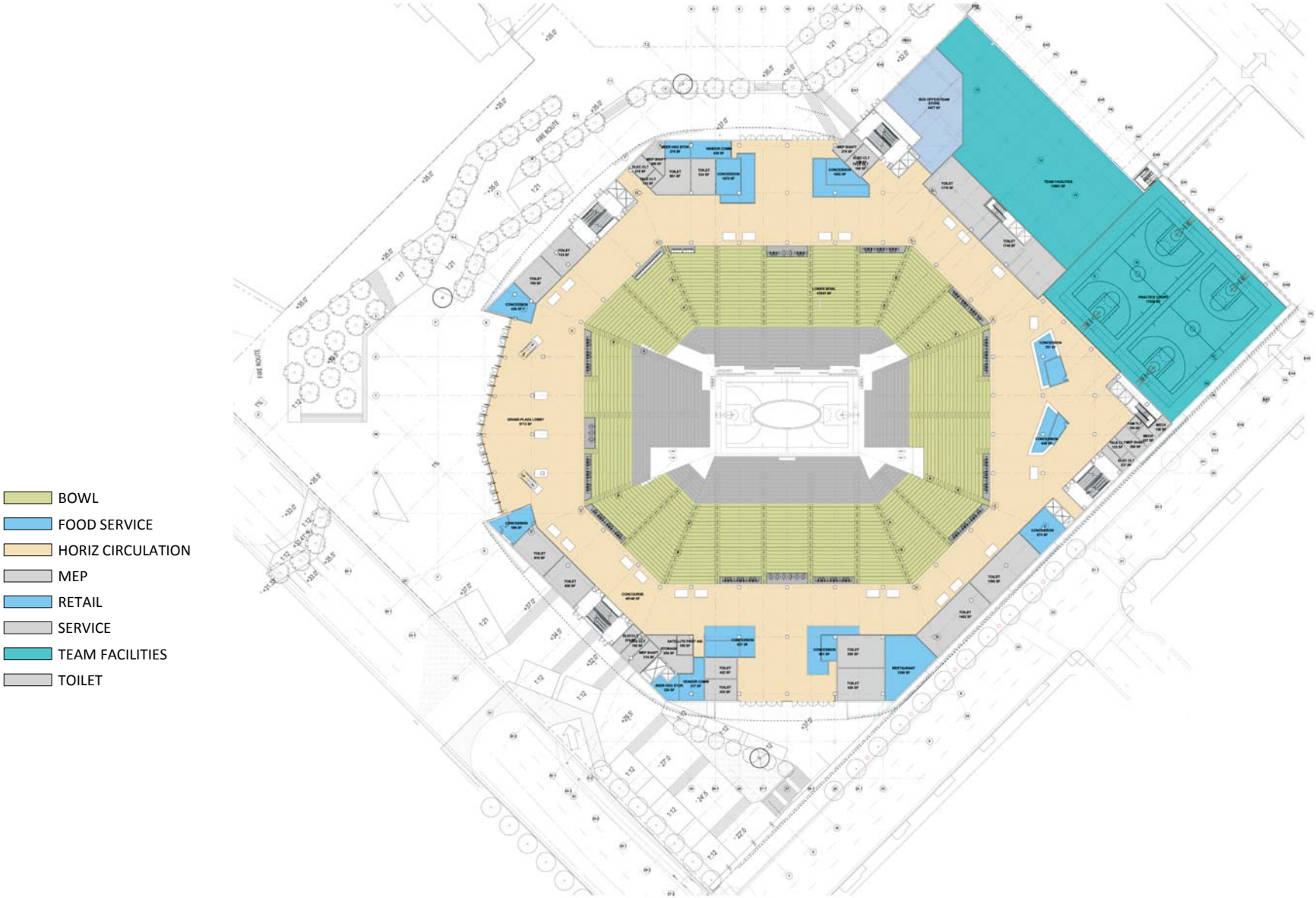
SOURCE: AECOM, 2014

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 2-10
ESC Event Level Plan

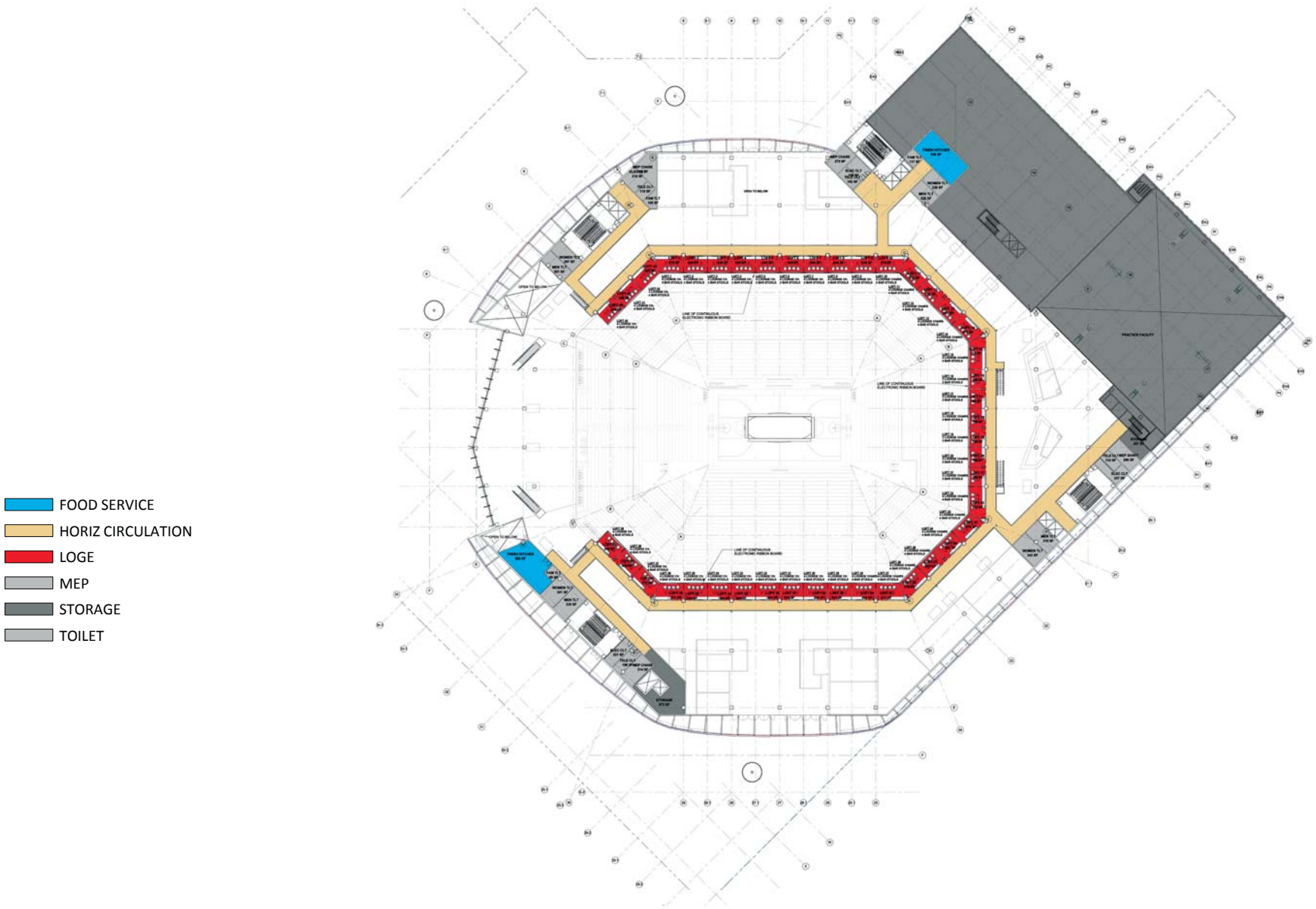
SOURCE: AECOM, 2014

Figure 2-11
ESC Lower Mezzanine Level Plan



SOURCE: AECOM, 2014

Figure 2-12
ESC Main Concourse Level Plan



SOURCE: AECOM, 2014

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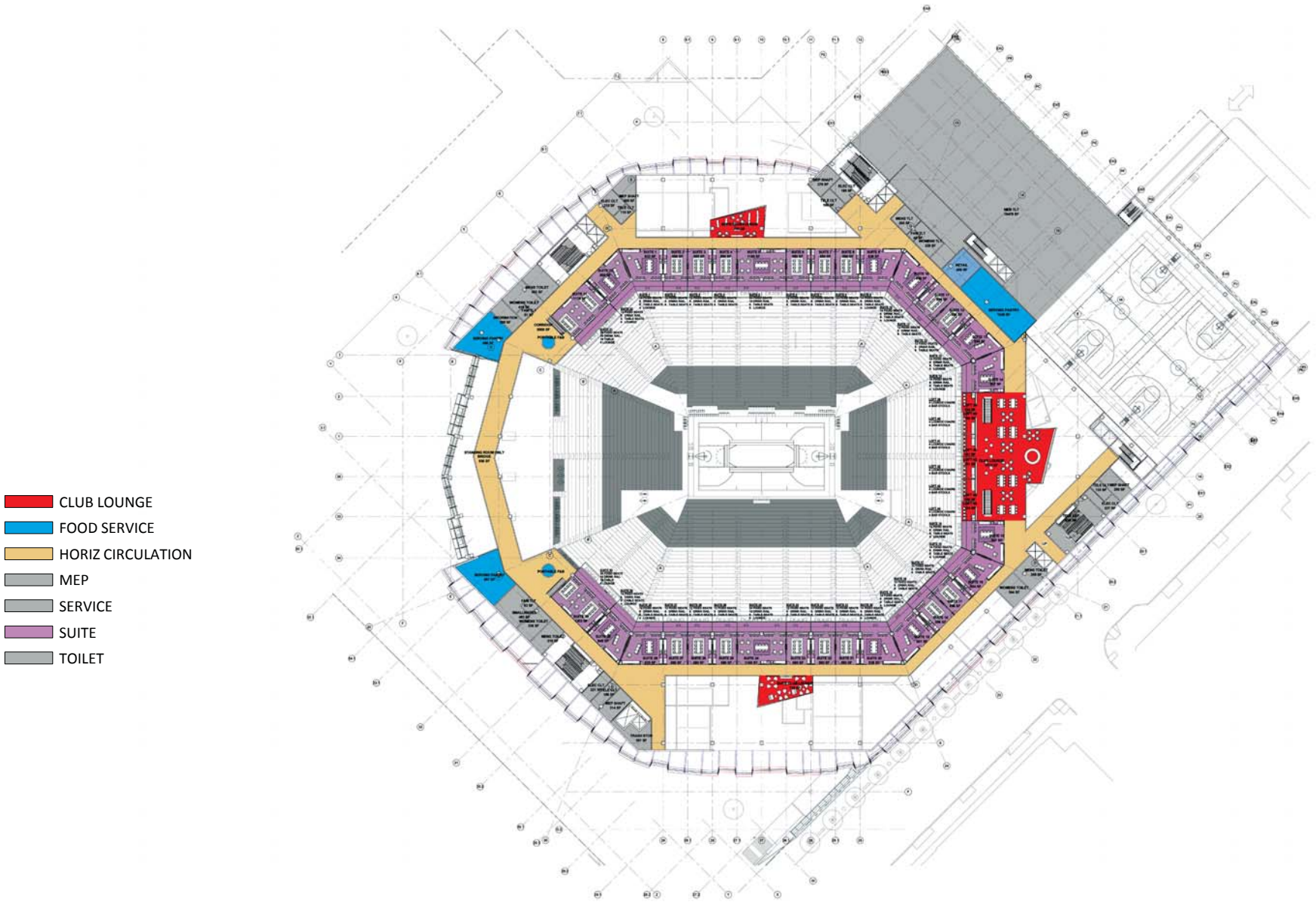
Figure 2-13
ESC Loge Level Plan



SOURCE: AECOM, 2014

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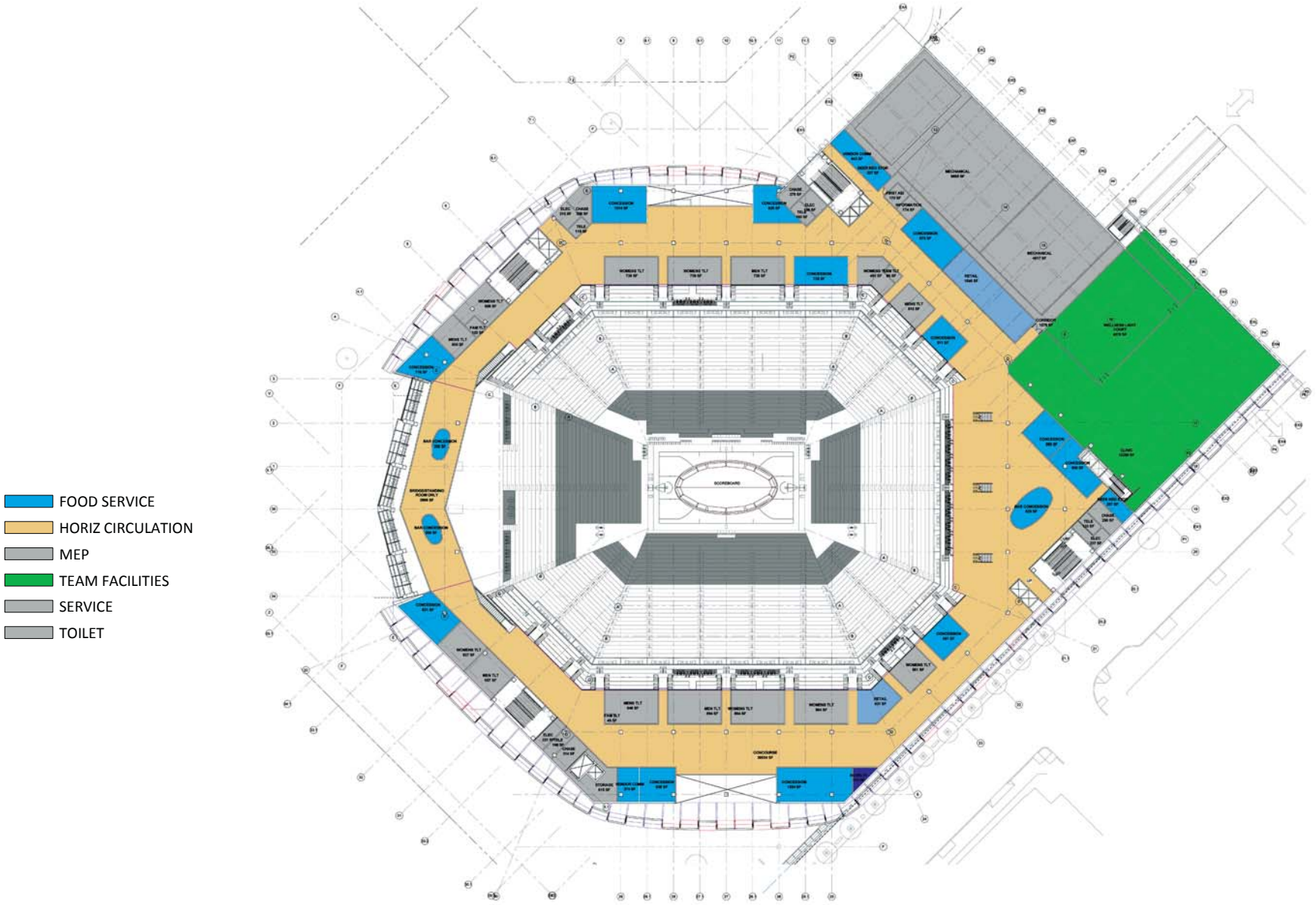
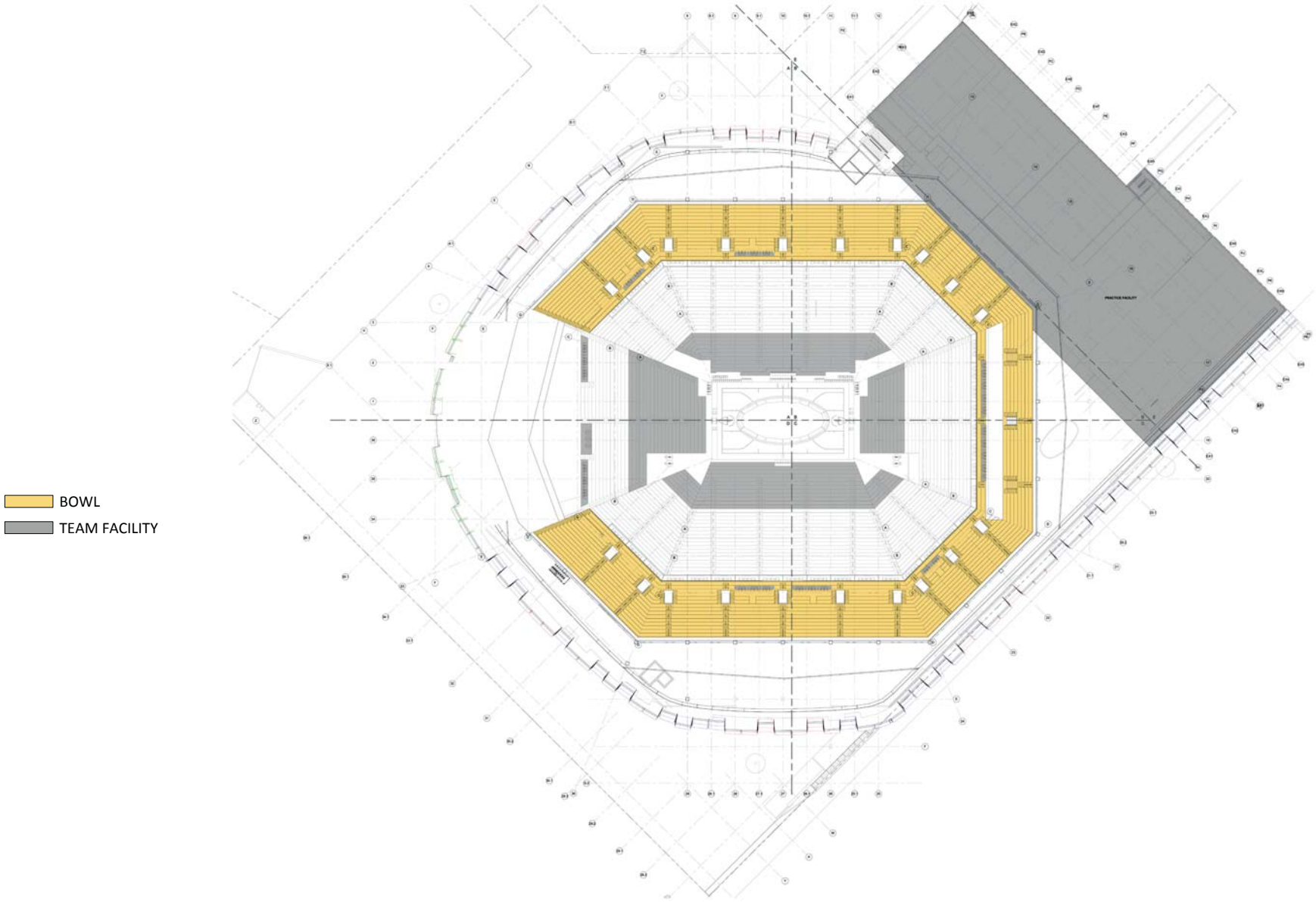
Figure 2-14
ESC Suite Level Plan



SOURCE: AECOM, 2014

Figure 2-15
ESC Upper Concourse Level Plan



SOURCE: AECOM, 2014

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Figure 2-15a
ESC Upper Concourse Seating Level Plan

The exterior of the ESC building would be made up of a number of faceted panels comprised of a range of textures and materials, including metal and/or perforated metal, glass with tinting, and precast concrete with stone aggregate. Glass or perforated panels would allow views into the ESC concourse levels from the entry plaza area, and could allow views into the concourse levels from L Street, 5th Street, and other points west and south. Distinctive lighting and signage could be positioned inside the transparent walls and could be visible from inside and outside the ESC, making the glass walls visually distinctive and highly visible. Lower portions of the façade at the Main Concourse level may be comprised of "green" or "living" walls in which living plants cover that portion of the façade, growing on a medium that provides for water and nutrient distribution.

Practice Facility

The practice facility would be contiguous to and integrated with the east side of the ESC. The practice facility would rise to approximately 62 feet above the entry plaza and Main Concourse level. Facing L Street, the streetwall of the practice facility would be approximately 90 feet in height (see Figure 2-16).

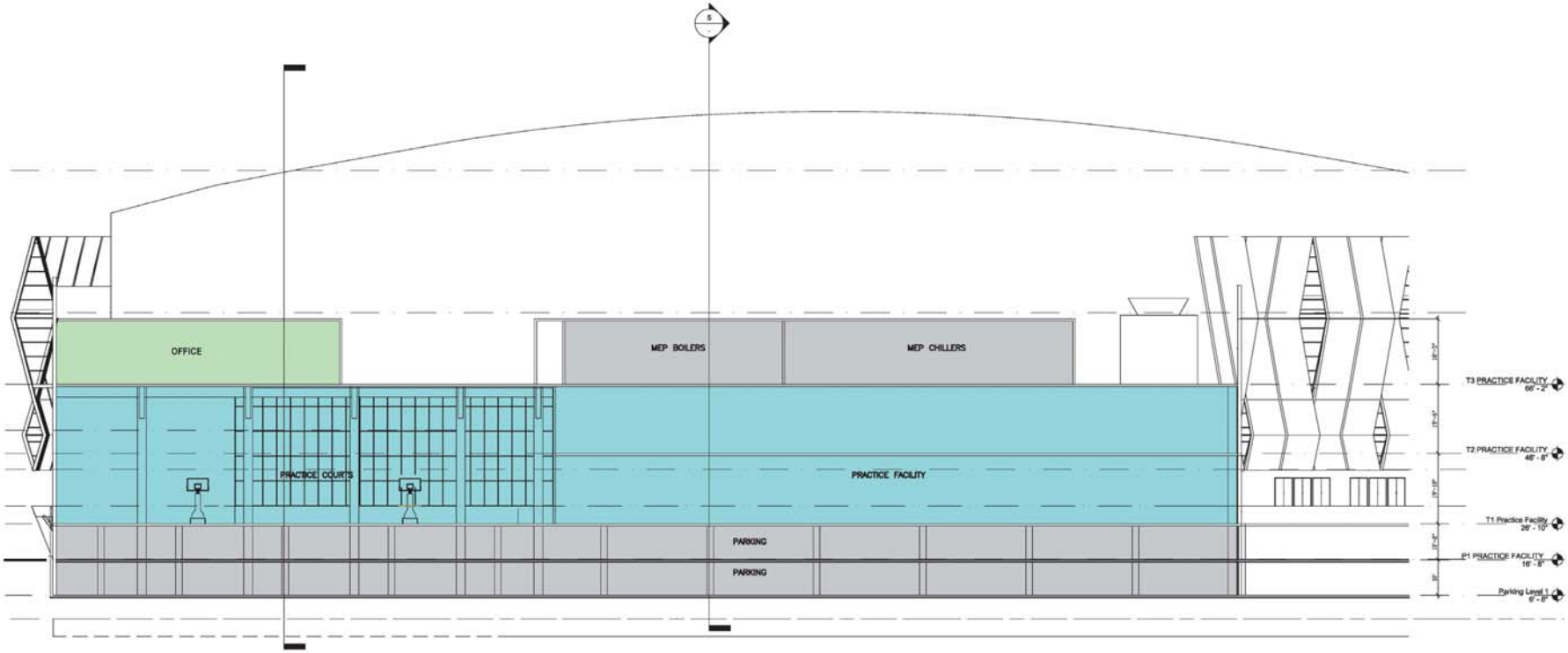
As noted above, a lobby that would serve the administrative offices in the practice facility would be located on L Street. The first floor of the practice facility would located on the same level as the Main Concourse and the entry plaza, and would include two full-sized basketball courts, team locker and training areas, and a restaurant space that would open to the main entry plaza area. While the practice courts require approximately 35 feet of clearance, a second level over a portion of the first floor, corresponding to the ESC Suite level, would accommodate additional team training and locker space, as well as a restaurant that would serve the ESC suites and adjacent club areas (see Figure 2-14). The upper floor of the practice facility would accommodate administrative office space (see Figure 2-15). The roof of the practice facility may include outdoor terraces that, if included, would be accessible from the Upper Concourse of the ESC.

The practice facility would be clad in tinted glass, metal and/or perforated metal, and pre-cast concrete with stone aggregate.

Open Space

An integral element of the ESC would be several open plazas intended to provide seamless flow in and out of the building, pedestrian circulation around the ESC, and pedestrian connectivity to J, L and 7th Streets, as well as the retail and cinema uses and Old Sacramento west of 5th Street. As depicted on Figure 2-4, approximately 120,000 square feet of open space would be included in the plaza areas surrounding the ESC.

The entry plaza and adjacent plaza areas would be at an elevation approximately 9 feet above the elevation of J and K Streets, and about 15 feet above the elevation of L Street. The ESC and its main entry plaza would project north into the existing alignment of K Street east of the 5th Street overpass. Open entry plaza areas would wrap around the north side of the ESC, connecting to the K Street alignment on the east at 7th Street and at the 5th Street overpass on the west.



SOURCE: AECOM, 2014

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Figure 2-16

ESC Practice Facility Longitudinal Building Section

Connecting the entry plaza to L Street, An approximately 80-foot wide entry would be created on the southwest side of the ESC building, parallel to 5th Street. This southwest entry would rise about 15 feet from L Street to the main entry plaza with slopes that would range from 1:21 to 1:12.

Connections through the SPD area to J Street would be provided through a major new pedestrian entry that would connect J Street to the ESC entry plaza on the east side of 5th Street which would include steps and ramping sidewalks with slopes ranging between 1:21 and 1:12. There would also be a pedestrian connection from the entry plaza via steps to the sidewalks along the west side of 6th Street, on the side of the Ramona Hotel building.

The ESC entry plaza is anticipated to be actively used space that may include retail and restaurant storefronts, sidewalk cafes, retail kiosks, small-scale performance venues, seasonal events, musical and cultural events, and gardens. A feature of the entry plaza would be a landscaped "bosque" that would provide seating opportunities for plaza users situated among trees that may include almonds and other species that are illustrative of Central Valley agriculture. It is anticipated that these areas would be occasionally used for small outdoor concerts or cultural or athletic events, including but not limited to events associated with the Sacramento Kings. As mentioned above, for some events, a portion of the entry plaza in front of the ESC main entry could be secured and the adjacent exterior walls of the Main Concourse level opened to create an integrated indoor/outdoor experience for ticketed attendees. Video screens and speakers may be placed in the secured entry plaza area, allowing attendees to hear and see the activities going on inside the ESC while outside in the entry plaza area.[5]

The ESC plaza areas would be comprised of hardscape and landscaped planters. Hardscape areas would feature use of a variety of paving materials and landscape plantings, and would include benches, public art, and water features. Plantings would include agricultural and native species, and may include hydroponic gardens or other micro-scale agricultural features.

Signage and Lighting

Signage

The ESC would be covered by a proposed new sign district that would establish sign regulations that would allow changes to the City's currently adopted sign ordinance. The district would apply to both the ESC site and the SPD area. The proposed sign district would allow a wide array of types, sizes, and location of signs, while requiring that signs respond to the overall architectural design themes within the ESC and SPD area. Key proposed requirements of the district may limit exterior signage to the Sacramento Kings, ESC events, building and team sponsors, commercial tenants, and products sold at the property. Unique signage such as rooftop, laser, rotating or animated, projected image, digital, magnetic or electronic message signage may be allowed. The number, location, and size of signs would be determined in the future during Site Plan and Design Review and would be subject to Planning Director approval.

[5] The amplification of outdoor speakers would be limited to no higher than 100 dBA measured five (5) feet from the source.

The proposed ESC would incorporate extensive, varied signage that could promote the Sacramento Kings, building activities and events, building and team sponsors, civic activities, and products sold at the property. Since people would approach the venue from different locations, signage would be required on different sides of the ESC. Signs could be internal within the facility, or external, adhered to the structure, or free-standing in the entry plaza. These signs would be of a variety of types and sizes depending on their location, as shown on the following diagrams. Signs could be stationary, lit signs adhered to the building, or they could be projections onto glass or solid surfaces; they could be digital using LEDs (light emitting diodes) to convey changing messages and images; or they could utilize other technologies that may emerge in the future. A range of examples is provided to illustrate the spectrum of signage types currently being considered.

Figure 2-17 identifies locations for signage on both vertical and horizontal surfaces of the ESC and its surrounding structures. Vertical signage along the sides of the buildings would likely be included at key points around the venue. As the main entry is located on the northwest side of the building facing the entry plaza, venue signage would be provided in this area to accentuate this facade. This signage would be largely directed towards pedestrians in the central entry plaza, passing through the property along the K Street alignment, or passing by the property along L or 5th Streets. It is also envisioned that some large scale graphics, projections, or illuminated signage located within the venue would be visible from this plaza area. As the plaza area would be largely internal to the project site, the signage in the plaza area would not be as directly visible to pedestrians and people in vehicles on the project periphery as signage along a street edge.

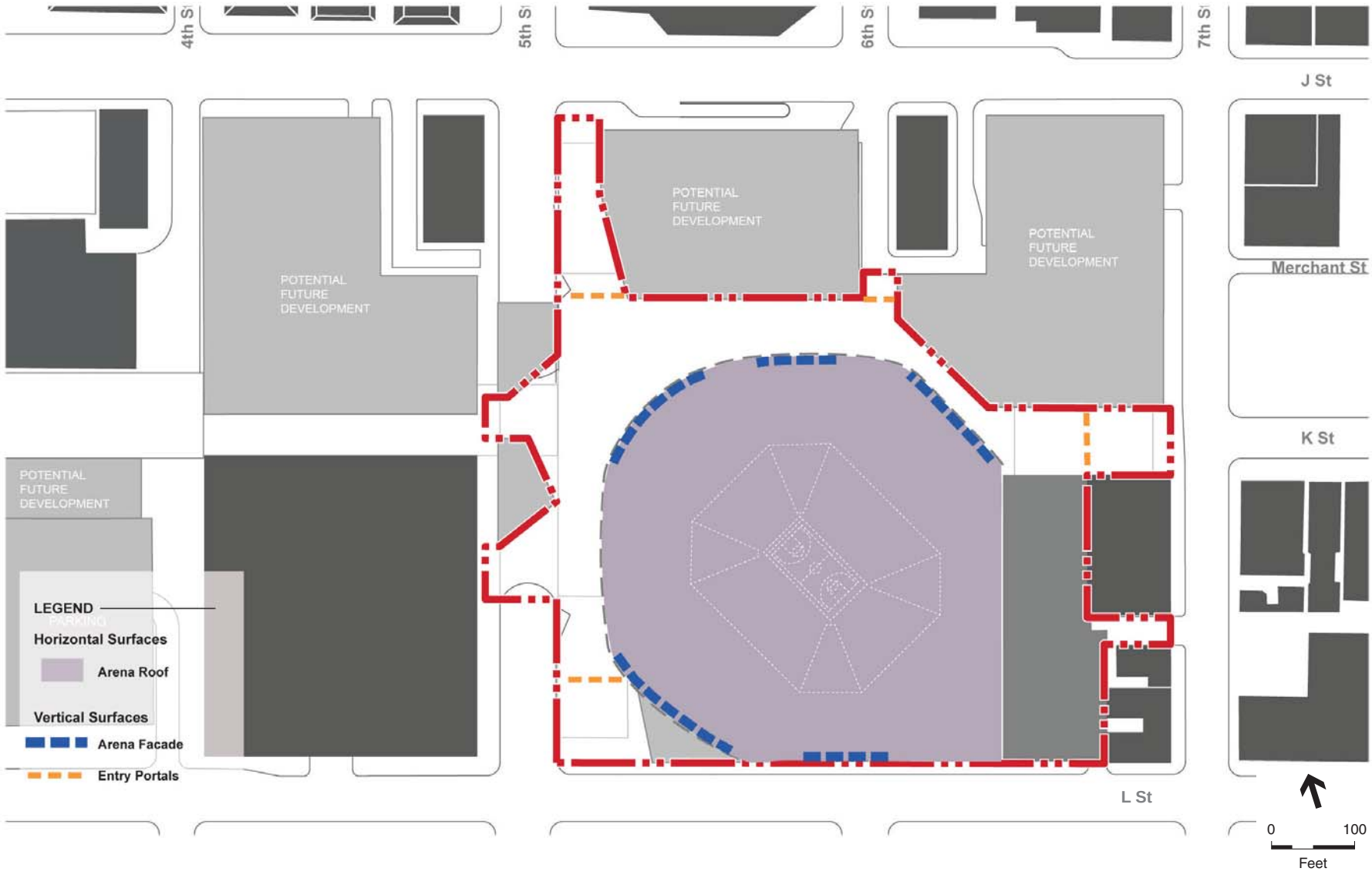
These signs could be adhered or projected onto portions of the upper bowl, on the façade of the lower bowl around the entry plaza, or free-standing in the entry plaza area. They would likely be brightly lit for visibility and visual impact.

Some signs would be oriented toward viewers outside of the project site. Upper level venue signage could be located over building entries on the northwest and northeast, and at various locations on the building parapet or high on exterior walls facing to the south, southwest, and north. The signs would be intended to be viewed from further distances, including Capitol Mall and I-5. Signage also could be located at the main entries to the entry plaza, including plaza entries from K Street, L Street, and J Street. Some signs could be at street level along the L Street (south) side of the ESC. All of these signs would be brightly lit and designed for a high degree of visibility from a distance.

Given that the Proposed Project would be visible from above during televised broadcasts, rooftop signage could be provided on top of the ESC.

Lighting

The ESC would be brightly lit for visibility during events and at other times of the day and night. Interior lighting may be seen through transparent facets (glass or perforated materials) on the building façade, or through walls that may be opened to the entry plaza or outdoor terraces and/or balconies. Exterior lighting for the ESC would be provided to illuminate different areas of the arena and surrounding plaza. The type of lighting and its intensity would vary, however, depending on how the venue is being used at any given time. Figure 2-18 identifies locations for lighting on the ESC and its surrounding structures.



SOURCE: AECOM, 2014

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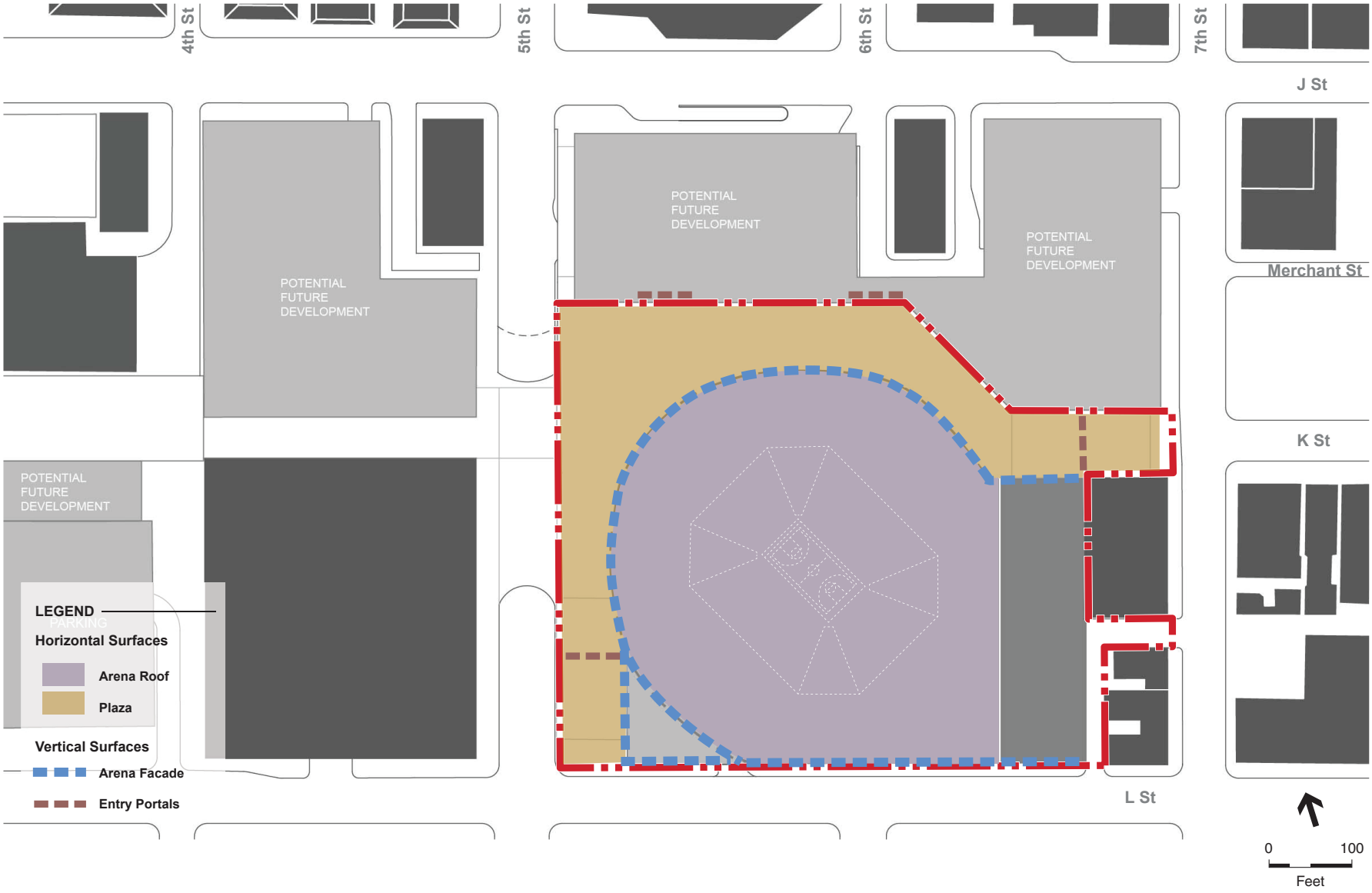
Figure 2-17
ESC Signage Plan



SOURCE: AECOM, 2013

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Figure 2-18
ESC Lighting Plan

During NBA games, concerts, and other major events, the venue lighting would be high-intensity (bright and colorful), as may be fitting given the nature of the event. For non-event times, the ESC would be illuminated to promote safety and visibility, as well as to provide continual visibility for advertising purposes. The vertical surfaces of the arena and its adjacent buildings would be illuminated in a manner that highlights its architecture and creates welcoming street edges. As for horizontal surfaces, the plaza would be illuminated to highlight circulation paths, landscape features, and create a safe pedestrian experience. Additional way-finding lights would be provided to help orient people around the venue.

Exterior balconies and rooftop areas throughout the project would be illuminated when the venue is in use, to accommodate the people who will gather there at night, and at other times. The arena roof would be illuminated to highlight the arena when viewed from above (from helicopters, airplanes or airships) for major events and at other times for a variety of purposes.

The sunshade on the northern perimeter of the entry plaza could be illuminated from below as well as from above to create a distinctive visual frame for the ESC. A variety of different lighting techniques would be employed depending on the location. These would range from lighting integrated into the landscape to LED lights and video screens along the façade. Some of these elements would be signage opportunities as well, and so there would be some overlap between signage and lighting in these instances.

Sustainability

The proposed ESC would be designed and constructed to meet the certification requirements of the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold certification. The certification of the project as LEED Gold would be through a point system in which points would be assigned based on project characteristics. Some of the characteristics would be related to the project site, and others would be related to the project design and construction methods. The relevant characteristics of the project site would involve its location in a downtown, infill location, redevelopment of an existing built property, the density of the site and connectivity to the adjacent community, and accessibility to public transportation. Although the details of the design process are not yet complete and, thus, many of the design details that would be measured to achieve the Gold certification have yet to be determined, Table 2-6 presents the targets that the applicant has established to be met through project design.

TABLE 2-6
SACRAMENTO ESC LEED SUSTAINABILITY TARGETS

Sustainability Factor	Target
Energy Reduction	15% better than Title 24
Water Reduction	25% better than CalGreen Baseline
Use of On-Site Generated Renewable Energy	Up to 1%
Use of Recycled Content in Building Materials	10%
Use of Regionally Supplied Building Materials	10%
Recycling of Construction Waste	75%

SOURCE: AECOM, 2013.

LEED Gold certification may be achieved through varying levels of performance related to the sustainability factors identified in Table 2-6. Depending on final designs, the ESC may exceed some targets and fall short of others. The types of strategies that are being investigated to achieve the targets identified in Table 2-6 include:

- The use of heat recovery, thermal displacement ventilation, underfloor radiant heating and cooling, free cooling, high efficiency lighting, and demand control ventilation;
- The potential use of onsite thermal energy storage to reduce peak cooling and electrical demands;
- The use of low flow plumbing water fixtures throughout the building;
- The use of Low Impact Development (LID) practices in stormwater treatment;
- Roof mounted pv solar panels; and
- Drought tolerant plant species to reduce irrigation needs.

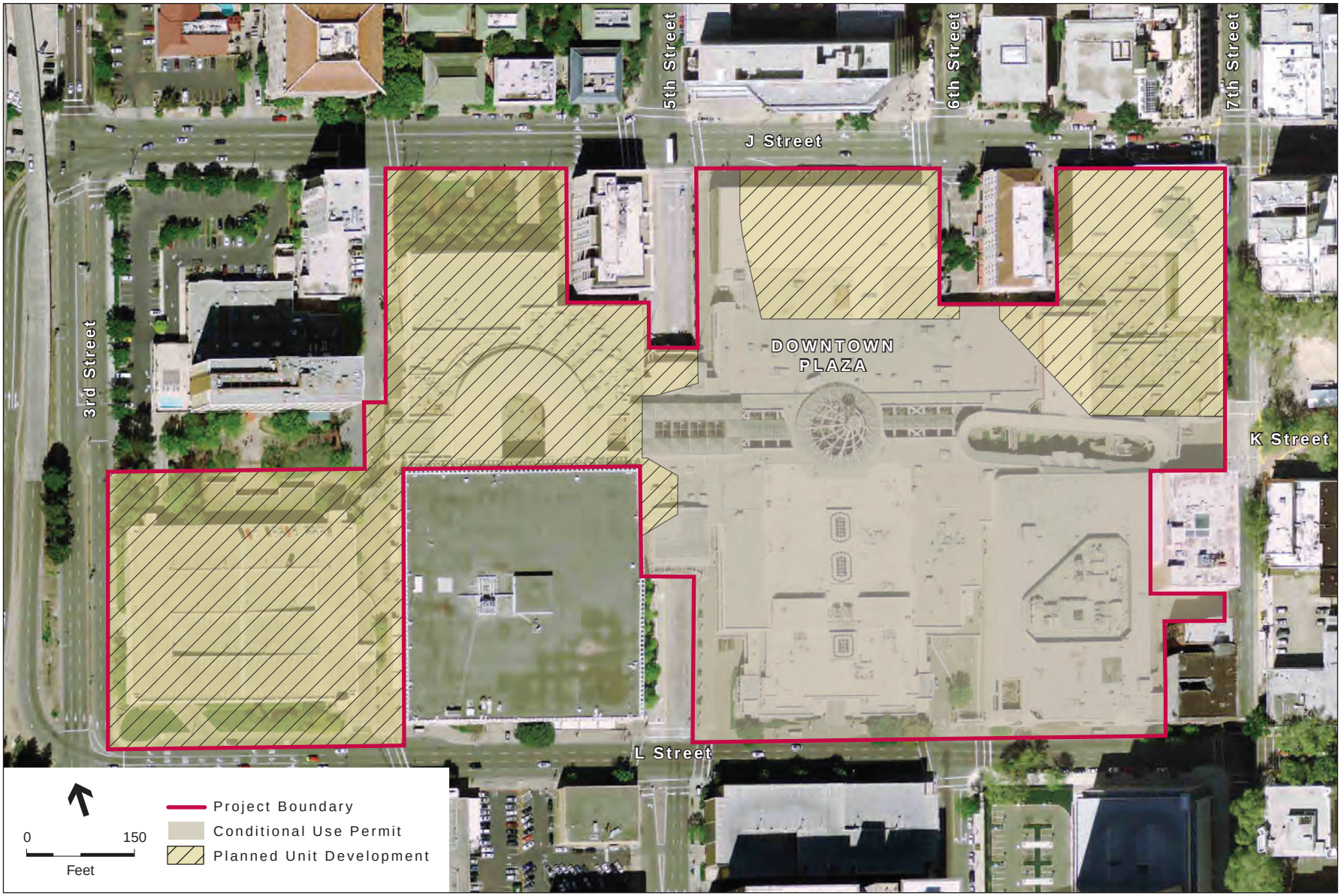
In the event that roof mounted solar panels or other on-site renewable energy generation is not determined to be feasible to be included as an initial part of the design, the proposed ESC would be designed to allow for future installation of renewable energy systems.

2.4.4 Mixed Use Development

In addition to the ESC, the project proposes a combination of land uses, such as office, retail/restaurant commercial, residential, and hotel located on several mixed use lots in the SPD area. These uses would be designed consistent with the Central City Urban Design Guidelines and would be regulated pursuant to the proposed ESC-Special Planning District (ESC-SPD) (see Figure 2-19) which would establish specific allowed uses and administrative procedures for development within the SPD. Table 2-2 provides the mix of uses proposed in the SPD area.

The project proposes to entitle and vest the rights to develop up to 1.5 million square feet of mixed uses. For purposes of the analysis in this EIR, it has been assumed that the mixed uses would include land uses in the following amounts:

- Retail/Commercial 350,000 sf (net decrease of 231,275 sf),
- Office 475,000 sf (net increase of 198,332 sf),
- Hotel 250 rooms (net increase of approximately 175,000 sf),
- Residential 550 units (net increase of approximately 500,000 sf).



SOURCE: ESA, 2014

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Figure 2-19
Proposed Entitlements

The Proposed Project anticipates these square footages of each use that would be allowed within the SPD area. The proposed entitlements would not, however, prescribe any particular mix of uses within each building or mixed use lot, nor would minimum amounts of any particular land use be established. Consequently, allowable development for each use that is developed in the future would depend, in part, on the amount of development capacity that is taken up by other uses. For example, the EIR assumes that the maximum amount of residential development that could be constructed would be approximately 550 units comprising about 500,000 sf. However, if less than the assumed maximum amount of residential units is developed, then additional hotel rooms or retail or office space could be built as long as the total amount of space constructed would not exceed 1.5 million sf. Further, and importantly, the maximum amounts of each type of space would be limited by the overall level of environmental performance described in this EIR.[6]

2.4.5 Retail/Commercial

Retail/commercial uses would largely be constructed on the first floor of development and oriented to have front doors mainly onto the entry plaza and the K Street alignment, and to a lesser degree on the perimeter streets, including L, 5th, and J Streets, and intervening pedestrianways. Retail/commercial uses would include retail stores, theaters, fitness or athletic centers, restaurants, nightclubs, and other similar uses as allowed for in the SPD. The EIR assumes that approximately 350,000 sf of retail/commercial uses would be developed. This would represent a decrease of 231,275 sf of retail/commercial space on the site.

With the incremental development of the new mixed use development, portions of the existing retail/commercial space would be retained and operated while new space is constructed. As an example, it is expected that during construction of the initial phases of development, portions of the Plaza West property (including the Downtown Plaza theaters, adjacent retail, and food court) may continue to operate. Similarly, it is expected that the 24 Hour Fitness would continue to operate during construction and operation of the ESC.

Including demolition of the 171,000-square foot former Macy's East retail store, there are a total of 581,275 square feet of retail/commercial space that would be demolished as part of the project. Between 2004 and 2012, an average of about 493,344 square feet of this space was occupied at any given time, and in 2012, only about 368,371 square feet was occupied. Compared to 2012 retail occupancy, the Proposed Project would decrease retail space at the project site by 18,371 sf; compared to the 2004-2012 average retail occupancy, the Proposed Project would represent a decrease of 143,294 sf of retail space.

The existing Macy's West store, which functions as an integrated part of the existing Downtown Plaza development, is not part of the Proposed Project and would continue to operate into the future. The Macy's West store contains 332,500 square feet of retail space.

6 The total land use developed cannot exceed the estimates for such factors as a.m. and p.m. peak period trip generation, water demand, wastewater generation, school enrollment, and the like, without additional CEQA documentation and appropriate public review.

2.4.6 Office

The EIR assumes that the Proposed Project would include construction of up to 475,000 square feet of office space within the SPD area. There are 276,668 square feet of office space in the current Downtown Plaza buildings that would be demolished, for a net increase in office space of 198,332 square feet. As described in Table 2-2, an average of 139,057 square feet of the existing office space was occupied between 2004 and 2012. Thus, for purposes of analysis, this EIR evaluates the project as a net increase of 335,943 square feet of office space.

Although the SPD does not prescribe where on the project site the office space is to be developed, nor any minimum amount of office space to be built, it is currently anticipated that the office space built as part of the project would largely be constructed in one or more buildings located generally in the portion of the project site bounded by J, K, 6th, and 7th Streets.

2.4.7 Hotel

The EIR anticipates that the Proposed Project would include construction of up to 250 hotel rooms. The hotel would include space for lobbies, meeting rooms, in-hotel retail and restaurants, and other support uses. Total square footage of the hotel uses would be approximately 175,000 square feet.

Although the SPD would not prescribe the specific location or configuration of the hotel uses, it is currently anticipated that the hotel would be part of a larger development constructed above ground floor retail in a building in the area generally bounded by 5th, 6th, J, and K Streets. One possible configuration would be for the hotel entrance to be located adjacent to a first floor reception area, under a covered porte cochere with a turnout on J Street, as well as an entry to the below-grade parking level. Second floor uses would include meeting rooms and other complementary uses such as in-hotel retail and restaurant, business center, and hotel offices. Hotel rooms would potentially be located on upper floors. It is likely that the hotel would include an outdoor swimming pool and associated open space.

2.4.8 Residential

The EIR anticipates that the Proposed Project would include construction of up to 550 multi-family residential units, likely in two or more towers on the project site. The proposed SPD does not prescribe the unit types, or sizes. Like other uses within the development, the residential uses would be designed and built to meet market conditions. At this time, it is anticipated that unit sizes would tend toward the smaller end, with a preponderance of one- and two-bedroom units. Residential portions of the development would also include private open spaces for uses of residents. Open spaces would consist of private balconies and common open spaces, including a pool area with outdoor entertainment amenities. It is currently anticipated that the total residential square footage would be approximately 500,000 square feet, including residential units, common areas, and mechanical and other support spaces.

TABLE 2-7
ILLUSTRATIVE HOUSING PROGRAM

Unit Size	Percent of Total	Number of Units
Phase 1: 210 Units		
Studio	14	30
1br	53	110
2br	33	70
Phase 2: 340 Units		
Studio	16	54
1br	44	150
2br	40	136
Total: 550 Unit		
Studio	15	84
1br	47	260
2br	38	206

NOTE: This table illustrates one potential way that the housing on the site may be phased and developed. The project applicant considers this illustrative program to be conservative, representing the largest possible early phase, the most total units, and the largest expected size of individual units.

SOURCE: Downtown Plaza Sacramento, LLC, 2013; ESA, 2013.

It is currently anticipated that the residential units would be initially developed as rental units, but some or all of the units could be converted to owner-occupied condominiums to meet market conditions.

Residential portions of the development would also include private open spaces for uses of residents. Open spaces would consist of private balconies for each unit and common open spaces, including a pool area with outdoor entertainment amenities.

It is anticipated that one parking space per unit would be provided in on-site below-grade parking. Parking on the project site as further discussed below.

2.4.9 Employment

Based on the average levels of occupancy at the Downtown Plaza property over the last decade, it is estimated that there have been an average of 1,340 retail/commercial and office employees at the project site (excluding the Macy's West store). Under future conditions, it is estimated that total employment on the site, excluding employment at the proposed ESC, would rise to a total of 3,424 employees (an increase in employment at the project site of approximately 2,084 jobs). Existing and projected employment at the project site is presented in Table 2-8.

TABLE 2-8
SACRAMENTO ESC MIXED USE DEVELOPMENT EXISTING AND PROJECTED EMPLOYMENT

Land Use	Employee Generation Rate	Existing Occupied (2004-2013 Avg)		Existing Occupied (2012)		Proposed Project		Net Change in Employment (Project – 2004-2013 Avg)	Net Change in Employment (Project – 2012)
		Square Feet (Units)	Employees	Square Feet (Units)	Employees	Square Feet (Units)	Employees		
Retail/Commercial									
Theater	1/1,500 sf	42,370	27	42,370	27[1]	50,000	33	+6	+6
Fitness	1/300 sf	32,848	110	50,848	172[1]	50,000	172	+62	0
Restaurant	1/100 sf – 1/300sf[2]	36,306	249	19,155	192	100,000	500	+251	+308
In-Line Retail	1/750 sf[3] - 1/500 sf	210,769	281	141,998	189	150,000	300	+19	+111
Macy's East	1/1,439 sf[4]	171,000	117	114,000	117	0	0	-117	-117
Office	1/250 sf	139,057	556	103,867	415	475,000	2,159	+1,603	+1,744
Hotel	1/room	0	0	0	0	250 rooms	250	+250	+250
Residential[5]		0	0	0	0	550 units	10	+10	+10
Total Mixed Use Development			**1,340**		**1,112**		**3,424**	**+2,084**	**+2,312**

1. Existing employment provided by Downtown Plaza Sacramento, LLC., personal communication, August 16, 2013.
2. Fast food employment density is approximately 100 sf per employee; Sit down restaurant employment density is 300 sf per employee. For purposes of analysis, we have assumed employment density of 100 sf per employee for existing 2012 restaurant space which is largely made up of the Downtown Plaza food court. For purposes of estimating employment from the 2004-2012 average restaurant space, we used 100 sf per employee for 19,155 sf of fast food space, and 300 sf per employee for 17,151 sf of sit down space. For purposes of future restaurant employment, we have assumed 200 sf per employee to represent an expectation of a combination of food court/fast food and sit-down restaurant space.
3. Assumes lower level of overall business activity than expected at future retail uses. Economic analysis documented in Chapter 5 indicates that the in-line retail space in Downtown Plaza is experiencing retail sales at approximately 33% below what would be expected for in-line retail in a regional shopping mall. Retail employment would be expected to be 1 employee per 500 sf in regular conditions. For existing conditions, we have accounted for the under-performance by reducing assumed employment density to approximately 1 employee per 750 sf; for future conditions, approximately 1 employee per 500 sf is assumed.
4. Based on pro-rata allocation of documented employment at Macy's two stores during summer 2013. The Macy's East store has subsequently been closed and the menswear and home furnishings departments relocated to the Macy's West store.
5. No specific employee generation rate is available for residential. It is assumed that a minimum of 10 jobs would be created to support a new high-rise residential building(s) in the project.

SOURCE: Downtown Plaza Sacramento, LLC, 2013; ESA, 2013.

2.4.10 ESC Special Planning District

The mixed use portion of the Proposed Project would be developed pursuant to a proposed Special Planning District (SPD).[7] The proposed ESC-SPD area is depicted on Figure 2-19.

ESC Special Planning District (SPD)

An SPD, pursuant to Chapter 17.400 of the City Planning and Development Code, is intended to "regulate properties under multiple ownership that are in need of general physical and economic improvement, or have special environmental features that standard land use, zoning, and other regulations cannot adequately address." The proposed ESC-SPD would serve to amend and refine the administrative procedures, permitted uses, and development standards established in the underlying C-3 Zone. In general, the proposed SPD would make the following changes to the C-3 zoning regulations for the project site:

- Provide for development in a manner that is complimentary to the ESC;
- Restrict certain types of uses (e.g., auto repair and correctional facility) that are not consistent with the proposed ESC;
- Require Planning Director permits in lieu of Planning and Design Commission or Zoning Administrator approved permits for certain uses (e.g., stand alone parking facilities); and
- Require future subdivision map applications to be subject to Planning Director approval.

The proposed ESC-SPD would entitle and regulate up to 1.5 million square feet of mixed use development. While the proposed SPD would not specifically identify the location of the various uses on the site, it would assume an approximate development mix of up to 350,000 square feet of retail/commercial space, up to 475,000 square feet of office space, up to 250 hotel rooms, and up to 550 multi-family residential units.

Sign District

The SPD area would be would be part of a new City sign district that would establish sign regulations that would allow deviations from the City's currently adopted sign ordinance. The proposed sign district would allow a wide array of types, sizes, and location of signs, while requiring that signs respond to the overall architectural design themes within the ESC and SPD area. Key proposed requirements of the district would limit exterior signage to the Sacramento Kings, ESC events, building and team sponsors, commercial tenants and users within the mixed use development, and products sold at the property. Unique signage such as rooftop, laser, rotating or animated, digital, projected image, magnetic or electronic message signage would be allowed. The number, location, and size of signs would be determined in the future during Site Plan and Design Review and would be subject to Planning Director approval. Signs that may be

[7] Sacramento Basketball Holdings, LLC., *Entertainment and Sports Center Planning Entitlements Application*, November 2013. Revised, January 2014.

placed on listed historic buildings would be required to meet Secretary of Interior Standards and would be subject to review by the Preservation Commission.

2.4.11 Open Space Areas

The proposed SPD area would include plazas, pedestrian circulation, and other open spaces that would be designed in connection with the ESC entry plaza. Over time, the development of mixed-use buildings in the SPD area could alter open spaces that currently exist west of 5th Street between Macy's West and the Downtown Plaza cinemas, and could create open space areas in development north of the ESC entry plaza.

The SPD Design Guidelines call for outdoor public spaces that are integrated with outdoor seating areas in pedestrian zones, and for a major public entry corridor from J Street to the entry plaza between 5th and 6th Streets. Wide public access and/or walkways connecting to the plaza areas would be designed to accommodate crowds associated with ESC events. Landscaping in the open spaces areas would be accomplished with canopy trees and climate-appropriate plants, with a palette that is coordinated to create continuity across the ESC and SPD area.

SPD area open space plazas would provide space for pedestrian flow and access to the ESC and surrounding retail/commercial and other mixed uses. These areas would be activated by retail and restaurant storefronts, sidewalk cafes, retail kiosks, small scale performance venues, music, and cultural events. It is anticipated that these areas would be occasionally used for small outdoor concerts or cultural performances, seasonal events, farmer's markets, holiday promotions, and shopping center related activities.

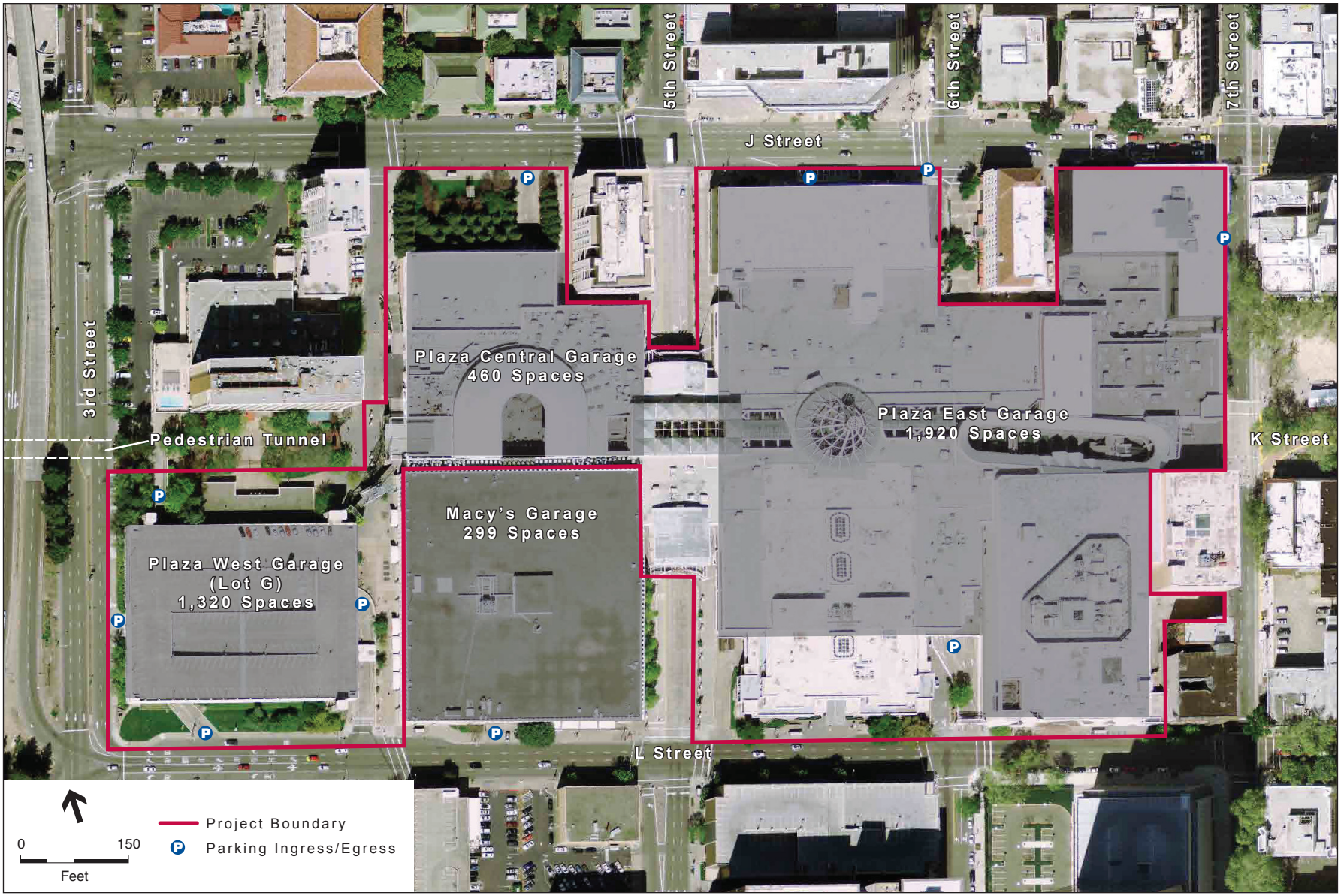
The SPD area plazas and open spaces would be comprised of hardscape and landscaped planters. Hardscape areas would feature use of a variety of paving materials, landscape plantings, benches, public art, and water features.

Future residential development would be required to comply with public/private open space requirements, consistent with section 17.600.135, or as amended by the SPD.

2.4.12 Off-Street Parking

On-Site

There are currently a total of 3,700 parking spaces within the Downtown Plaza superblock, including 460 spaces in the Downtown Plaza Central Garage, 1,920 spaces in the Downtown Plaza East Garage, and 1,320 spaces in the Downtown Plaza West Parking Structure (Lot G; located at 3rd/L Streets) (see Figure 2-20, Existing On-Site Parking). The City owns all of the parking on the site, including all of the below-grade parking, as well as the above-grade parking in Lot G.



SOURCE: ESA, 2013

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Figure 2-20
Existing On-Site Parking

Portions of the Plaza East Garage under and around the proposed ESC would be conveyed from the City to the project applicant or subsidiary. The remainder of the Plaza Central and East Garages, and the Plaza West Parking Structure (Lot G), would remain in City ownership and the City would enter into a parking management agreement with the project applicant or its affiliate to operate and maintain these parking resources. All or parts of 2,380 below-grade parking spaces in these garages would be incrementally demolished and/or reconfigured during the phased construction. The Plaza East Garage would be reconstructed as part of the construction of the ESC with up to 990 spaces (see Figure 2-21, Event Level Parking Plan). The Plaza Central Garage would be expanded as part of the development west of 5th Street, accommodating up to 568 parking spaces, an increase of 108 spaces over the existing garage. Overall, the existing parking in the Plaza Central and East Garages would be replaced with new below-grade garages that would accommodate an estimated 1,558 spaces, a decrease of 822 spaces compared to existing conditions. Ingress and egress to the below grade parking would be at the same locations on J and 7th Streets as under current conditions. The ingress/egress currently located on L Street, near 6th Street, would be replaced with an ingress/egress located on L Street immediately west of the Hotel Marshall along with an ingress/egress on 7th Street at the current alley between the Jade Apartments and 630 K Street buildings.

Parking in the Plaza Central and Plaza East Garages would be used by the patrons and employees of the ESC and the uses in the SPD. During Sacramento Kings games, it is anticipated that up to 1,000 spaces in these garages would be made available to King players, coaches, and premium ticket holders.

The Plaza West Garage currently provides 1,320 parking spaces and is accessible from 3rd and L Streets. Over time, it is possible that the Plaza West Garage would be expanded by two levels adding 540 new parking spaces, for a total of 1,860 spaces. During Sacramento Kings games, up to 1,000 spaces in the Plaza West Garage may be made available to ticket holders.

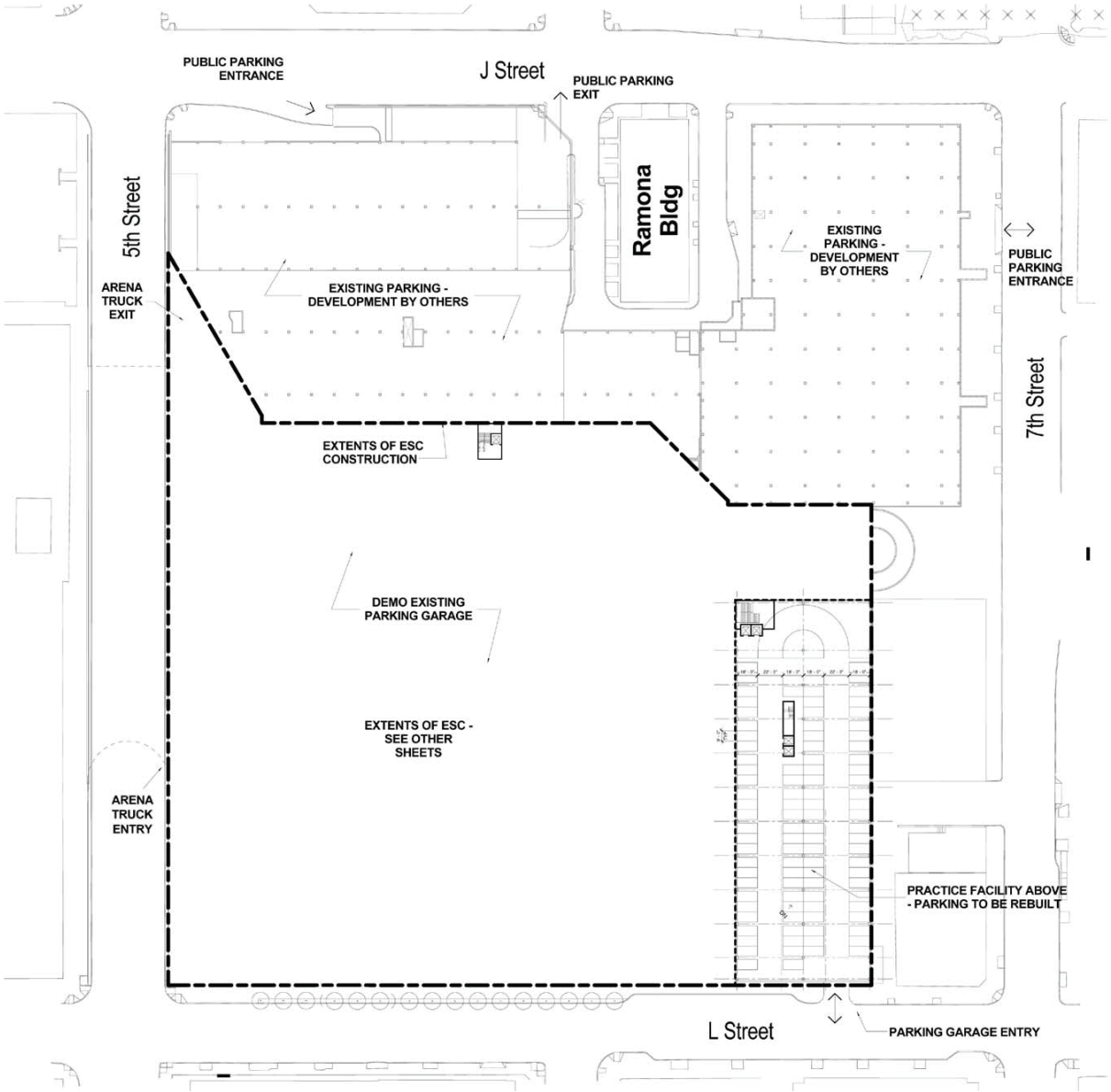
Off-Site

As is described further in Chapter 4.10, Transportation, thousands of parking spaces in public and private parking garages and lots exist within walking distance of the proposed ESC. Based on a City of Sacramento survey reported in Chapter 4.10, Transportation, the owners or operators of most of these parking spaces intend on making them available for paid parking during ESC events.

2.4.13 Circulation

Vehicular

Vehicular circulation in and around the project site would essentially remain the same as under current conditions. As described above, for the most part entries and exits to and from the parking garages and structures on the project site would remain at or about the same locations as currently exist (see Figure 2-22). The existing four-lane below-grade parking access driveway ramp on L Street at 6th Street would be removed, with a new two lane access driveway ramp to be located further east on L Street.



SOURCE: AECOM, 2014

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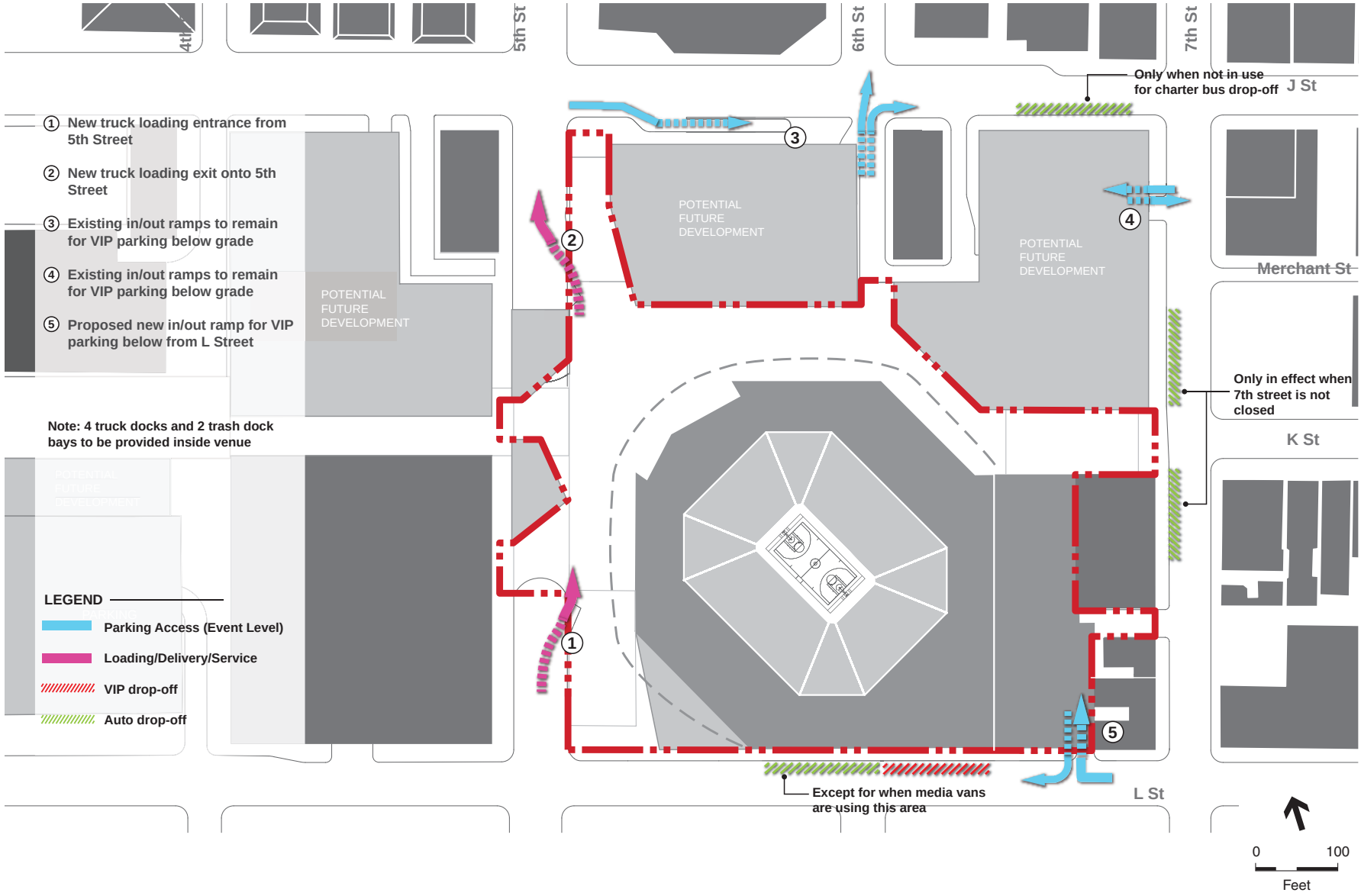
Figure 2-21
ESC Event Level Parking Plan



SOURCE: AECOM, 2014

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Figure 2-22

Proposed Parking and Loading Access

The north side of L Street, east of 6th Street, would be signed for passenger drop-off. Media trucks that are a feature of NBA basketball games require parking in areas that provide clear access to the southern sky for satellite connections. It is currently anticipated that media truck parking would occur on the north lane of L Street between 6th Street and 5th Street. Occasionally the ESC would host events that attract an especially high level of media attention, such as NBA playoff games. On these occasions, it is anticipated that the eastern, northbound lanes of 6th Street would be closed to accommodate media trucks that could not be accommodated on L Street.

Delivery and Loading

As is noted above, delivery trucks and service vehicles would access the below-grade Event level of the ESC via a delivery entrance on the east side of 5th Street, between L and J Streets. This location would provide direct access to the ESC loading docks and marshaling area, located on the northwest portion of the ESC Event level. There would be four loading docks, allowing for simultaneous on- and off-loading of up to four semi-trucks that typically carry performance staging equipment. Adjacent to the loading docks would be parking areas for smaller delivery vehicles, media vans, and/or emergency vehicles that may provide service or materials for ESC retail and food service venues and other support services (see Figure 2-10).

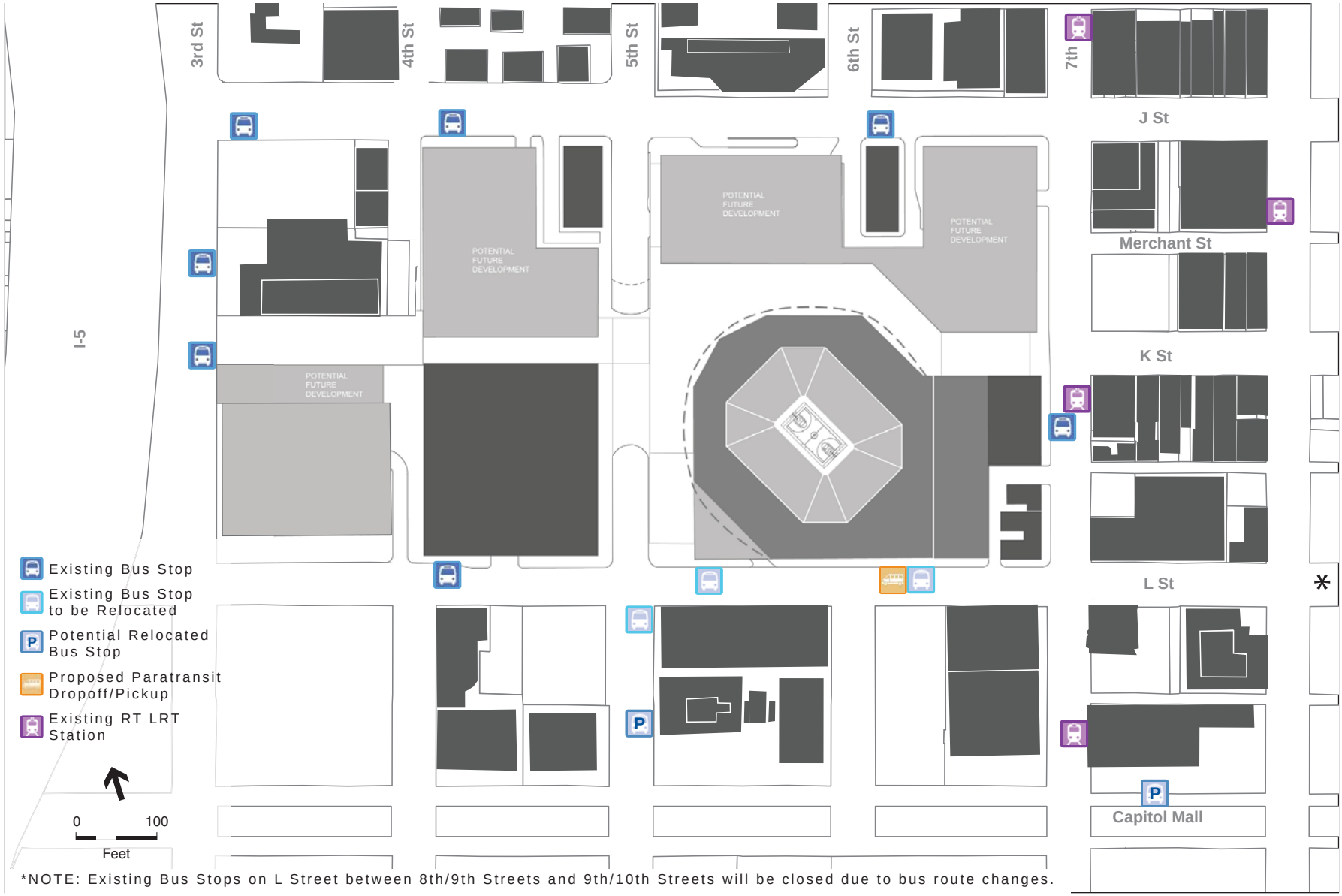
As is depicted on Figure 2-22, freight delivery and service trucks would access the loading docks and marshalling area from a ramped entry on the east side of 5th Street, immediately south of the K Street overpass. Once they enter the ESC at the 5th Street entrance freight delivery and service vehicles would descend a ramp to the Event level. Delivery and service vehicles would exit the building through a new egress onto 5th Street which would be constructed immediately north of the K Street overpass. Delivery and service vehicles would turn right onto 5th Street, heading toward J Street for further access to downtown properties, or to I Street for access to I-5.

Once trucks have finished deliveries, they would exit the site via a new egress that would be constructed from the site onto the eastern, northbound lane of 5th Street, immediately north of the K Street overpass. This exit would allow for a right-only turn onto northbound 5th Street, with trucks directed either eastbound on J Street, or westbound on I Street to the I-5 ramps.

Service delivery and loading for buildings in the SPD area would remain in the current location, access in the alley behind the Traveler's Hotel building, on the west side of 6th Street south of J Street, and from the alley between the Ramona Hotel and the 660 J Street office building (see Figure 2-22).

Bus Transit

There are currently six (6) bus stops located on streets and sidewalks that front the project site, including two on J Street, one on 7th Street, and three on L Street (see Figure 2-23). In addition, there are two other bus stops that are located on the streets fronting the Downtown Plaza superblock that are not adjacent to the project site, including one bus stop on 3rd Street near the entrance to the Plaza West Parking Structure, and one on J Street between 3rd and 4th Streets. The bus stops are owned, used, and maintained by Sacramento Regional Transit, and are also used by other transit providers from around the Sacramento region that provide service to downtown Sacramento, including Yolobus, Roseville Transit, and Elk Grove Transit.



SOURCE: AECOM, 2013; ESA, 2014

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Figure 2-23
Existing and Proposed Bus Stop Locations

Two of the bus stops would be proposed to be removed and relocated as part of the Proposed Project. The bus stops proposed for relocation are those that are currently located on the north side of L Street between 7th and 6th Streets, and between 6th and 5th Streets. The bus stop that is located on the north side of L Street between 5th and 4th Streets, in front of the Macy's West store, would be unaffected.

Based on preliminary discussions with Regional Transit and the City of Sacramento and field surveys, it is possible that the two bus stops currently located on L Street between 5th and 7th Streets could be relocated by establishing bus stops to at least two new locations, including: (1) the north side of L Street immediately east of 7th Street, in front of the former Greyhound Bus Station that is currently being used as a parking facility, and (2) the west side of 6th Street, immediately north of Capitol Mall. A third location, the north side of L Street, immediately west of 5th Street, is also a possibility but would need further evaluation to determine the adequacy of sight distance for motorists exiting the adjacent Macys Parking Garage driveway. The determination of whether these stops would be temporary or permanent would be made by the City in consultation with RT, Yolobus, and other regional transit providers that typically use the affected bus stops.

Pedestrians

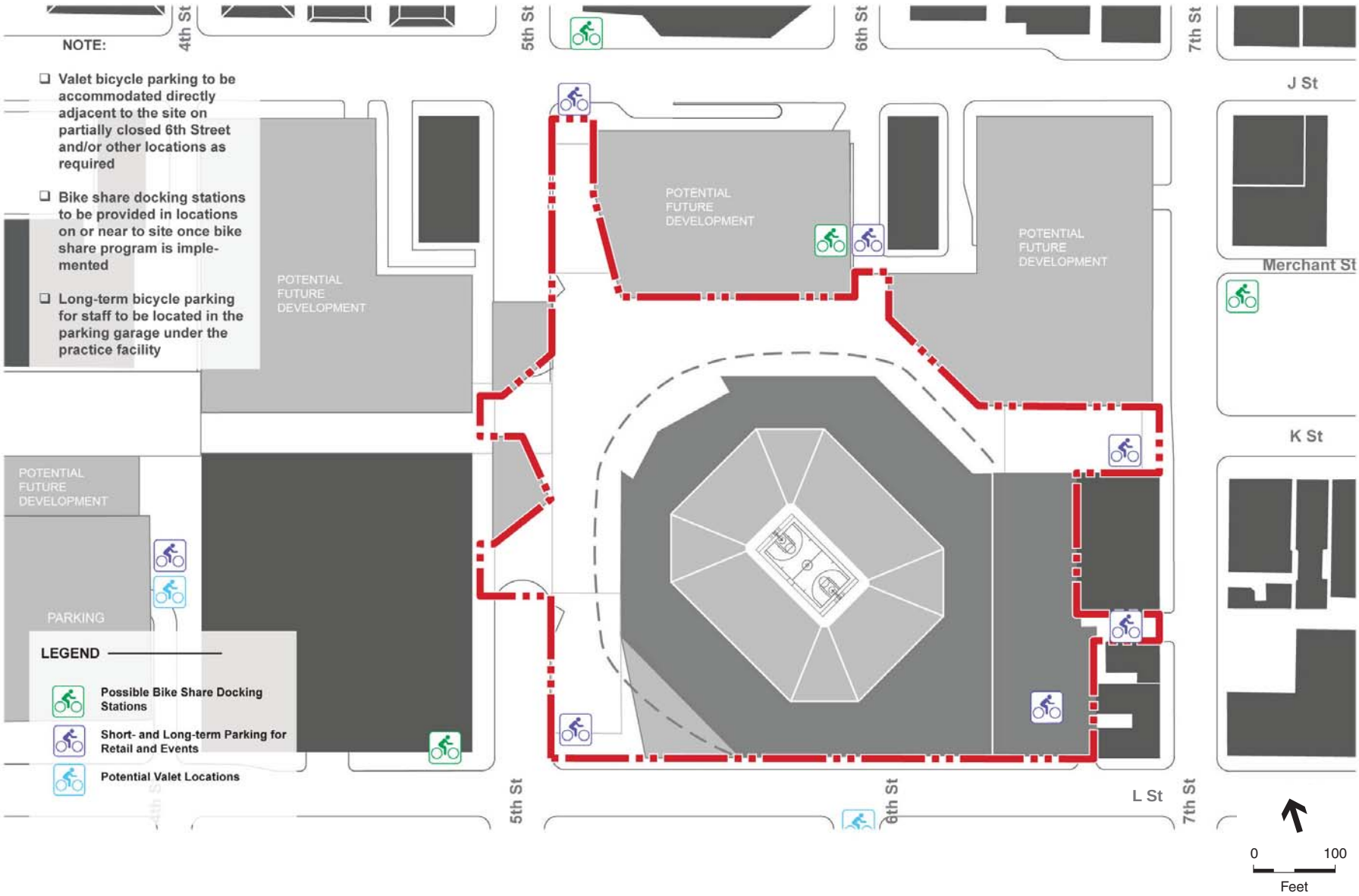
As is described above in the discussion of Common Areas and Open Space, the main pedestrian entry to the proposed ESC would be located on the northwest side of the facility, with an additional entry on the northeast side, both entries facing the entry plaza area. Key pedestrian flows would be expected to originate from the east at the intersection of K and 7th Streets, from the south at L Street near 5th Street, from the north from J Street between 5th and 7th Streets, and from the west from the 5th Street bridge and K Street connections to the Plaza West Garage and Old Sacramento.

It is anticipated that all attendees with general admission tickets would enter the facility at the main northwest entry. Smaller pedestrian entries to the ESC facility would be located on the project's L Street (south) side, which would be used for a limited number of attendees holding premium seating tickets, for media and employees, and for Paratransit passengers.

Bicycles

The Proposed Project would comply with the requirements of the Planning and Development Code for the provision of short- and long-term bicycle parking (see PDC Chapter 17.608.040, Section N, and Table 17.608.030C). The proposed Bicycle Plan is depicted in Figure 2-24. Approximately 20 long-term employee secured bike parking spaces would most likely be provided on one of the underground parking levels. Short-term patron bicycle parking spaces would most likely be provided at the plaza level, probably to the north of the building under the shade structure.

For events with sufficient demand, the project could provide for valet bicycle parking. The provision of valet bicycle parking could be flexible depending on the size of the event and the popularity, over time, of bicycling to events. Bicycle valet parking could be accommodated directly adjacent to site, as required either on a closed lane of 6th Street, within St. Rose of Lima Park, or an alternate location. It may start with a small valet space at one location. For larger events and depending on weather, valet could be expanded to include multiple locations around the site.



SOURCE: AECOM, 2014

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Figure 2-24
Bicycle Plan

If feasible, based on project design and space utilization, the Proposed Project may make provisions for a Bikeshare docking station, if such a program is initiated by the City/SMAQMD. This provision could involve Bikeshare docking stations adjacent to the ESC building near 5th and L Street, in the SPD area near 5th and J Street or on 6th Street south of J Street, or in St. Rose of Lima Park. A Bikeshare docking station near the ESC could be coordinated with the anticipated Bikeshare station at the Sacramento Valley Station.

Event Transportation Management Plan

The Proposed Project would include an Event Transportation Management Plan (TMP), a management and operating plan designed to facilitate multi-modal travel to and from events at the ESC in a safe and efficient manner. The TMP would be adapted and refined by the ESC operator, the City of Sacramento, and other agencies responsible for carrying it out. An active monitoring process would occur during the first year of operation to provide the basis for adjustments by the ESC operator and the City of Sacramento, with somewhat less intensive monitoring and refinements undertaken in subsequent years. It is also anticipated that subsequent adaptations or refinements would be made to respond to changing event types and schedules, new transportation access and parking opportunities, and planned transportation improvements that are implemented in the ESC vicinity.

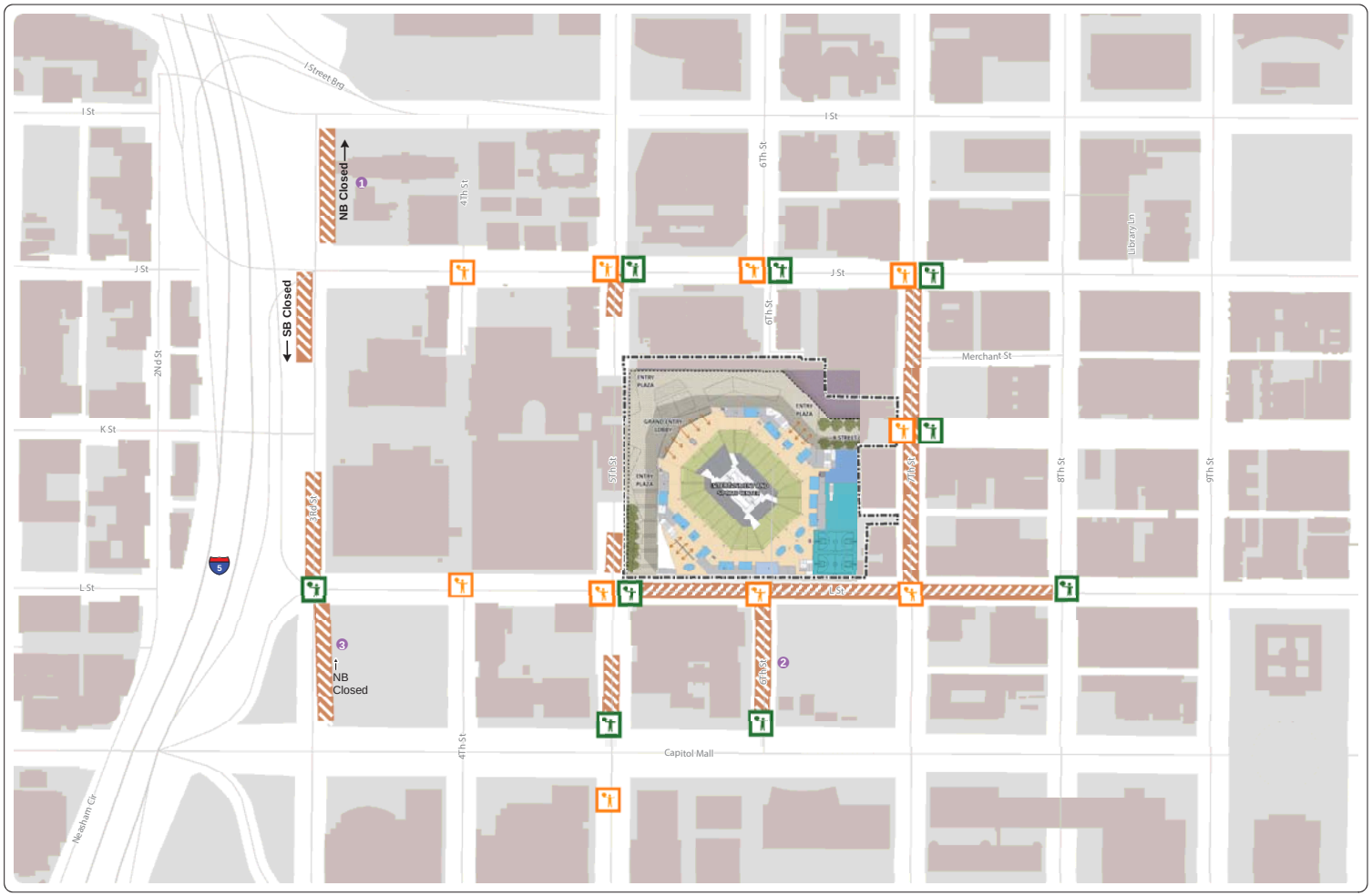
The TMP would provide for the following:

- Transportation control strategies, including provision of an on-site Transportation Management Center (TMC) in the ESC (could occur in the ESC Security Office), designation of a Traffic Control Officer (TCO) supervisor who would staff the TMC and manage event day traffic controls, the location of TCO's who would direct vehicular, transit and pedestrian traffic under various event scenarios, and a series of post-game street closures for the peak event, including 7th Street between J and L Streets, and L Street between 8th and 5th Streets. The transportation control strategies would also address transit boarding at the nearby 7th & K Street/St. Rose of Lima light rail station.

- Communication strategies, including outreach and wayfinding strategies designed to inform event attendees of the various transportation options that would be available and provide directions on how they could be accessed.

- Wayfinding strategies, including a series of permanent and temporary signs as well as permanent changeable message signs on freeways that could be used to facilitate pedestrian, bicycle, and vehicle access.

Proposed transportation control strategies around the ESC during large events such as NBA games are presented in Figure 2-25. The Draft Event Transportation Management Plan is included in Appendix L.



SOURCE: Fehr & Peers, 2014

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Figure 2-25

Pre- and Post-Event Transportation Management

2.4.14 Utilities

Water

The project site is currently served by 8” and 10" water mains which are in turn connected to 24" water transmission mains within 7th, J and L Streets, and in the alley on the south side of the Ramona Hotel building. These currently used connections would be employed for water service to the proposed ESC (see Figure 2-26).

Historic data for water demand from other NBA venues of similar size range from between 1,600 and 1,950 gpm. This range does not include makeup water for heating or cooling equipment and other incidental uses; however, those additional volumes would be negligible. Once the project demand has been determined, a water supply test would be performed on the existing system. If the water supply testing indicates insufficient capacity, the necessary infrastructure improvements would be constructed by the applicant.

Future buildings constructed in the SPD area would tie into the City’s domestic water system in adjacent streets.

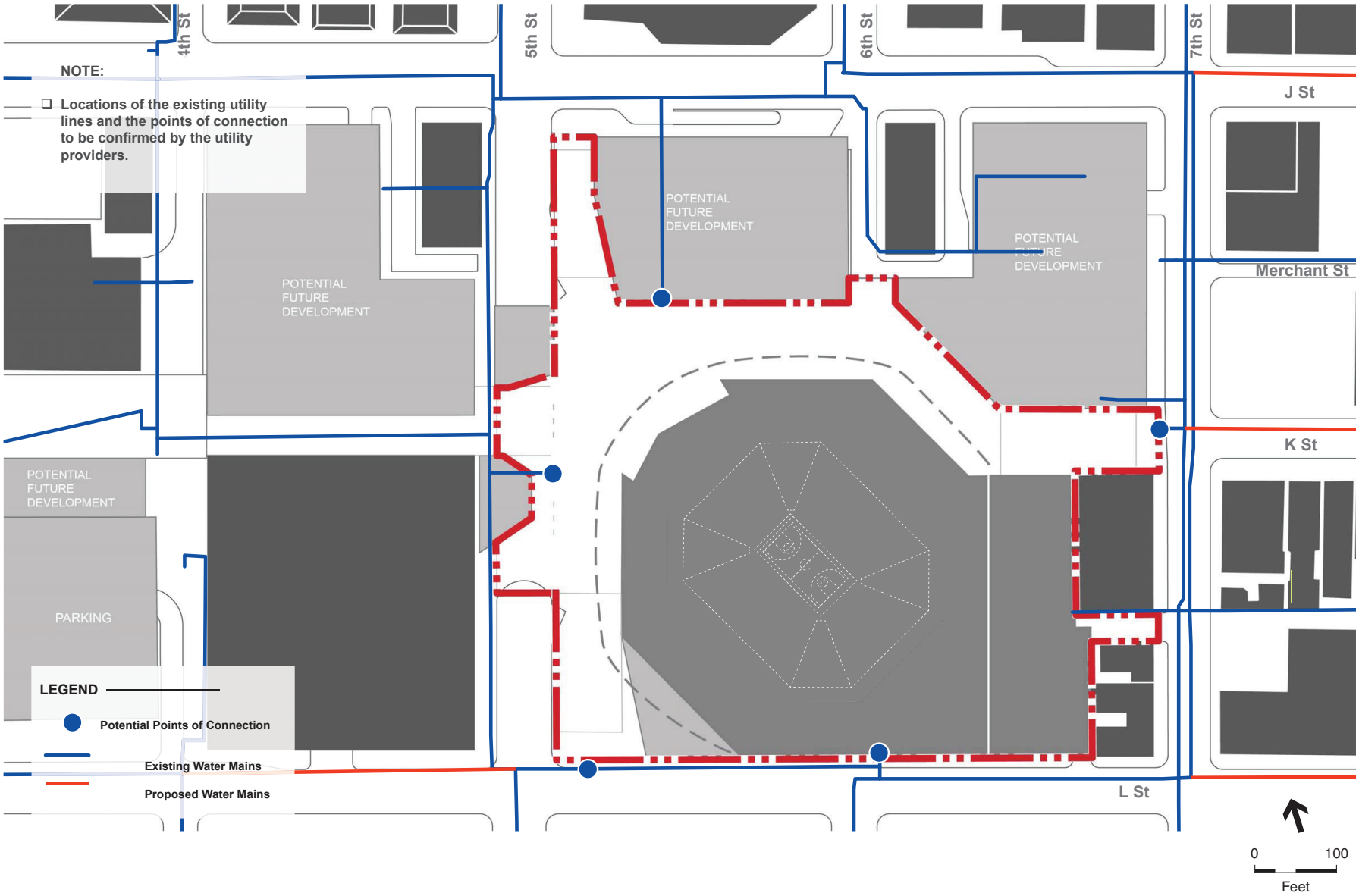
Wastewater

The wastewater system for the proposed ESC would connect to the City’s Combined Sewer System (CSS) at a number of locations around the project site, including near 5th and J Street, 5th and L Streets, 7th and J Streets, and near on 7th near the alley between K and L Streets (see Figure 2-27). The system would employ internal temporary storage tank(s) to ensure that the peak discharges from the site during events would not exceed the receiving capacity of the existing system. The peak discharge from the proposed ESC is anticipated to occur during halftime of a sold-out NBA game. It is anticipated that temporary storage tank(s) would be located below the Event level, with pumping equipment sized sufficiently to permit discharge into the Combined Sewer System at a rate that would not exceed current peak rates. Preliminary estimates indicate that an approximately 11,000 gallon tank would be sufficient to hold peak flows for 30-40 minutes, allowing the system to normalize the discharge into the receiving conduits at flow rates that would not exceed current peak flows.

Future buildings constructed in the SPD area would be required to meet the City’s requirements for management of flows to the Combined Sewer System.

Seasonal Dewatering

The existing Downtown Plaza buildings are underlain by a seasonal dewatering system that collects and then pumps potentially intrusive groundwater to the CSS. The applicant has estimated current flows to be approximately 1.4 million gallons per day during those periods when groundwater is at its highest under the project site. The Proposed Project would incrementally eliminate the seasonal dewatering system by constructing buildings with waterproof foundations. Because the ESC would be constructed before development in all or some of the SPD area, it would be built with waterproof foundations and the existing dewatering



SOURCE: AECOM, 2014

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Figure 2-26
Utilities – Water System

system under remaining portions of the SPD area foundations would be reconfigured as necessary to allow continued use of the existing seasonal dewatering systems. At the time that foundations under the SPD area development are reconstructed, the seasonal dewatering system would be incrementally decommissioned and new waterproof foundations would be constructed.

Drainage

The Proposed Project would slightly increase the volume of storm water discharged from the site as compared to the existing condition. Although the project site is almost completely impervious under existing conditions, the Proposed Project would involve the development of the 408 J Street parcel that is currently planted in turf and trees and would become impervious.

The separated storm drain starts on 7th and K as a 12" drain going north and then west on J Street transitioning from a 15" to a 30" when it turns south on 3rd Street all the way to P Street by the Crocker Art Museum before joining up with other pipes and into a 60" pipe that enters Sump 52 (see Figure 2-27). The proposed ESC would tie into this system via connections on 5th, 7th, and J Streets.

It is anticipated that storm water would be collected and treated on-site before the treated runoff leaves the project site and enters the City separated storm drain system. Since the storm water system is currently separated all the way to the outfall into the Sacramento River, the project site would include temporary storage with the necessary pre-release treatment facilities as required to meet the both current water quality standards and the discharge capacity of the existing system.

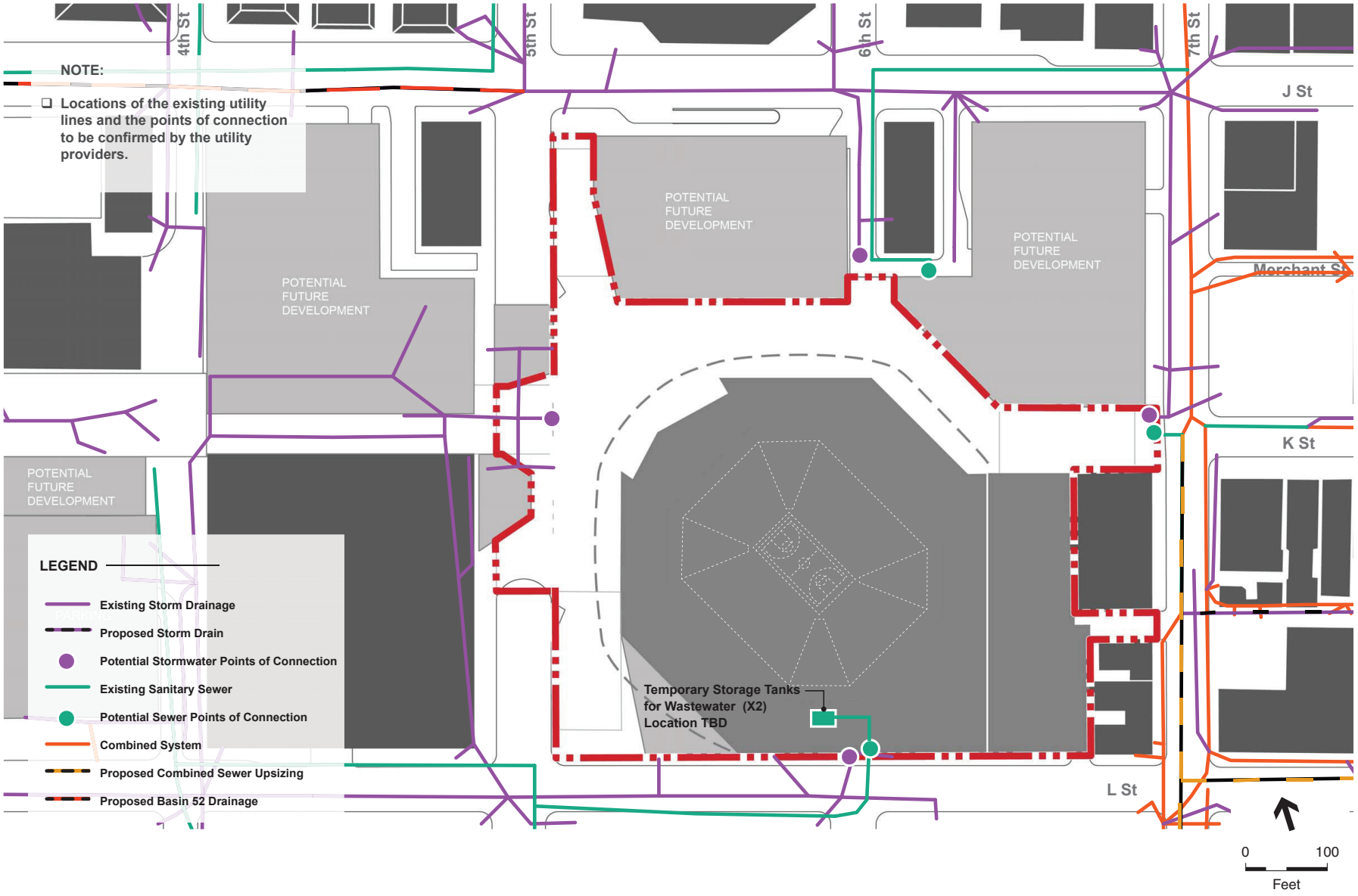
As necessary based on water quality tests, the Proposed Project drainage system would include the installation of "sand/oil separators" downstream of an on-site retention tank. If further pre-treatment is required to meet water quality standards, a "carbon matrix" filter system could be constructed which would remove certain chemicals found to exist in the runoff prior to passing to the separated storm sewer system. If required, additional levels of pre-treatment could include a combination of the sand/oil and the carbon matrix systems downstream of retention tanks.

Management of stormwater within the construction footprint would be managed pursuant to a Stormwater Pollution Prevention Plan (SWPPP) that would be prepared for the Proposed Project.

Future buildings in the SPD area would be required to install required pre-treatment systems consistent with the City's stormwater permits and to convey drainage to the separate stormwater drainage system. Each construction project that would trigger authorization under the General Construction Permit would be required to manage construction runoff pursuant to a SWPPP subject to approval of the Central Valley Regional Water Quality Control Board (CVRWQCB).

Energy and Telecommunications

Electrical service would be provided by the Sacramento Municipal Utility District (SMUD) through service from its 21-kV system with lines in 5th Street. Some transformers that currently exist on the project site may be repurposed for use for the Proposed Project and new transformers would be installed as necessary to serve the project demands. Aside from connections that may be necessary to tie project systems to the SMUD system under adjacent streets, no further improvements to the SMUD electrical system are anticipated.



SOURCE: AECOM, 2014

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Figure 2-27

Utilities – Wastewater and Drainage Systems

Natural gas service to the project would be provided by Pacific Gas and Electric Company (PG&E). PG&E would serve the Proposed Project from natural gas distribution lines that run in L, J and 6th Street. Other than connections between the project buildings and the existing PG&E natural gas mains, no further improvements to the PG&E distribution system would be necessary.

The proposed ESC and other development in the SPD area would acquire telephone and data service from the current existing carrier(s) that are now established in the Sacramento area near the Downtown project site. Connection(s) would be completed in existing telephonic and data manholes that are currently located in J, K, L, 6th and 7th Streets. The project applicant would coordinate with the City and other utility providers to determine the optimal solution for gaining access to adjacent lines, potentially including either open cuts or directional drilling that could be done in these manholes without severe traffic interference. Where open cuts are determined to be necessary, appropriate traffic management plans would be developed, subject to approval by the City of Sacramento.

In order to provide wireless voice and data coverage in and around the proposed ESC, the project would include a neutral host distributed antennae system (DAS). The in-building system would include a series of hubs, repeaters, and multi-band antennae that would accommodate and extend signals from wireless carriers. For the outdoor space, it is likely that the project would include 20-30 antennas (assuming multiple-input and multiple-output (MIMO) configuration). The antennas would be no more than three feet high and two feet wide, and most would be mounted to building infrastructure and hidden from view. In the event that buildings are not available, some antennae may be attached to poles. Installation of the neutral host DAS would minimize the potential that the congregation of many wireless users in and around the proposed ESC could contribute to additional dropped calls or signals.

2.4.15 Construction and Phasing

ESC

Construction of the proposed ESC, practice facility, and related entry plaza and open spaces would occur over approximately two-years starting in late spring 2014 and concluding in fall 2016. There would be numerous overlapping construction phases, as is presented in Table 2-9, below.

TABLE 2-9
SACRAMENTO ESC CONSTRUCTION PHASING

	Construction Time Period	
Construction Phase	**Start Date**	**Finish Date**
Demolition	May/June 2014	September 2014
Dewatering	August 2014	May 2015
Mass Excavation	August 2014	October 2014
Deep Foundations/Footings	October 2014	March 2015
Concrete/Steel/Precast Frame	December 2014	July 2015
Interior/Exterior	April 2015	August 2016
Sitework/Landscaping	April 2016	September 2016

SOURCE: Turner Construction, 2013; ICON Venue Group, 2013.

Demolition

Demolition of the existing buildings, below-grade parking garage, and foundations on the ESC project site would begin in late May or June 2014 and last approximately four months. Demolition of the site would include demolition of Downtown Plaza buildings, removal of concrete parking decks, foundations, and plumbing and electrical systems (see Figure 2-28). Demolition would take place with a number of excavators, loaders, and dump trucks which would haul approximately 37,000 cubic yards of material at an average of about 530 cubic yards per day for 64 days. There would be an average of 28 construction workers during the demolition phase, with a peak employment of 30 construction workers.

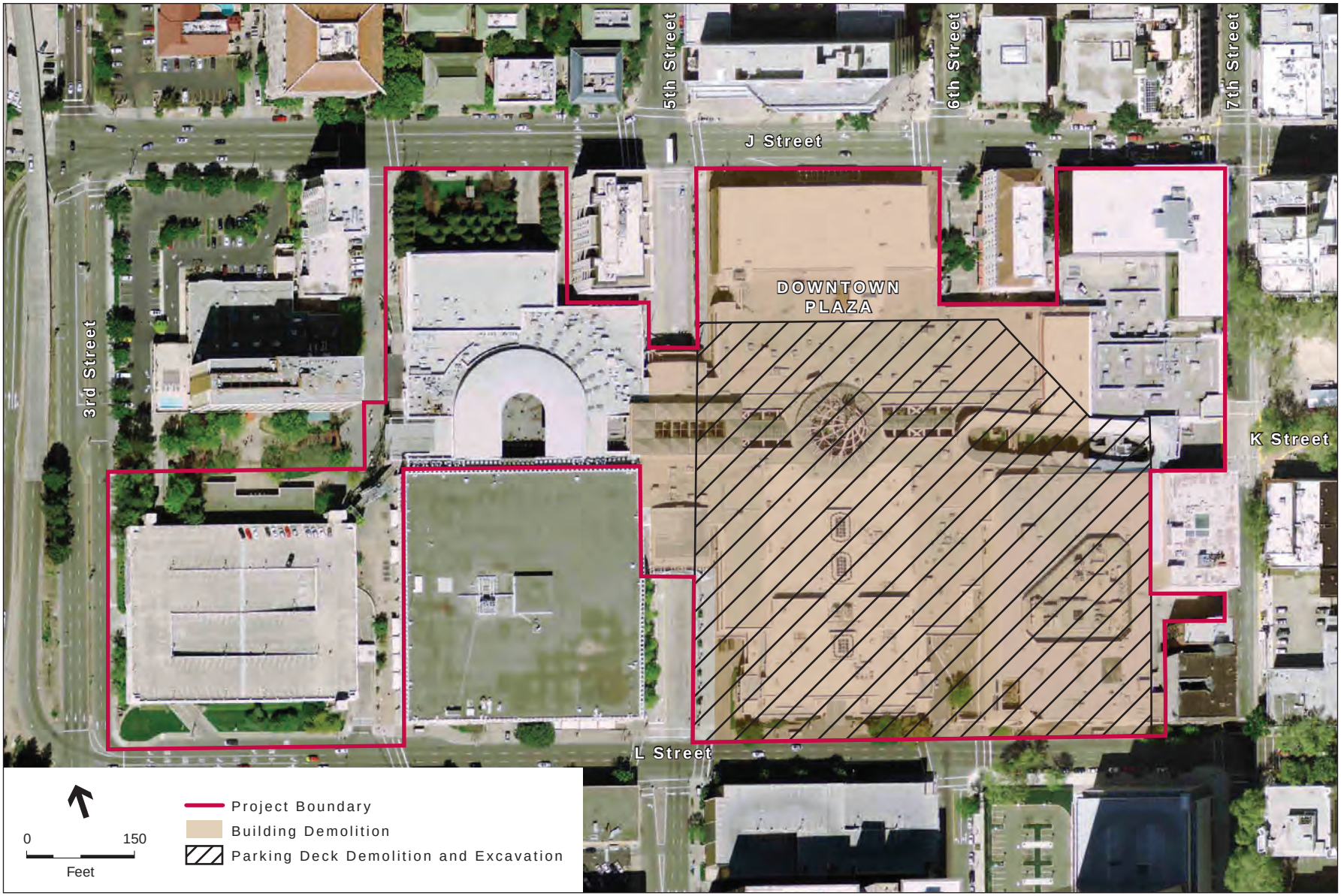
Due to the proximity of the east half of the project site to several existing buildings (630 K Street, Hotel Marshall, Jade Apartments, 24 Hour Fitness, etc.), special precautions would be put into effect as the demolition work proceeds around existing occupied buildings. Prior to start of demolition, physical research would be undertaken on each adjacent building, including examination of its relative proximity to the parking structure and upper mall levels, and removal of existing expansion joint covers (vertical and horizontal) and possibly the expansion joint material itself to allow visual inspection of the "space" between the adjacent building walls. Adjacent buildings and structures would be independently surveyed to establish location benchmarks. Where necessary, the walls of the below-grade parking garage would be opened from the Downtown Plaza side to view the proximity to the foundation walls of the adjacent occupied buildings, and to confirm that the parking garage footings are independent of any adjacent building footings or foundations.

During demolition of the existing buildings and the below-grade parking garage, care would be taken to avoid damage to nearby structures. Specific equipment and operating procedures would be used as demolition equipment nears the exterior of the existing buildings. In some cases it may be necessary to perform demolition with hand tools to avoid possible damage to existing adjacent buildings.

After the Downtown Plaza buildings are removed, the demolition of the below-grade parking garage would be initiated. The parking garage foundation walls would be removed and braced when parking decks are removed, in order to reduce the potential for slumping or other potential harmful effects on adjacent building foundation systems or structures. If the exterior walls of the Hotel Marshall are shown to have deteriorated since the existing Downtown Plaza parking garage was constructed in 1972, lateral bracing would be installed to eliminate the potential for movement of the Hotel Marshall foundation.

Excavation

The mass excavation phase would involve earth movement and hauling on an exposed site of approximately 5.5 acres during a period between August 2014 and October 2014 (see Figure 2-28). It is currently estimated that about 70,000 cubic yards of earth would be removed from the project site, an average of about 3,200 cubic yards per day for 33 days of hauling. During this phase, construction employment would average about 50 workers, with a peak of 65 workers.



SOURCE: Turner Construction, 2013

Figure 2-28
ESC Demolition Area

Construction

The deep foundations/footings phase of construction would involve the pre-drilling and auger displacement of up to approximately 1,000 concrete foundation piles throughout the excavation area during approximately 54-days between August 2014 and March 2015. It is estimated that approximately 6,600 cubic yards of concrete would be delivered to the site and pumped into pre-drilled caissons to form the footings that would support the ESC foundation. During this phase, construction employment would average about 15 workers, with a peak of 30 workers.

The construction phase would involve the erection of steel, concrete and precast concrete elements, and would take place over about eight (8) months starting in December 2014 and lasting to July 2015. This phase would involve the use of numerous cranes, loaders, welders, generators, concrete pumpers, and similar construction equipment. During this phase, construction employment would average about 495 workers, with a peak of 565 workers.

Interior and exterior finish work would take place over about 16 months starting in April 2015 and concluding around August 2016. This phase would involve a wide variety of construction activities involving creating and outfitting interior spaces and completing the exterior finish of the building, including plumbing, electrical, heating and air conditioning systems, seat and other event system installation, and the like. During this phase, construction employment would average about 565 workers with a peak of about 617 workers.

Exterior sitework and landscaping would be undertaken over a period of about six months, between April 2016 and September 2016. During this final phase, construction employment would average 35 workers with a peak of 48 workers.

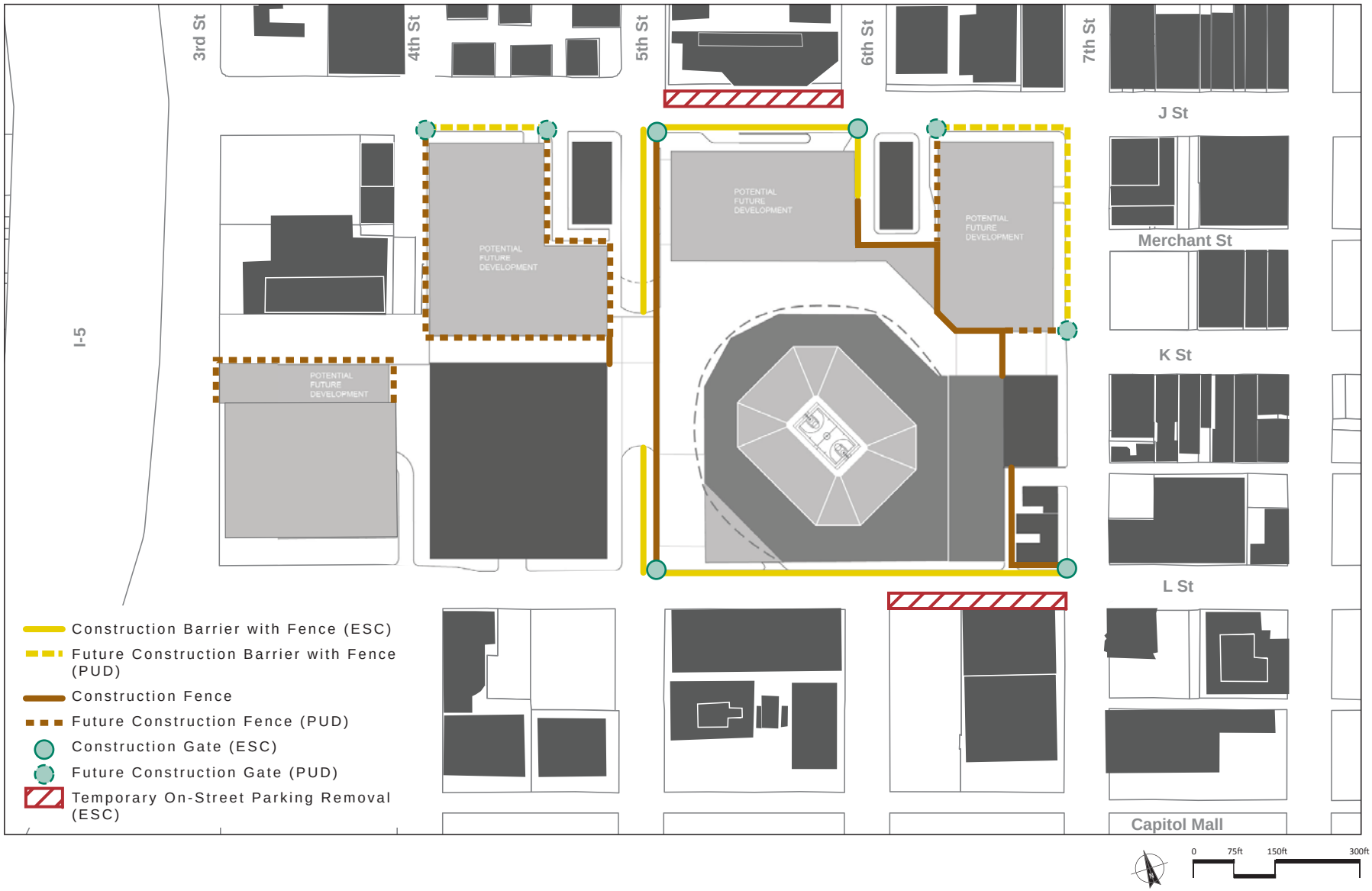
Circulation

Project Site

During construction, the entire project site would be fenced off, as depicted on Figure 2-29. Construction fencing would be placed along the east side of 5th Street between J and L Streets. Construction fencing would also be placed across the K Street entrance to the Downtown Plaza property, west of the intersection of K and 7th Streets, allowing continued access to the 24 Hour Fitness business and the 630 K Street building.

Water-filled construction barriers would be placed on the south side of J Street between 5th and 6th Streets. The on-street parking on the northern curb of J Street between 5th and 6th Streets would be removed, temporarily eliminating up to 8 on-street parking spaces. In this block, the lanes of J Street would be restriped slightly to allow for continued use of three through-lanes and a dedicated left turn lane at the intersection of J and 6th Streets. Access to the Ramona Hotel building would be maintained through the construction period.

Water-filled barriers would also be placed on the north side of L Street between 7th and 5th Streets, temporarily eliminating the northernmost lane of L Street. The on-street parking on the southern curb of L Street between 6th and 7th Streets would be removed, temporarily eliminating up to 8 on-street parking spaces. In addition, concrete bulbouts that are on the southern side of L Street at the



SOURCE: AECOM, 2013; Turner Construction, 2013; ESA, 2014

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Figure 2-29
ESC Construction Plan

intersections with 7th and 6th Streets would be removed to allow the parking lane to be used as a through-lane. Between 7th and 6th Streets, lanes would be restriped to allow for three through-lanes which would continue to 5th Street, a reduction of one through-lane in this stretch of L Street.

During demolition, for a period of approximately four months between June and September 2014, Fifth Street would be closed to all traffic between J and L Streets. This would be required due to demolition activities on the overpass.

Construction gates that would provide access to the site would be located at the intersections of 5th and J Street, 6th and J Street, 5th and L Street, and 7th and L Street.

As described above, based on preliminary discussions with Regional Transit and the City of Sacramento and field surveys, it is possible that during the construction period the two bus stops currently located on L Street between 5th and 7th Streets could be relocated by establishing bus stops to as many as three locations, including: (1) the north side of L Street immediately east of 7th Street, in front of the former Greyhound Bus Station that is currently being used as a parking facility, (2) the west side of 6th Street, immediately north of Capitol Mall, and (3) the north side of L Street, immediately west of 5th Street, (if it is determined that sight distance for motorists exiting the adjacent Macys Parking Garage driveway is adequate). The determination of the location of these stops would be made by the City in consultation with RT, Yolobus, and other regional transit providers that typically use the affected bus stops.

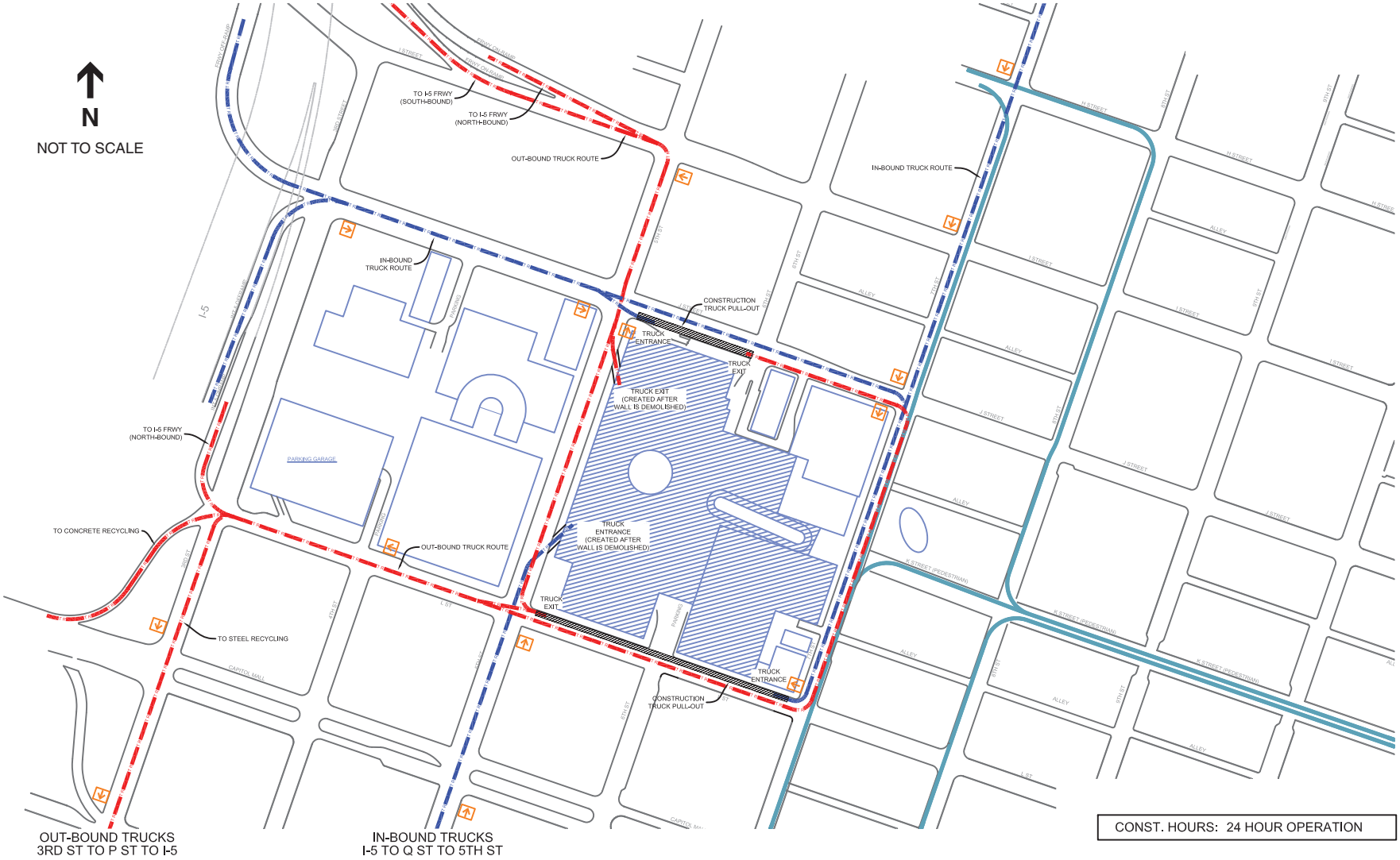
Truck Routes

Construction vehicles would largely follow truck routes that would be established for the proposed ESC. As depicted on Figure 2-30 (Construction Truck Routes), inbound truck trips would access the project site from Richards Boulevard via southbound 7th Street, or directly from northbound or southbound I-5 via the J Street offramps and J Street between 5th and 6th Streets.

The direction of outbound truck trips would be determined by the destination of the truck, especially during demolition when trucks would be transporting demolition materials to recycling facilities or landfills. Outbound trucks headed to Richards Boulevard would depart the site on eastbound J Street, turning northbound on 8th Street, west on G Street, and north on 7th Street. Trucks heading toward I-5 could travel north on 5th or 6th Street to I Street to the I Street north or southbound onramps. Some trucks may depart the site on westbound L Street, either traveling toward West Sacramento via Tower Bridge, or to I-5 via the L Street onramp or south on 3rd Street to the P Street onramps.

Dewatering

Construction of the foundations and event level components of the proposed facility would require temporary dewatering. Analysis of the ground water, both for contaminates and quantity would be performed in advance of installation of the construction dewatering system. Monitor wells will be used to gain historical data both prior to and during the construction dewatering period. The wells would be either new or existing wells around the ESC site, including the project vicinity covering an area with a radius of about three-quarters of a mile. The system of monitoring wells would be



SOURCE: Turner Construction, 2014

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Figure 2-30

Construction Truck Routes

used to determine subsidence parameters which in turn would dictate to the dewater subcontractor how low the immediate ESC water table can be dropped. Automatic controls may be used to alternate pumps and subsequent discharge quantities during the construction dewatering period. For special areas, such as the loading ramp on the 5th Street side of the event level and adjacent to the Hotel Marshall, a shallow well point system would be utilized to reduce the cone of influence that typically develops with dewatering systems of any type.

Periodic water quality tests would be performed to establish needs for onsite treatment prior to discharge to the city collection grid. Permitting for the discharge of the temporary dewatering into the City's sewer and/or storm drain systems would be coordinated with the City Department of Utilities, SCRSD, and the Central Valley Regional Water Quality Control Board, as appropriate.

SPD Area

Plans do not currently exist for construction of the mixed use development within the SPD area, although it is possible that some construction of mixed use development in the SPD area could occur concurrently with the construction of the proposed ESC. Prior to the issuance of demolition and/or building permits, design and construction plans would be required to be submitted and approved by the City of Sacramento. Given the expectation that the future development in the SPD area would involve construction of mid-to-high-rise buildings, it is reasonable to anticipate that demolition may be required to clear all below-grade parking levels and full excavation of the 408 J Street parcel. Further, it is anticipated that construction could involve driving of piles for foundation support throughout these cleared portions of the project site. Future construction would involve a variety of techniques depending on building design, including the potential use of steel frame, pre-cast concrete, or poured-in-place concrete. The equipment used would be typical of that previously used for other mid-to-high-rise structures in downtown Sacramento.

It is likely that construction plans for development in the SPD area would call for the temporary closure of specific lanes on J Street and 7th Street during construction (see Figure 2-29). Although no specific schedule has been established for development in the SPD area, it is possible that construction within portions of the SPD area could take place concurrently with the construction of the proposed ESC, as noted below:

West of 5th Street (potentially concurrent with ESC construction)

- During construction in the portion of the site west of 5th Street containing the Downtown Plaza cinemas and food court, along with the 408 J Street property, generally bounded by 4th, 5th, J and K Streets, it is likely that the southern lane of J Street and 4th Street south of J Street would be temporarily closed during construction and the RT bus stop on J Street between 4th and 5th Streets would require temporary relocation, most likely to the right-turn lane on eastbound J Street approaching 5th Street.
- During construction of additional parking levels on the Plaza West Garage (Lot G), the northern lane of L Street between 4th and 3rd Streets, and the eastern-most northbound lane on 3rd Street between L and the garage entry could be closed for a period of time; the RT

bus stop located on 3rd Street adjacent to the garage entry could require temporary relocation during construction.

5th Street to 6th Street (potentially concurrent with ESC construction)

- During construction on the block bounded generally by 5th, 6th, J, and the ESC entry plaza, it is likely that the southernmost lane of J Street between 5th and 6th Streets and the eastern lane of 5th Street between the K Street alignment and J Street would be closed.

6th Street to 7th Street

- Construction on the block bounded generally by 6th, 7th, J, and K Street would likely result in the closure of the southernmost lane of J Street between 6th and 7th Street, and temporary relocation of the RT bus stop on this block; the westernmost lane of 7th Street between J and K Streets would likely also require closure during construction.

2.5 Off-Site Digital Billboard Program

The proposed Development Agreement includes a digital billboard program that would support the development and operation of the ESC. The program would allow the project applicant to develop and operate up to six (6) digital billboards on City-owned property. The billboards would be constructed and operated at the sole cost of the project applicant. Locations of potential properties that may meet the necessary criteria and could be the locations of future digital billboards are described below.

2.5.1 Physical Characteristics

A "digital billboard" consists of one or two display surfaces no larger than 672 square feet (14-feet x 48-feet) in area that supports an image generated by light emitting diodes (LED), typically of no less than 200 pixels x 704 pixels. Each billboard structure would have two display surfaces facing opposite directions. The proposed digital billboards would have overall heights of between 40 and 85 feet (see Figure 2-30a).

The image on the billboard is static for a period of time, usually ranging from two to eight seconds. Each pixel consists of three diodes: one red, one blue and one green in a triangular shape in each cluster.

Operational details provided by the applicant include the following:

Brightness of digital display: Lighting levels on the digital billboard would not exceed 0.3 foot candles over ambient levels, as measured using a foot candle meter at a distance of 250 feet.[8]

[8] Brightness criteria based on standards established by the Outdoor Advertising Association of America, Inc.

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SOURCE: ESA, 2014

Figure 2-30a
Representative Digital Billboard

Power: Central breaker panel with a primary feed of 200 amps at 120/240 single phase or 200 amps at 208Y/120 three phase primary feed for each installation of two (2) LED units; electrical connections would be UL and IEC-approved. The billboard would be controlled remotely and would have remote maintenance software. Light sensors would be installed with each billboard to measure ambient light levels and to adjust light intensity to respond to such conditions.

Size and Height: The digital billboards proposed as part of the project would be installed on billboard structures to elevate the digital billboard. The overall height, including the digital billboard, would be from approximately 40' to 50' above existing grade of the adjacent freeway. One additional off-premise sign in non-digital format may also be installed on each billboard structure with size for such signage limited to one sign per digital billboard with a maximum aggregate size of 160 square feet.

2.5.2 Digital Billboard Construction

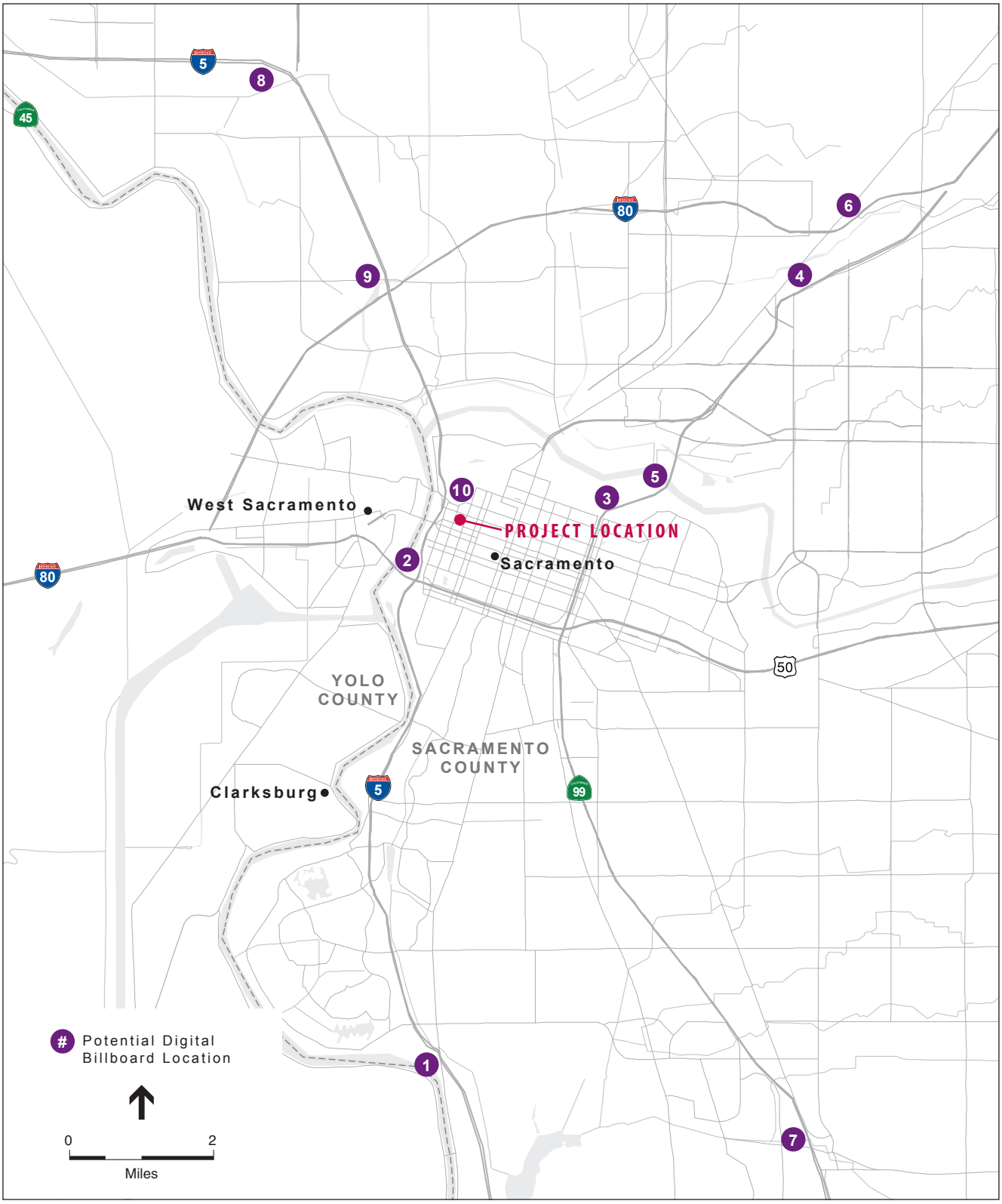
The following information regarding the process involved in installing a digital billboard is the process typically followed. The following description of activities has been included here as general project information, and has been used as the basis for evaluating potential environmental impacts.

The construction process would be initiated with preparation of a soil study for the billboard site so that soil conditions could be taken into consideration in designing the billboard and supporting structure. Unusual soil conditions could affect the design, and the description below is for the usual conditions encountered. The construction would be subject to the building code, and a building permit would be required for construction activities. The City Building Division, Community Development Department, would review the plans and specifications to ensure that they comply with all building code requirements.

Construction of digital billboards on any of the identified sites would typically involve disturbance of an area of approximately 5,000 square feet. The construction typically would be initiated by drilling a hole approximately five feet in diameter and thirty-two feet deep. The column for the sign, typically 42 inches in diameter, placed in the foundation hole by a crane, and would be secured with concrete. The upper billboard structure would be delivered to the site, assembled on the ground and lifted into place atop the column. Arrangements to extend electrical service to the site would be made in advance of the construction activities. Typically, electrical service would be connected to the SMUD system through an underground connection. Overall, construction of a digital billboard would take 5-7 construction days.

2.5.3 Digital Billboard Locations

Although the offsite digital billboard program identified in the Development Agreement allows for the construction and operation of up to six (6) digital billboards on City-owned property within Sacramento, a total of 10 sites are evaluated in this EIR (see Figure 2-31). Only up to six of the evaluated sites would eventually be developed with digital billboards associated with the Proposed Project. The ten sites are described below and shown on Figures 2-32a through 2-32e.



SOURCE: DeLorme Street Atlas USA, 2000; David Nybo, 2013; ESA, 2013

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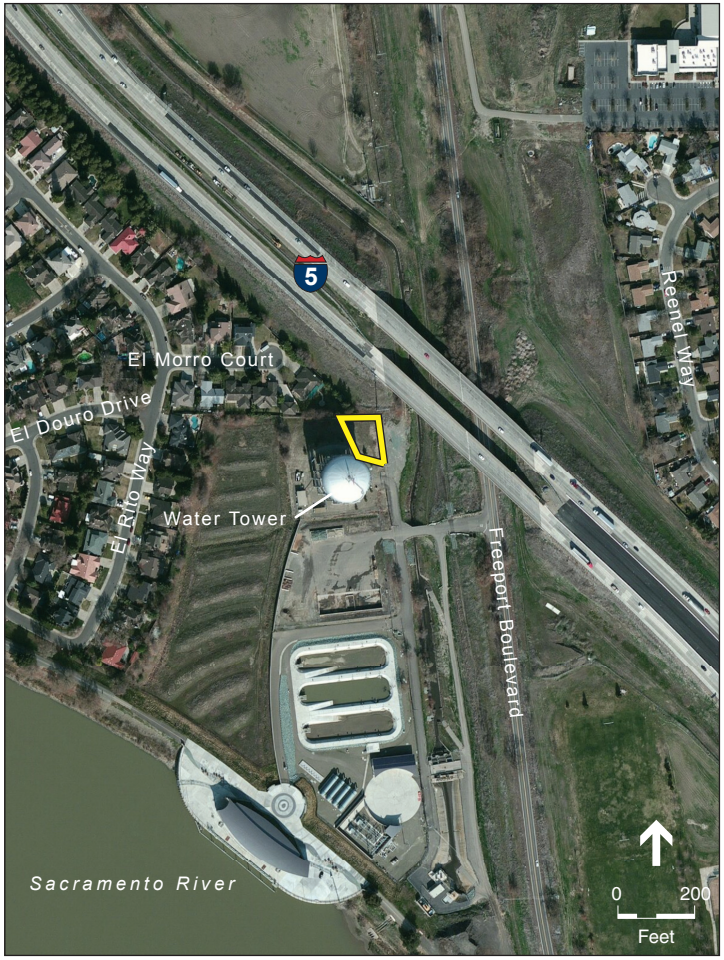
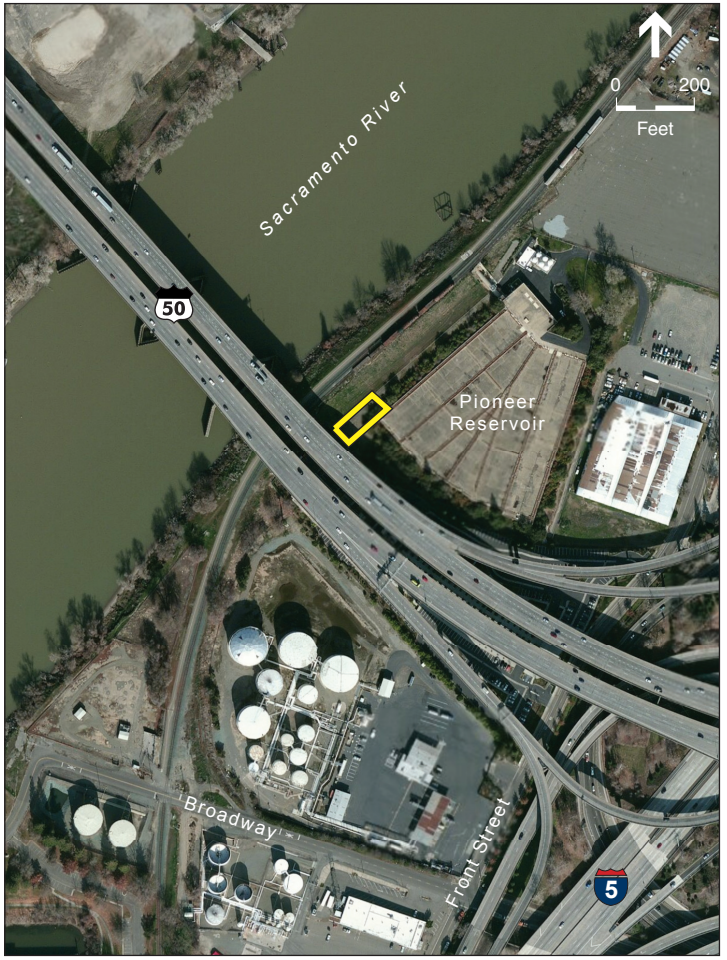
Figure 2-31

Potential Offsite Digital Billboards Location Map



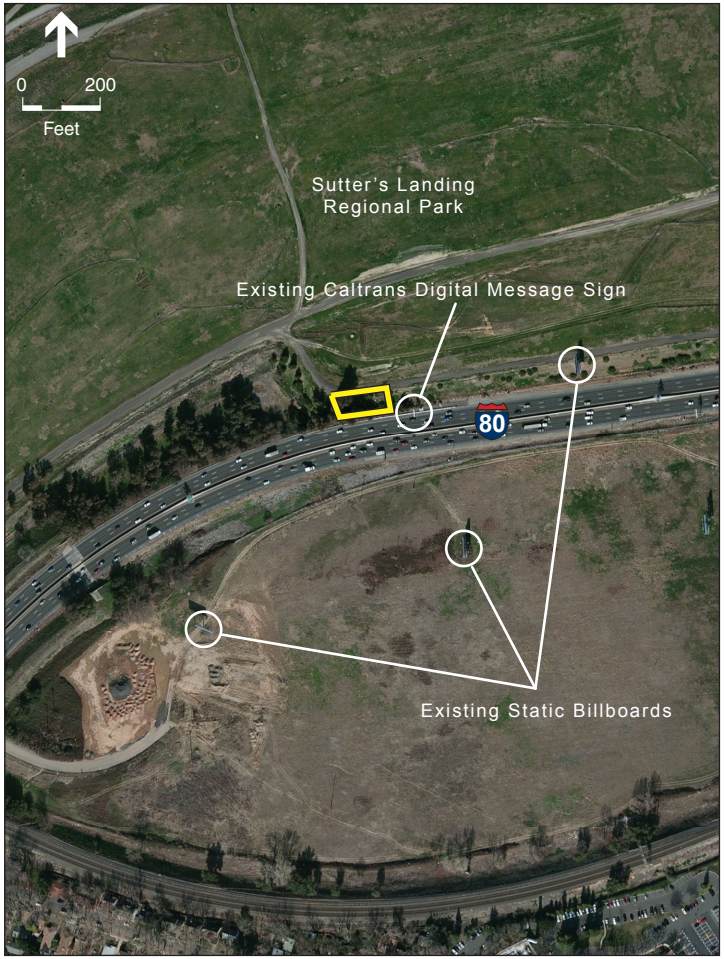
SITE 1: Interstate 5 at Water Tank Site



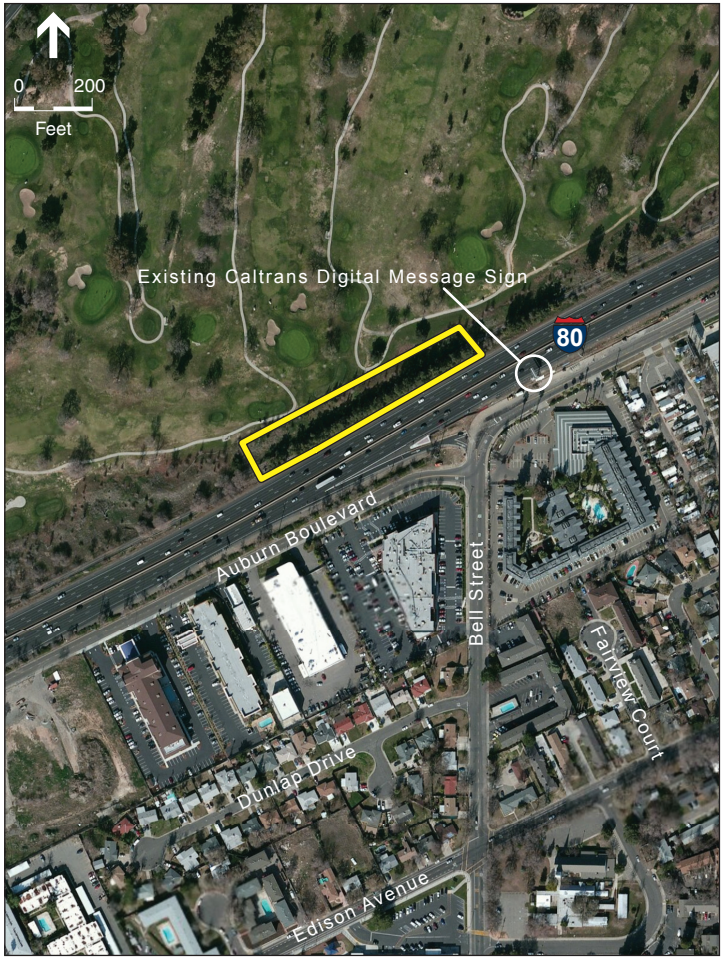
SITE 2: US 50 at Pioneer Reservoir Site

SOURCE: Microsoft, 2012; David Nybo, 2013; ESA, 2013

Figure 2-32a
Potential Offsite Digital Billboard Sites



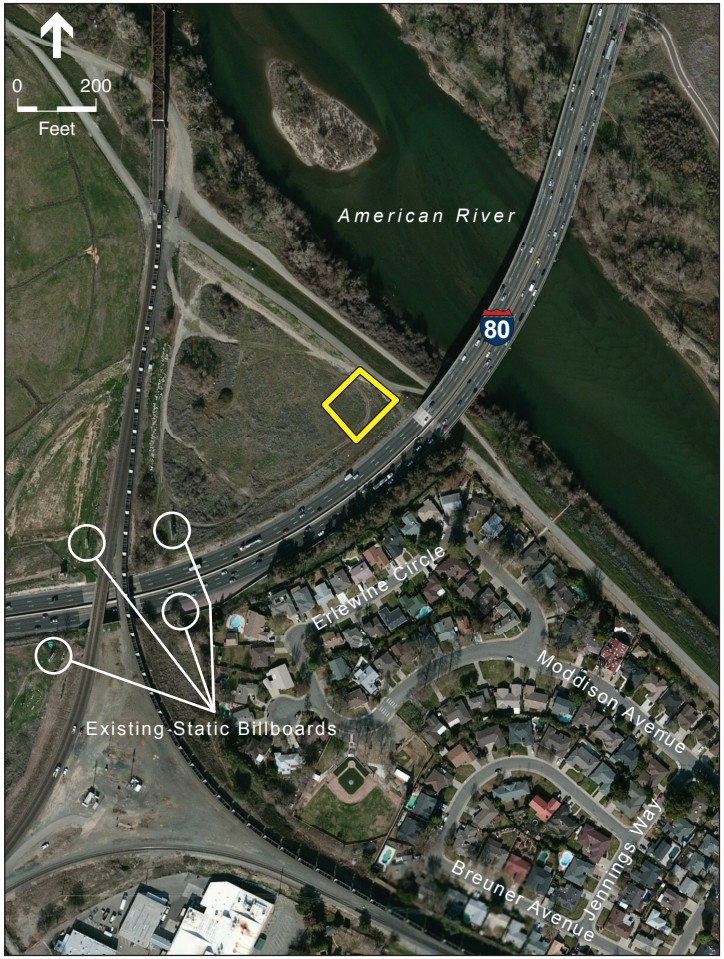
SITE 3: Business 80 at Sutter's Landing Regional Park Site



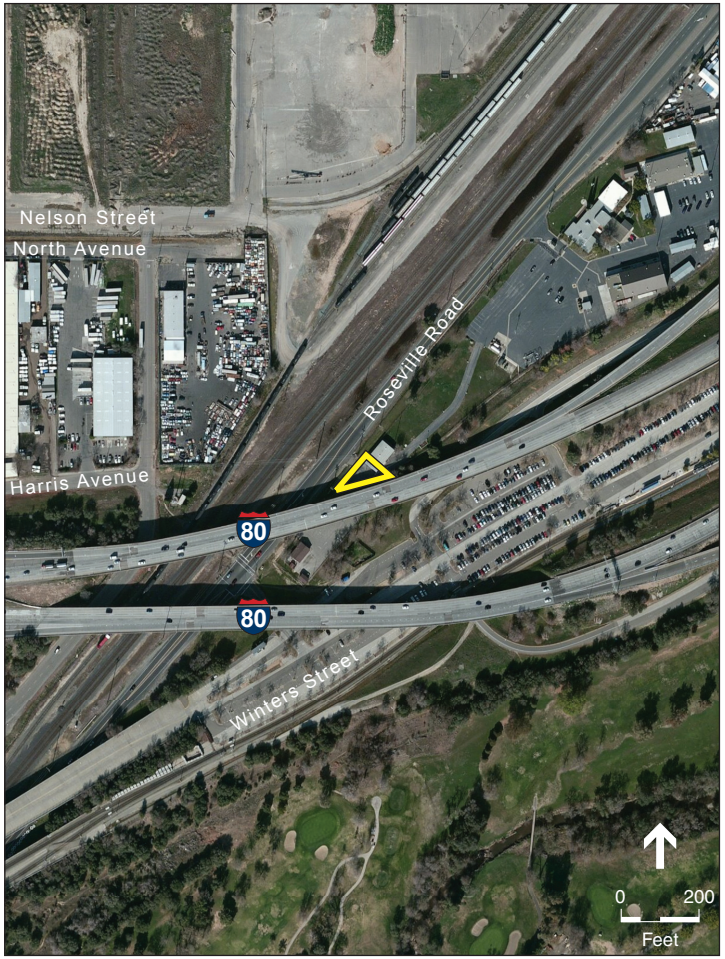
SITE 4: Business 80 at Del Paso Regional Park/Haggin Oaks Site

SOURCE: Microsoft, 2012; David Nybo, 2013; ESA, 2013

Figure 2-32b
Potential Offsite Digital Billboard Sites



SITE 5: Business 80 at Sutter's Landing Regional Park/American River Site



SITE 6: Interstate 80 at Roseville Road Site

SOURCE: Microsoft, 2012; David Nybo, 2013; ESA, 2013

Figure 2-32c
Potential Offsite Digital Billboard Sites

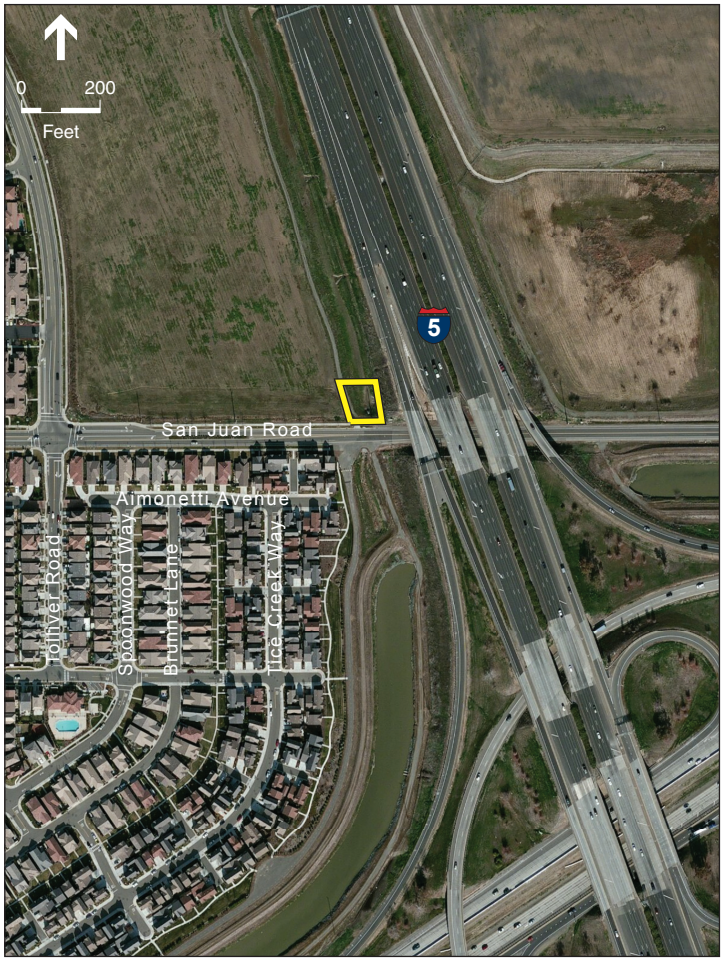
SITE 7: SR 99 at Calvine Road Site

SITE 8: Interstate 5 at Bayou Road Site

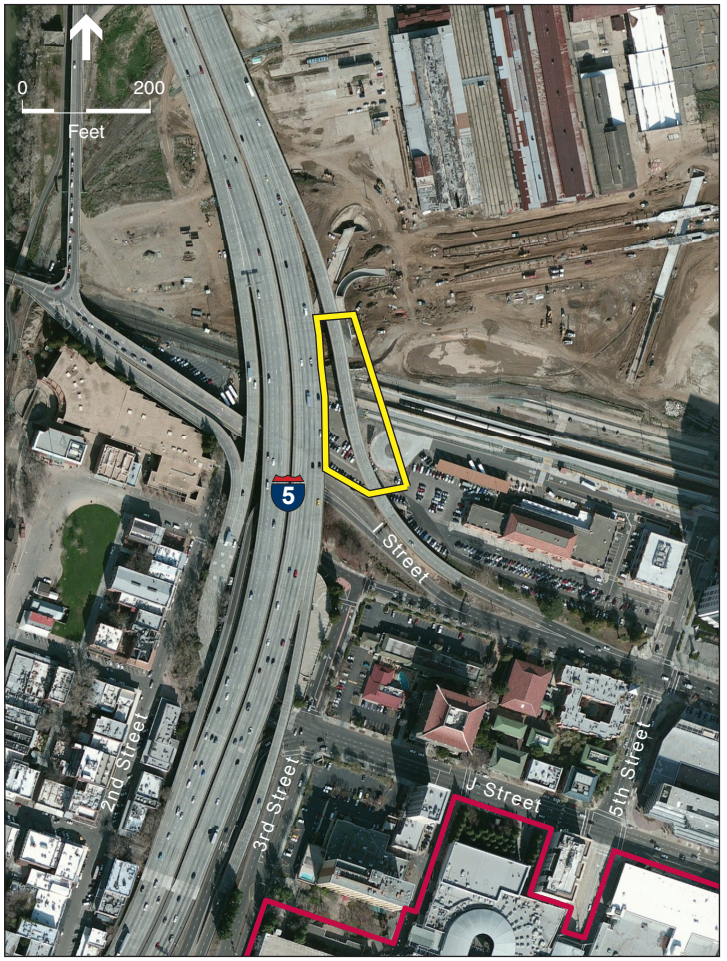
SOURCE: Microsoft, 2012; David Nybo, 2013; ESA, 2013

Figure 2-32d

Potential Offsite Digital Billboard Sites



SITE 9: Interstate 5 at San Juan Road Site



SITE 10: Interstate 5 at Railyards Site

SOURCE: Microsoft, 2012; David Nybo, 2013; ESA, 2013

Figure 2-32e
Potential Offsite Digital Billboard Sites

I-5 at Water Tank

The I-5 at Water Tank site is located along I-5, near its intersection with Freeport Boulevard (APN 031-0200-046) (see Figure 2-32a, Site 1). The site is designated as Public/Quasi-Public and zoned as A-Agricultural. The proposed digital billboard footprint is within a larger site, within a chain-link fence intended to secure the water tank and surrounding area from trespassing.

The site is surrounded by single family residential to the north; a City water tank, agriculture, and single family residential to the west; agriculture to the south, and elevated I-5 and agriculture to the east. Mature trees are immediately north of the proposed digital billboard location, within the backyard of the adjacent property.

The proposed billboard at this site would be a double-face V-shaped billboard on a center pole. The proposed digital billboard footprint would be within the chain link fence on a site that has been heavily disturbed. The site is covered with a combination of bare ground and scattered gravel. An active water valve and two capped water well pipes are within the footprint.

US 50 at Pioneer Reservoir

The US 50 at Pioneer Reservoir site is located within the property boundary of the Pioneer Reservoir, near the intersection of US 50 and the Sacramento River, immediately north of the Pioneer Bridge (APN 009-0012-075) (see Figure 2-32a, Site 2). The site is designated as Urban Center High and zoned as C-2 General Commercial. The proposed digital billboard footprint is within the larger Pioneer Reservoir site, secured behind a chain-link fence. Pioneer Bridge rises approximately 90 feet above the ground level.

The site is surrounded by Pioneer Reservoir to the east. The four-acre Pioneer Reservoir holds combined sewage and stormwater collected from the City's combined sewer system. The reservoir is capped by flat concrete slabs, with pipes and other mechanical equipment on the roof. The roof is approximately 10-12 feet above ground level. The elevated I-5 structure surrounds the project site to the south and west. A chain-link fenced surface parking lot is underneath I-5 and immediately adjacent to, and visible from, the proposed digital billboard site. An elevated railroad track and publicly accessible bike trail are immediately north of the site.

The proposed digital billboard at this location would be a double face V billboard on a center pole, intended to be viewed by east- and westbound motorists. The site consists of exposed soil, with some mature trees along the edges of the identified footprint.

Business 80 at Sutter's Landing Regional Park

The Business 80 at Sutter's Landing Regional Park site is located within the former City landfill site adjacent to Interstate 80 Business (Business 80) (APN 001-0170-026) (see Figure 2-32b, Site 3). The site is designated as Parks and Recreation and zoned as A-OS Agriculture-Open Space. The proposed digital billboard site is within the existing Sutter's Landing Regional Park. The proposed digital billboard footprint at this location would be a double face billboard on a

center pole about 45 feet in height, oriented to be seen by eastbound and westbound motorists on Business 80.

The proposed digital billboard site is sloped downward toward Business 80. The area is vegetated with low grasses, shrubs and mature trees. Methane release valves and piping lie above ground, immediately adjacent to the proposed digital billboard site.

The proposed digital billboard site is surrounded by Sutter's Landing Regional Park and the former landfill to the west, north and east. A static billboard is approximately 500 feet east of the proposed digital billboard site. Business 80 is immediately south of the site, and the proposed McKinley Village project site is located to the southeast, across Business 80.

Business 80 at Del Paso Regional Park/Haggin Oaks

The Del Paso Regional Park/Haggin Oaks site is located along the Haggin Oaks Trail, a Class I, off-street bike trail, immediately adjacent to the Alister MacKenzie Golf Course (APN 254-0011-028) (see Figure 2-32b, Site 4). The site is designated as Parks and Recreation and zoned as R-1 Standard Single Family. Although the APN indicates the proposed digital billboard site is within the Alister MacKenzie Golf Course, the site is actually immediately south of the golf course, in the approximately 15-foot-wide area between the Haggin Oaks Trail and the Business 80 right-of-way.

The proposed digital billboard site is adjacent to the Haggin Oaks Trail and Business 80. Nearby to the north are portions of the Alister MacKenzie Golf Course, including the greens for the second, third and eighth holes, and the tee boxes for the fourth and ninth holes. Across Business 80 to the south are various commercial and industrial uses along Auburn Boulevard, and a high-power transmission line that parallels Business 80.

The proposed digital billboard at this site would be a double face, open V billboard on a center pole approximately 45 feet high. The proposed Haggin Oaks site contains various ornamental trees, planted approximately every 10 feet. The ground is covered with short grasses and tree debris.

Business 80 at Sutter's Landing Regional Park/American River

The Business 80 at American River site is located within a triangular parcel in the eastern corner of Sutter's Landing Regional Park, near the intersection of Business 80 and the American River (APN 001-0170-006) (see Figure 2-32c, Site 5). The site is designated as Parks and Recreation and zoned as A-OS Agriculture-Open Space.

The proposed digital billboard would have single face oriented to be viewed by motorists on westbound Business 80. The proposed American River site is located immediately southwest of an existing levee and east of the Union Pacific Railroad tracks. The site is covered with short grasses, small shrubs, gravel, and exposed soil. Two well-established truck access roads ramp down from the adjacent levee and railroad tracks to the flat project site.

The proposed American River site is surrounded by Sutter's Landing Regional Park to the north and west. The American River lies to the northeast of the site. Business 80 forms the southeastern boundary of the site.

I-80 at Roseville Road

The I-80 at Roseville Road site is located at the intersection of I-80 westbound and Roseville Road, in the northern area of the city (APN 240-0330-005) (see Figure 2-32c, Site 6). The site is designated as Employment Center Low Rise and zoned as M-1 Light Industrial. The proposed Roseville Road digital billboard site lies within a larger parcel occupied by the United States Air Force, North Highlands Air National Guard Station. The Air National Guard leases the site from the City of Sacramento, and the Air National Guard controls the site for the next 13 years. The proposed digital billboard would be designed with a single face, elevated approximately 45 feet above the elevated freeway roadbed, visible to westbound motorists on I-80. The entire Air National Guard parcel is secured with chain link fence and barbed wire.

The proposed Roseville Road digital billboard site is completely paved. A portion of the site is covered by an existing metal building used by the Air National Guard. Immediately south of the site, Business 80 is elevated above the site approximately 15-20 feet. The Air National Guard Station is to the northeast of the proposed digital billboard site. A roadside drainage ditch, Roseville Road, and railroad tracks lie to the northwest of the site.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is located on a parcel adjacent to the SR 99 southbound onramp from eastbound Calvine Road, bound by West Stockton Boulevard to the south and a truck driveway providing access to an existing Foods Co. retail store (APN 117-0182-030) (see Figure 2-32d, Site 7). The site is designated as Suburban Center and zoned as HC Highway Commercial. The digital billboard at this location would be a double face V, designed to be visible to motorists on north- and southbound SR 99.

The proposed Calvine Road digital billboard site is located in the southeastern corner of the parcel. The parcel is fenced and is primarily used as a stormwater detention basin. The detention basin is inset from the fence line by approximately 30 feet. The Calvine Road site would be within this 30-foot edge of the parcel, which is approximately five feet above the bottom of the detention basin. The proposed Calvine Road digital billboard site is covered with annual grasses and small shrubs. An overhead power line crosses the proposed digital billboard site, approximately 15 feet west of the chain link fence separating the parcel from the SR 99 right-of-way. The power line is approximately 18-20 feet high.

The proposed Calvine Road digital billboard site is surrounded by the detention basin and elevated Calvine Road to the north, SR 99 to the east, commercial and multi-family residential uses to the south, and the detention basin and commercial uses to the west.

I-5 at Bayou Road

The I-5 at Bayou Road site is located in North Natomas, north of the Westlake neighborhood near the I-5 southbound to SR 99 northbound ramp (APN 225-1480-053) (see Figure 2-32d, Site 8). The site is designated as Parks and Recreation and zoned as A-OS Agriculture and Open Space.

The proposed Bayou Road digital billboard site would have a single face, directed to the west, designed to be viewed by motorists on southbound I-5. The proposed billboard would be located approximately 30 feet south of Bayou Road and approximately 50-60 feet east of an existing City of Sacramento utilities box. The proposed digital billboard site consists of highly disturbed ruderal grassland.

The proposed Bayou Road digital billboard site is surrounded by Bayou Road and I-5 to the north; the North Natomas Self Storage facility to the east; open space and residential uses to the south, and open space and agricultural land to the west.

I-5 at San Juan Road

The I-5 at San Juan Road site is located in North Natomas, at the northwest corner of the intersection of I-5 and San Juan Road (APN 225-1870-013) (see Figure 2-32e, Site 9). The site is designated as Employment Center Mid Rise and zoned as A-OS PUD Agriculture-Open Space Planned Unit Development. The site is located within the Park View/River View Planned Unit Development.

The proposed digital billboard at the I-5 at San Juan Road site would be a double face V, designed to be viewed by motorists on north- and southbound I-5. Because I-5 is elevated approximately 20 feet over surrounding grade, the billboard face would be approximately 65 feet above the street level on San Juan Road.

The proposed San Juan Road digital billboard site is surrounded by open space and I-5 to the north, I-5 to the east, and open space and residential uses to the south and west. The site is west of a drainage channel that runs north-south at the foot of the I-5 embankment. The site would be located in the dry, upland between the drainage channel and a gravel access road. West of the gravel road is a parcel planned for future commercial uses. The proposed digital billboard site is currently mowed annual grassland.

I-5 at Sacramento Railyards

The I-5 at Sacramento Railyards site is located in the downtown Sacramento Railyards along the I Street onramp to northbound I-5 (APN 002-0010-027) (see Figure 2-32e, Site 10). The site is designated as Public/Quasi-Public and zoned as TC Transportation Corridor. The Railyards digital billboard site is roughly bound by I Street to the south, I-5 to the west, the relocated heavy rail tracks to the north, and the existing rail depot bus turnaround on the east.

The digital billboard at this site would be a double face V, designed to be viewed by motorists on north- and southbound I-5. The proposed Railyards digital billboard site is largely paved as it

serves as a surface parking lot for the Sacramento Valley Station. The northern portion of the site is not paved, but is remediated exposed soil or areas covered by large boulders used for stormwater runoff management.

The proposed Railyards digital billboard site is surrounded by I-5 to the west, heavy rail tracks to the north, the Sacramento Valley Station to the east, and I Street and retail/hotel/residential uses to the south.

2.5.4 Elimination of Relocation Agreements

Under existing regulations (City Code Section 15.148.815), relocation agreements identify existing non-conforming billboards that would be removed as part of the construction and operation of a digital billboard. As part of the project approvals, it is anticipated that the City would revise its sign ordinance to, among other things, eliminate or modify the relocation agreement requirements for digital billboards.

2.6 Sleep Train Arena and Land Transfers

2.6.1 Closure of Sleep Train Arena

The project Development Agreement includes terms which prohibit the operation of the existing Sleep Train Arena for uses that would in any way compete with the operation of the ESC. Following opening of the ESC in October 2016, the existing Sleep Train Arena complex, including the adjacent practice facility, would cease to operate and would be closed and secured. Until a future use is determined for the arena and practice facility buildings and/or land around Sleep Train Arena, the property would be maintained and irrigated to ensure that the physical conditions remain essentially in their current state. Security fencing and security patrols would be used to protect the integrity of the property and minimize the potential for vandalism. Lighting of the building and parking lots would continue to be operated for security purposes.

The Sleep Train Arena building would be prohibited from being operated as a public venue that would in any way compete with the proposed ESC. It is the intent of the applicant to undertake planning studies that will consider potential future uses for the surrounding property (discussed further, below). The proposed Development Agreement would establish that any reuse of the Sleep Train Arena building and practice facility, including possible conversion to non-arena uses, would require a discretionary approval process that would be subject to appropriate CEQA documentation and public review.

For purposes of this EIR it is therefore assumed that the Sleep Train Arena building and practice facility are closed upon opening of the proposed ESC and new practice facility, and remain closed for an indeterminate period until further action is taken to either demolish or convert the buildings to different uses.

2.6.2 Parcel Transfers

The Proposed Project includes the transfer and conveyance to the project applicant of a number of property rights and parcels that are currently under City ownership (see Table 2-10 and Figure 2-33). The transfer and conveyance of these parcels would be intended to create value for the project applicant that would contribute to the construction of the ESC. The project applicant may elect to retain ownership of the parcels, or may sell the parcels and invest the proceeds in the planning, design, development and construction of the proposed ESC. In addition to parcel transfers, the project applicant would be provided a right of first refusal to purchase properties at 800 K Street and 1121 8th Street.

TABLE 2-10
PARCEL TRANSFERS

Parcel Name	Assessor Parcel Numbers	Acres	Built Space (sf)
Natomas – City Parcel	225-0070-076	100.41	
Parking Lot X (3rd Street and Capitol Mall)	006-0135-028 006-0135-029 006-0135-030	2.53	
Parking Lot Y (2nd Street and O Street)	006-0182-022	0.43	
800 K Street*	006-0098-003 006-0098-004 006-0098-024 006-0098-006 006-0098-007 006-0098-008	0.63	
1121 8th Street*	006-0098-022 006-0098-021 006-0098-014	0.58	56,922
408 J Street	006-0087-054	0.53	
312-324 K Street	006-0087-051	0.52	7,500
1401 H Street	002-0166-013	0.30	
5th Street Airspace	006-0087-061	0.25	
J Street Garage Entry	006-0087-059	0.05	

* SBH would acquire a right of first refusal to purchase this property.

SOURCE: City of Sacramento, 2013

At this time, there are no specific proposals for future use of any of these parcels beyond the existing uses, with the exception that the 4th and J Street Parcel and the Plaza West Parking Structure Retail Building sites are assumed to be part of the future mixed use development at the Downtown project site. In the event that the project applicant decides to develop any of these parcels, such an action would require prior planning and an application for approval by the City of Sacramento. At that time, the City would review the project application and would undertake such actions to comply with CEQA and other relevant local, state and federal laws and regulations. For these reasons, no evaluation of the environmental effects of future development activity on any of these sites is included in this EIR.

SOURCE: ESA, 2014

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Figure 2-33
Transfer Parcel Locations

Natomas – City Parcel

The Natomas-City Parcel is approximately 100 acres of land immediately adjacent to the property owned by the project applicant which currently houses Sleep Train Arena (see Figure 2-34). The site is largely vacant, but is in part paved and used as part of the overall Sleep Train Arena parking lot. In addition, portions of this parcel are currently used for public streets that access the Sleep Train Arena parking lot: Town Center Drive and Five Star Way from Sports Parkway to Del Paso Road; Terracina Drive from Sports Parkway to Truxel Road; and West Entrance Road from Sports Parkway to East Commerce Way. The vacant portions of the property contain a concrete foundation for a baseball stadium that was constructed by prior owners in the early 1990s, as well as ruderal grassland.

Parking Lot X

Parking Lot X is approximately 2.5 acres located at the southwest corner of 3rd Street and Capitol Mall (see Figure 2-35). A portion of the site is currently paved and used for a parking lot containing 181 parking spaces. A portion of the site was previously used as a free-right turn connector from eastbound Capitol Mall to eastbound N Street at the intersection of N and 3rd Streets. A further portion of the property is vacant and is landscaped serving as an entry to Capitol Mall.

Parking Lot Y

Parking Lot Y is a thin 0.43 acre parcel located parallel to 2nd Street, generally between 2nd Street, Interstate 5, N and O Streets (see Figure 2-35). The parcel is currently used as a parking lot accommodating approximately 85 parking spaces.

800 K Street

The parcel generally referred to as 800 K Street is actually six parcels with street addresses from 800, 802, 806, 810, 812, and 816 K Street (see Figure 2-35). There are no buildings or parking on this site and the land remains vacant. The project applicant would acquire a right of first refusal to purchase this property.

1121 8th Street

The parcel generally referred to as 1121 8th Street is made up of three parcels with street addresses 1109 and 1121 8th Street, and 809 and 815 L Street (see Figure 2-35). This property includes the Bel-Vue Apartments, a listed historic structure built in 1900, a three-floor structure with ground floor retail and apartments on the second and third floors. The ground floor space of the Bel-Vue at 1119 8th Street is occupied by Little Dragon Chinese Restaurant, and is comprised of a dining room, kitchen, and basement. The space at 1121 8th Street is vacant, and was occupied by a restaurant. The same parcel is shared by a rectangular two-story brick building standing at the northeast corner of 8th and L Streets. 1125 8th Street is currently vacant and used for storage. It is comprised of one room and access to the basement. 1127 8th Street, 1129 8th Street, and 801 L Street are occupied by a check cashing service and a Western Union retail facility. The project applicant would acquire a right of first refusal to purchase this property.

SOURCE: Microsoft, 2012; ESA, 2013

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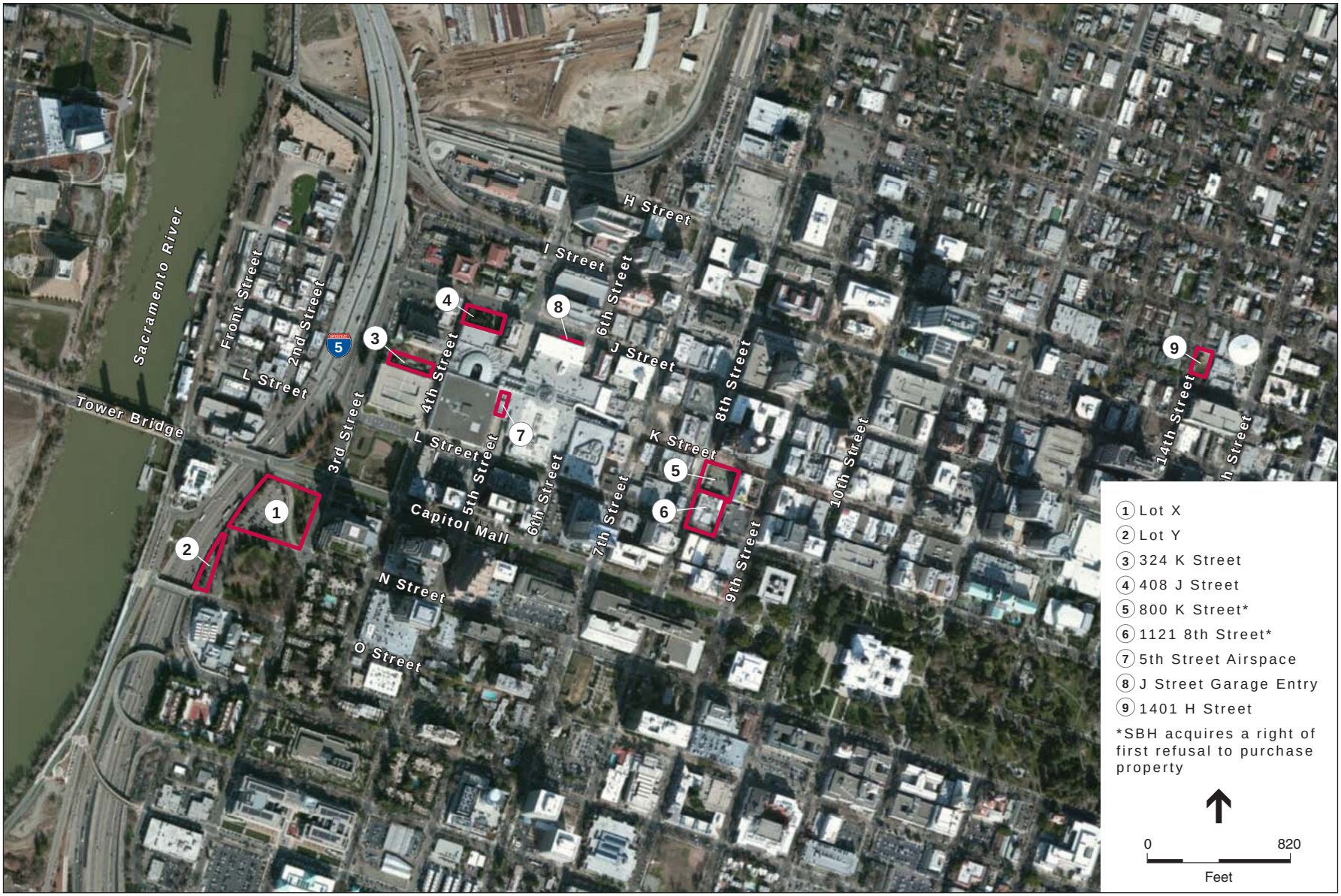
Figure 2-34
Natomas Transfer Parcel



SOURCE: Microsoft, 2012; ESA, 2014

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 2-35
Downtown Transfer Parcels

408 J Street

The parcel at 408 J Street is approximately one half acre, fronting on J Street between 4th Street and an entry to the Downtown Plaza Central Parking Garage (see Figure 2-35). The parcel generally is located between the California Fruit Building on the west and the Travelers Hotel building on the east. The parcel is currently landscaped with irrigated turf and redwood trees that were planted in the early 1990s during the most recent renovation of Downtown Plaza. The turf portion of the parcel is flat and contains the Downtown Plaza movie theater marquee. The portion of the parcel that is planted in redwoods is steeply sloped down to the lower level parking floor.

312-324 K Street

The 312-324 K Street parcel is located immediately adjacent to the Plaza West Parking Structure (City Parking Lot G), which is a City-owned above-ground parking structure situated between 3rd, 4th, L, and K Streets at the west end of Downtown Plaza (see Figure 2-35). The existing retail building is currently part of a larger four acre parcel that includes the parking structure as well as portions of the former K Street and 4th Street rights of way. A new parcel would be created, including the retail building and outside grass and concrete patio area up the edge of the K Street right of way to the north. There are larger conifer trees located at the far west side of the parcel. The proposed parcel would be approximately one half acre and would 70 feet deep by 325 feet wide. The existing building is approximately 7,500 square feet with 6,137 square feet of leasable interior space. Currently, 1,352 square feet is occupied with a men's clothing retailer (Navin's Custom Clothiers), which has an existing lease, but the remaining space is vacant.

1401 H Street

The 1401 H Street parcel is a vacant site located at the northeast corner of 14th and H Streets (see Figure 2-35). This approximately 0.3 acre parcel is located adjacent to the California Musical Theatre and the Wells Fargo Pavilion building, home to the Sacramento Theatre Company. The site is approximately 0.3 acres. The site is across from the City's Memorial Parking Garage, a 10-story above-ground parking structure with ground floor retail including a restaurant (Coyote Tap House) located across H Street to the south. To the north is a small multi-family apartment complex, to the east is the Wells Fargo Pavilion and to the east across 14th Street are two to three-story single family homes that have been converted for commercial use and are occupied with offices. The site is barren land with existing sidewalks with mature trees located within the street right of way around the site.

5th Street Airspace

The 5th Street Airspace parcel is located above 5th Street between L Street and J Street (see Figure 2-35). It includes air rights over 5th Street, specifically between the 5th Street roadbed and the bottom of the deck that spans 5th Street along K Street.

J Street Garage Entry

The J Street Garage Entry is a sliver parcel that is located between 5th Street and 6th Street on the south side of J Street just north of the J Street entry to Downtown Plaza Central Parking Garage (see Figure 2-35). The parcel consists of a concrete curb, a thin pedestrian access point for maintenance workers, and a cinder block and wrought iron fence half-wall.

2.7 Parking Monetization Plan

As part of its financial contribution to the proposed ESC, the City of Sacramento would sell bonds that would be repaid through a stream of revenues generated by a portion of the City's downtown on- and off-street parking assets. The parking monetization plan would not result in changes to the physical features or the operations of the included parking assets. Since there would be no resulting physical or operational changes, the parking monetization plan is not further considered in this EIR.

2.8 Actions

The Proposed Project is anticipated to include, but may not be limited to, the following City actions:

- Approval of a Water Supply Assessment;
- Certification of the EIR to determine that the EIR was completed in compliance with the requirements of 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 City of Sacramento;
- Adoption of a Mitigation Monitoring and Reporting Plan (MMRP), which specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment;
- Adoption of Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations;
- Approval of a Development Agreement between the City of Sacramento and Sacramento Basketball Holdings (SBH);
- Establishment of an Entertainment and Sports Center Special Planning District (ESC-SPD) to put specific regulations in place to guide development of up to 1.5 million square feet of mixed uses surrounding the entertainment and sports center;
- Rezone of parcels out of the Central Business District SPD and into the new ESC-SPD;
- Approval of a Master Tentative Subdivision Map to merge the parcels at the current Downtown Plaza location and resubdivide them into approximately fifty-three (53) parcels and to identify certain parcels for condominium purposes;

- Approval of a Conditional Use Permit for a Sports Complex use, including a practice facility and surrounding plaza area in the Central Business District Special Planning District (C-3-SPD) zone;
- Approval of a Conditional Use Permit for up to five (5) bar/nightclubs within the boundaries of the new Entertainment and Sports Center Special Planning District (ESC-SPD);
- Approval of a Conditional Use Permit to waive a portion of the 50% ground floor retail requirement on L Street between 5th Street and 7th Street, and a portion of the 75% ground floor retail requirement on 5th Street between J Street and L Street;
- Approval of a Site Plan and Design of the ESC building, the surrounding plaza area, the practice facility, and all of the parcels included with the proposed tentative subdivision map, with deviations including loading area and location of short-term bicycle parking;
- Approval of a variance to allow the extension of hours of construction established by the City's Noise Ordinance;
- Approval of a variance to allow noise from the operation of the ESC and associated facilities to exceed levels allowed by the City of Sacramento noise ordinance;
- Adoption of a Special Sign District;
- Approval of a demolition permit;
- Approval of a grading permit to regulate land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities;
- Approval of amendments to the City Sign Ordinance, Title 15.148, to modify the relocation requirements for digital billboards on City Owned property;
- Approval of variances to allow additional height for several of the offsite digital billboard locations;
- Approval of Site Plan and Design Review permits for offsite digital billboards;
- Approval of property rezones of Digital Billboard Sites to allow the development and operation of up to six digital billboards on City-owned property;
- Approval of land and parcel transfers;
- Amendment to Section 12.44 of the City Code related to the K Street pedestrian mall;
- Demonstration of compliance with Government Code Section 65402 regarding the disposal of City property;
- Approval of financial terms of the project;
- Approval of the leases for digital billboard locations; and

- Approval of definitive documents associated with the project.

The Proposed Project is anticipated to include, but may not be limited to, the following actions by entities other than the City:

- Approval of a construction activity stormwater permit, including a Stormwater Pollution Prevention Plan, from the Central Valley Regional Water Quality Control Board (CVRWQCB);
- Approval of a pre-treatment permit from the Sacramento Regional County Sanitation District to allow discharges associated with construction de-watering to the CSS;
- Approval of a groundwater memorandum of understanding or Voluntary Cleanup Agreement between the Department of Toxic Substances Control (DTSC) and the project applicant for construction de-watering; and
- Approval of a stationary source permit from the Sacramento Metropolitan Air Quality Management District (SMAQMD).

2.9 Responsible and Trustee Agencies

This EIR is intended to be used by responsible and trustee agencies (as defined by sections 15381 and 15386 of the State CEQA Guidelines) that may have review or discretionary authority over some component of the project. Agencies in addition to the Lead Agency that also may use this EIR in their review of the project or that may have responsibility over approval of certain project elements may include, but are not limited to, the following:

- United States Air Force, Air National Guard
- United States Fish and Wildlife Service (USFWS)
- California Department of Transportation (Caltrans)
- California Department of Toxic Substances Control (DTSC)
- California Department of Fish and Wildlife (CDFW)
- California Department of Health Services (DHS)
- Central Valley Regional Water Quality Control Board (CVRWQCB)
- Sacramento Metropolitan Air Quality Management District (SMAQMD)
- Sacramento Municipal Utility District (SMUD)
- Sacramento Regional County Sanitation District (SRCSD)
- Sacramento Regional Transit (SacRT)

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CHAPTER 3
Land Use, Population and Housing

3.1 Introduction

This chapter of the EIR provides an overview of the land use and planning issues that may arise in connection with planning, construction, and operation of the Proposed Project. 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 Sacramento 2030 General Plan, the Central City Community Plan, and the City's Comprehensive Zoning Ordinance are discussed in this chapter. The determination of project consistency with the City's 2030 General Plan is within the authority of the City Council. The information provided in this chapter is intended to inform that determination. A general discussion on plan consistency is included below.

In addition, the reader is referred to the various environmental resource evaluations presented in Chapter 4 for a discussion of potential physical/environmental effects and potential incompatibilities that may be considered in the determination of physical environmental impacts. For example, land uses that produce excessive noise, light, dust, odors, traffic, or hazardous emissions may be undesirable when they intrude on places used for residential activities (residences, parks, etc.). Thus, certain industrial or commercial uses (which can produce noise and odors) may not be considered compatible with residential, educational, or healthcare uses, unless buffers, landscaping, or screening could protect residents from health hazards or nuisances. Such potential land use incompatibilities would be addressed in the applicable environmental resource sections in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

This chapter also describes existing levels of and trends in population and housing in the City of Sacramento. It identifies the Proposed Project's development assumptions and analyzes projected population and housing growth in relation to city projections.

While an EIR may provide information regarding land use, socio-economic, population, employment, or housing issues, CEQA does not recognize these issues as direct physical effects on the environment.[1] Therefore, this chapter does not identify environmental impacts and mitigation measures. Adverse physical effects on the environment that could result from

[1] State CEQA Guidelines section 15064(d)(1).

implementation of the project, including the changes to land use addressed in this chapter, are evaluated and disclosed in the appropriate technical sections of this EIR.

3.2 Land Use Consistency and Compatibility

3.2.1 Environmental Setting

Regional Context

The City of Sacramento is located approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe in the northern portion of the great Central Valley, at the northern end of the Sacramento/San Joaquin river delta and at the confluence of the Sacramento and American rivers. Sacramento is the seat of government for the State of California and also serves as the county seat of Sacramento County (see Figure 2-1, Project Location). The City of Sacramento is the largest incorporated city in Sacramento County.

Sacramento is a major transportation hub, the point of intersection of major transportation routes that connect Sacramento to the San Francisco Bay area to the west, the Sierra Nevada mountains and Nevada to the east, the City of Los Angeles to the south, and Oregon to the north. The City is bisected by a number of major freeways including Interstate 5 (I-5) that traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno, as well as Highway 50, which provides an east-west connection between Sacramento and South Lake Tahoe. In addition, the Union Pacific (UP) Railroad transects the city.

ESC Site

The ESC project site is located on five city blocks in downtown Sacramento within the Downtown Plaza shopping mall superblock, generally bounded by 3rd Street to the west, 7th Street to the east, J Street to the north, and L Street to the south. The existing Downtown Plaza development is made up of a number of retail and office buildings under different ownerships. The buildings owned by Downtown Plaza Sacramento, LLC include the Downtown Plaza cinemas, the adjacent food court, 24 Hour Fitness, an array of small in-line retail and restaurant spaces, and the office buildings located at 560 J Street and 660 J Street. The two buildings that contain Macy's stores are under separate ownership. Downtown Plaza currently contains 1,190,443 total square feet (sf) of retail/commercial and office space, including the 332,500 sf Macy's West building which is not part of the Proposed Project.

Between J and L Street, 4th and 6th Streets have been previously abandoned and no longer function as city streets. Fifth Street between J and L Streets passes below grade and under the developed uses on K Street. K Street, through the Downtown Plaza property, is a pedestrian-only public space. West of 4th Street, K Street descends below grade, passing under 3rd Street and Interstate 5, and returning to street grade where K Street intersects Second Street in Old Sacramento.

Offsite Digital Billboard Sites

The land use setting of the ten potential digital billboard sites are described below, and are presented in Figures 2-32a to 2-32e in Chapter 2, Project Description.

I-5 at Water Tank

The I-5 at Water Tank site is located along I-5, near its intersection with Freeport Boulevard. The proposed digital billboard footprint is within a larger site, within a chain-link fence intended to secure the water tank and surrounding area from trespassing. The site is covered with a combination of bare ground and scattered gravel. An active water valve and two capped water well pipes are within the footprint.

The site is surrounded by single family residential to the north; a City water tank, agriculture, and single family residential to the west; agriculture to the south, and elevated I-5 and agriculture to the east. Mature trees are immediately north of the proposed digital billboard location, within the backyard of the adjacent property on El Morro Court.

US 50 at Pioneer Reservoir

The US 50 at Pioneer Reservoir site is located within the property boundary of the Pioneer Reservoir, near the intersection of US 50 and the Sacramento River, immediately north of the Pioneer Bridge. The site consists of exposed soil, with some mature trees along the edges of the identified footprint. The proposed digital billboard site is within the larger Pioneer Reservoir property, secured behind a chain-link fence. Pioneer Bridge rises approximately 90 feet above the ground level.

The site is adjacent to the Pioneer Reservoir to the east. The four-acre Pioneer Reservoir holds combined sewage and stormwater collected from the City's combined sewer system. The elevated I-5 structure surrounds the project site to the south and west. A chain-link fenced surface parking lot is underneath I-5 and immediately adjacent to, and visible from, the proposed digital billboard site. An elevated railroad track and publicly accessible bike trail are immediately north of the site.

Business 80 at Sutter's Landing Regional Park

The Business 80 at Sutter's Landing Regional Park site is located within the existing Sutter's Landing Regional Park, immediately adjacent to Business 80. The proposed digital billboard site is sloped downward toward Business 80. The area is vegetated with low grasses, shrubs and mature trees. Methane release valves and piping lie above ground, immediately adjacent to the proposed digital billboard site. A static billboard is approximately 500 feet east of the proposed digital billboard site. Business 80 is immediately south of the site, and the proposed McKinley Village project site is located to the southeast, across Business 80.

Business 80 at Del Paso Regional Park/Haggin Oaks

The Business 80 at Del Paso Regional Park/Haggin Oaks site is located along the Haggin Oaks Trail, a Class I, off-street bike trail, immediately adjacent to the Alister MacKenzie Golf Course. The site is immediately south of the golf course, in the approximately 15-foot-wide area between

the Haggin Oaks Trail and the Business 80 right-of-way. The proposed Business 80 at Del Paso Regional Park/Haggin Oaks site contains various ornamental trees, planted approximately every 10 feet. The ground is covered with short grasses and tree debris.

The proposed digital billboard site is surrounded by the Haggin Oaks Trail to the west and east, the Alister MacKenzie Golf Course to the north, and Business 80 to the south. Across Business 80 are various commercial and industrial uses.

Business 80 at Sutter's Landing Regional Park/American River

The Business 80 at Sutter's Landing Regional Park/American River site is located within a triangular parcel in Sutter's Landing Regional Park. The American River lies to the northeast of the site. Business 80 forms the southeastern boundary of the site. The site is located immediately southwest of an existing levee and east of the Union Pacific Railroad tracks. It is covered with short grasses, small shrubs, gravel, and exposed soil. The site is located within an area identified and approved by the City as a habitat mitigation site associated with the 28th Street Tree Removal Mitigation Project. Construction of the Mitigation Project was initiated in November 2013.

I-80 at Roseville Road

The I-80 at Roseville Road site is located at the intersection of I-80 westbound and Roseville Road, in the northern area of the city. The site lies within a larger parcel occupied by the United States Air Force, North Highlands Air National Guard Station. The entire Air National Guard parcel is paved, and secured with chain link fence and barbed wire. A portion of the proposed digital billboard site is covered by an existing metal building used by the Air National Guard.

Immediately south of the site, Business 80 is elevated above the site approximately 15-20 feet. The Air National Guard Station is to the northeast of the proposed digital billboard site. A roadside drainage ditch, Roseville Road, and railroad tracks lie to the northwest of the site.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is located in the southeastern corner of a parcel adjacent to the SR 99 southbound onramp from eastbound Calvine Road. The parcel is fenced and is primarily used as a stormwater detention basin. The site is covered with annual grasses and small shrubs. An overhead power line crosses the proposed digital billboard site, approximately 15 feet west of the chain link fence separating the parcel from the SR 99 right-of-way. The power line is approximately 18-20 feet high.

The proposed Calvine Road digital billboard site is surrounded by the detention basin and elevated Calvine Road to the north, SR 99 to the east, commercial and multi-family residential uses to the south, and the detention basin and commercial uses to the west.

I-5 at Bayou Road

The I-5 at Bayou Road site is located in North Natomas, north of the Westlake neighborhood near the I-5 southbound to SR 99 northbound ramp. The proposed billboard would be located

approximately 30 feet south of Bayou Road and approximately 50-60 feet east of an existing City of Sacramento utilities box. The proposed digital billboard site consists of highly disturbed ruderal grassland.

The proposed Bayou Road digital billboard site is surrounded by Bayou Road and I-5 to the north; the North Natomas Self Storage facility to the east; open space and residential uses to the south, and open space and agricultural land to the west.

I-5 at San Juan Road

The I-5 at San Juan Road site is located in North Natomas, at the northwest corner of the intersection of I-5 and San Juan Road. The site is between the I-5 right-of-way and a parcel planned for commercial uses, and is within a larger parcel primarily used for stormwater drainage and detention. The proposed digital billboard site is covered with annual grasses, although a portion of the billboard overhang area contains standing water and wetland plants.

The proposed San Juan Road digital billboard site is surrounded by open space and I-5 to the north, I-5 to the east, and open space and residential uses to the south and west.

I-5 at Sacramento Railyards

The I-5 at Sacramento Railyards site is located in the downtown Sacramento Railyards adjacent to the I Street onramp to northbound I-5. The site is roughly bound by I Street to the south, I-5 to the west, the relocated heavy rail tracks to the north, and the existing rail depot bus turnaround on the east. The proposed Railyards digital billboard site is largely paved and serves as a surface parking lot for the Sacramento Valley Station.

The proposed Railyards digital billboard site is surrounded by I-5 to the west, heavy rail tracks to the north, the Sacramento Valley Station to the east, and I Street and retail/hotel/residential uses to the south.

3.2.2 Regulatory Setting

Downtown Project Site

Federal

There are no federal regulations that specifically regulate land use or land use compatibility on non-federal lands that would be applicable to the Proposed Project. As noted below, the Federal Aviation Administration requires coordination for any projects over certain heights.

Federal Aviation Administration (FAA)

The Federal Aviation Act of 1958 created the agency under the name Federal Aviation Agency (FAA). The current name was adopted in 1967 when the agency became a part of the Department of Transportation. The FAA is tasked with, among other things, regulation of civil and commercial aviation. The FAA is required to review projects that entail construction or alteration of buildings more than 200 feet above the ground level at the site. The project applicant for any

project within the project site exceeding 200 feet above grade would be required to submit FAA Form 7460-1 at least 30 days prior to the filing of an application for a construction permit.

State

The State of California reserves for local jurisdictions the authority to plan and regulate land use.

Sustainable Communities and Climate Protection Act of 2008 (SB 375)

SB 375 (Chapter 728, Statutes of 2008) directs the California Air Resources Board to set regional targets for reducing greenhouse gas emissions. The law establishes a "bottom up" approach to ensure that cities and counties are involved in the development of regional plans to achieve those targets.

SB 375 relates to land use planning by building on the existing framework of regional planning to tie together the regional allocation of housing needs and regional transportation planning in an effort to reduce greenhouse gas (GHG) emissions from motor vehicle trips. Further, SB 375 established CEQA streamlining and relevant exemptions for projects that are determined to be consistent with the land use assumptions and other relevant policies of an adopted Sustainable Communities Strategy, described further below. Those exemptions and streamlining regulations are reflected in sections 15064.4, 16126.4(c), and 15183.5 of the State CEQA Guidelines.

Local

Sacramento Area Council of Governments Blueprint and Metropolitan Transportation Plan/Sustainable Communities Strategy

SACOG Blueprint

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba, as well as 22 cities, including the City of Sacramento. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG approves the distribution of affordable housing in the region and assists in planning for transit, bicycle networks, clean air, and airport land uses.

SACOG, in partnership with the non-profit organization Valley Vision, undertook the Blueprint Project to build a consensus around a single, coherent, long-term vision for the development of the Sacramento region. The project was not intended to advocate any particular development pattern; instead, SACOG assumed that if it provided accurate information and forecasting tools to a wide variety of interest groups, a consensus would naturally emerge on what the region as a whole wanted for its future.

Through discussions at a series of workshops held throughout the greater Sacramento region, a consensus emerged that the low-density, segregated land use developments of the recent past would likely cause deterioration in the regional quality of life if continued into the future. The regional consensus supported the notion that future development should follow the principles of

"smart growth," incorporating density of both residential and commercial development, diversity of land uses within a neighborhood, design of the neighborhood, and access to regional destinations.

The Blueprint, adopted by the SACOG Board of Directors in December 2004, is a voluntary framework for guiding future growth in the region. The Blueprint is not a policy document and does not regulate land use or approve or prohibit growth in the region. The Blueprint is a transportation and land use analysis suggesting how cities and counties should grow based on the key principles listed below. A key issue for the Blueprint Project is that compliance with the adopted plan relies entirely on SACOG's ability to persuade jurisdictions to voluntarily follow the SACOG model. The Blueprint is intended by SACOG to be advisory and to guide the region's transportation planning and funding decisions.

The approved Blueprint is based on seven interlocking principles:

- Compact Development that requires less conversion of rural land, shortens travel distances, and reduces the per-unit cost of infrastructure and services.
- Housing Choices, in particular small lot single-family dwellings and attached products that suit the needs of seniors, empty-nesters, young couples, single-person households, single-parent households and other types of small households that currently make up 4-out-of-5 American households. The smaller products fit well with the theme of compact development.
- Mixed-Use Developments that allow people to work and shop near their home.
- Use of Existing Assets, in particular the development of sites that are already within the urban footprint and urban services coverage. This includes both infill development of vacant lots as well as re-development of under-utilized sites such as low-density strip retail areas.
- Transportation Choices, in particular the ability to use non-auto modes (transit, bike, walk) for at least some trips. Non-auto modes are most practical in compact, mixed-use communities.
- Quality Design in terms of aesthetic buildings but also in terms of providing attractive, walkable public spaces that create a sense of community.
- Conservation of Natural Resources through less conversion of land to urban use, slower growth of demand for water, and reduction in the amount of per-capita auto travel.

Metropolitan Transportation Plan/Sustainable Communities Strategy

The Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) is a long-range plan for transportation in the region built on the Blueprint. SACOG is required by federal law to update the MTP at least every four years. Since the last MTP, California adopted Senate Bill 375, which requires the inclusion of a Sustainable Communities Strategy in the MTP.

SACOG is a metropolitan planning organization and has no regulatory authority related to land use. Nevertheless, in recognition of the connection between efficient land use and the MTP goals of reduction of trip lengths and mobile source greenhouse gas emission reductions, the MTP/SCS contains a range of policies that reflect support for land use decisions that are consistent with the Blueprint, including:

- Provide information, tools, incentives and encouragement to local governments that have chosen to grow consistent with Blueprint principles;
- SACOG intends to educate and provide information to policymakers, local staff, and the public about the mutually supportive relationship between smart growth development, transportation, and resource conservation; and
- SACOG will encourage local jurisdictions in developing community activity centers well-suited for high quality transit service and complete streets.[2]

The MTP/SCS policies are further reinforced by a range of strategies that direct SACOG to undertake actions that fall within its area of expertise, such as "[s]upport development proposals that are well-suited and located to support high-quality transit use in Transit Priority Areas, through Blueprint analysis."[3]

Sacramento 2030 General Plan

State law requires each city and county to prepare and adopt a comprehensive and long-range general plan for its physical development (California Government Code Section 65300). A comprehensive general plan provides a jurisdiction with a consistent framework for land use decision-making. The general plan has been called the "constitution" for land use development to emphasize its importance to land use decisions. The general plan and its maps, diagrams, and development policies form the basis for the City's zoning, subdivision, and public works actions. Under California law, no specific plan, area plan, community plan, zoning, subdivision map, nor public works project may be approved unless the City finds that it is consistent with the adopted general plan.

The Sacramento 2030 General Plan was adopted March 3, 2009. The 2030 General Plan is a 20-year policy guide for the physical, economic, and environmental growth within the City. The 2030 General Plan's goals, policies, and implementation programs define a roadmap to achieving Sacramento's vision to be the most livable city in America. Underlying the vision and connecting it to the roadmap is a set of six themes that thread throughout the General Plan:

- Making Great Places,
- Growing Smarter,
- Maintaining a Vibrant Economy,

[2] Sacramento Area Council of Governments, 2010. *Draft Regional Growth Projections for the Metropolitan Transportation Plan Update*. March 31, 2010. Chapter 6, Policies and Supportive Strategies, p. 138.

[3] Ibid. Strategy 3.1, p. 138.

- Creating a Healthy City,
- Living Lightly-Reducing Our "Carbon Footprint," and
- Developing a Sustainable Future.

In implementing these themes, the 2030 General Plan includes a land use diagram that establishes land use designations for the entire City, as well as goals, policies, and implementation programs that provide a framework for future decisions intended to reflect the General Plan themes.

The ESC project site is designated Central Business District (CBD) on the City of Sacramento 2030 General Plan Land Use and Urban Form Diagram. The 2030 General Plan envisions the CBD as the most intensely developed part of Sacramento. The CBD includes a mixture of retail, office, governmental, entertainment and visitor-serving uses built on a formal framework of streets and park spaces laid out for the original Sutter Land Grant in the 1840s. The 2030 General Plan calls for the CBD to be a vibrant downtown core with a mixture of retail, office, government, entertainment, and visitor-serving uses that serves "as the business, governmental, retail, and entertainment center for the city and the region." The 2030 General Plan also calls for new residential uses to be built in the CBD with the express intent that expansion of the CBD residential population will extend the hours of activity and augment the market for retail, services, and entertainment in downtown Sacramento.

The 2030 General Plan establishes key elements of urban form, allowed uses, and development standards for each land use designation, including the CBD. Allowed uses in the CBD land use designation include mixed-use high-rise development and single-use or mixed-use development within easy access to transit (i.e., ground floor office/retail beneath residential apartments and condominiums), consisting of offices, retail and service uses, multifamily dwellings (e.g., apartments and condominiums), gathering places (such as plazas, courtyards, or parks), and compatible public, quasi-public, and special uses.

New development in the CBD designation must conform to the following standards:

- Minimum Density: 61.0 Units/Net Acre,
- Maximum Density: 450.0 Units/Net Acre,
- Minimum FAR: 3.00 FAR, and
- Maximum FAR: 15.00 FAR.

The General Plan establishes that development in the CBD must be designed to reflect an urban form that is characterized by:

- A mixture of mid- and high-rise buildings creating a varied and dramatic skyline with unlimited heights;
- Lot coverage generally not exceeding 90 percent;
- Buildings are sited to positively define the public streetscape and public spaces;

- Building façades and entrances directly addressing the street and have a high degree of transparency;
- An interconnected street system providing for traffic and route flexibility;
- Vertical and horizontal integration of residential uses;
- Public parks and open space areas within walking distance of local residents;
- Parking is integrated into buildings or placed in separate structures;
- Minimal or no curb cuts along primary streets;
- Side or rear access to parking and service functions;
- Broad sidewalks appointed with appropriate pedestrian amenities, including sidewalk restaurant/café seating;
- Street design integrating pedestrian, bicycle, transit and vehicular use and incorporates traffic-calming features and on-street parking; and
- Consistent planting of street trees providing shade and enhance character and identity.

The following goals and policies from the 2030 General Plan are applicable to the Proposed Project (Table 3-1):

General Plan Update

In October 2012, the City of Sacramento initiated a five-year update of the Sacramento 2030 General Plan. The 2030 General Plan and Master EIR evaluated projected growth through the year 2030. However, the significant slowdown in development activity since 2006 will require a "dial down" of the housing, employment, and population projections to be consistent with SACOG's Metropolitan Transportation Plan and an extension of the planning horizon to 2035. The completion date of the five year General Plan update is anticipated in 2014. As this five-year General Plan Update won't be completed until after completion of this EIR, potential future General Plan policy revisions do not apply to this project.

Central City Community Plan (CCCP)

The Central City Community Plan (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 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 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 ESC project site is Central Business District (CBD). CCCP policies applicable to the Proposed Project are discussed in Table 3-1.

TABLE 3-1
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design	
Goal LU 1.1 Growth and Change. Support sustainable growth and change through orderly and well-planned development that provides for the needs of existing and future residents and businesses, ensures the effective and equitable provision of public services, and makes efficient use of land and infrastructure.	The Proposed Project would be an infill project that is replacing the under-performing and under-utilized Downtown Plaza development with an entertainment and sports center, and an adjacent mixed use development that would include high-density residential units, along with hotel, retail, restaurant, and office uses. In addition, the project would comply with the City's Climate Action Plan and the ESC would meet LEED Gold standards thereby ensuring an efficient and sustainable use of the site. The project site is adjacent to three Regional Transit light rail lines, bus stops serving several regional transit providers, and within three blocks of the Amtrak depot served by the Capitol Corridor Amtrak service. Consistent with the requirements of SB 743, the Proposed Project would be carbon neutral for automobile trips to the ESC, would meet or exceed SACOG MTP/SCS standards for greenhouse gas emission reduction on a per attendee basis, and would reduce VMT by at least 15% on a per attendee basis for travel to NBA games.
• **LU 1.1.1 Regional Leadership.** The City shall be the regional leader in sustainable development and encourage compact, higher-density development that conserves land resources, protects habitat, supports transit, reduces vehicle trips, improves air quality, conserves energy and water, and diversifies Sacramento's housing stock. (*RDR*)	
• **LU 1.1.4 Leading Infill Growth.** The City shall facilitate infill development through active leadership and the strategic provision of infrastructure and services and supporting land uses. (*MPSP*)	
Goal LU 2.4 City of Distinctive and Memorable Places. Promote community design that produces a distinctive, high-quality built environment whose forms and character reflect Sacramento's unique historic, environmental, and architectural context, and create memorable places that enrich community life.	The 150-foot tall, multi-faceted ESC structure itself would be a distinctive, highly visible, iconic structure that would be accentuated by bright lighting and signage; it would be visible in varying degrees from City gateways at Capitol Mall/3rd Street and J/3rd Streets, as well as along 5th Street, a major north-south corridor. The site design would create unique, distinctive courtyards on the northwest and northeast sides of the ESC building.
• **LU 2.4.1 Unique Sense of Place.** The City shall promote quality site, architectural and landscape design that incorporates those qualities and characteristics that make Sacramento desirable and memorable including: walkable blocks, distinctive parks and open spaces, tree-lined streets, and varied architectural styles. (*RDR*)	The Proposed Project would create plaza areas around the multi-faceted ESC structure. These plaza areas would accentuate a sense of openness around the project and would create opportunities for community activities and events. The project would include sidewalks, pedestrian pathways, functional open spaces, and would include multiple structures with varying architectural styles designed consistent with the Central City Urban Design Guidelines.
• **LU 2.4.2 Responsiveness to Context.** The City shall require building design that respects and responds to the local context, including use of local materials where feasible, responsiveness to Sacramento's climate, and consideration of cultural and historic context of Sacramento's neighborhoods and centers. (*RDR*)	The Proposed Project would utilize modern design standards, techniques, and materials in order to create buildings that would enhance the visual quality of downtown Sacramento. While the use of glass with tinting, metal and/or perforated metal, and precast concrete with stone aggregate in the ESC structure would be distinctive, the buildings developed within the PUD area would be clad in materials that would be reflective of the local architectural style, consistent with the requirements of the Central City Urban Design Guidelines. In addition, the Proposed Project would be consistent with the City's Climate Action Plan and the ESC would achieve LEED Gold certification; these steps would require consideration of building materials and Sacramento's climate, including use of such elements as natural lighting and natural air systems. Also, the proposed ESC and future development in the SPD area would go through design review to ensure that the Central City Urban Design Guidelines would be met.
• **LU 2.4.3 Enhanced City Gateways.** The City shall ensure that public improvements and private development work together to enhance the sense of entry at key gateways to the city. (*JP*)	The proposed ESC would be a 150-foot high, multi-faceted structure that would be lit and signed to be highly visible. Two locations west of the project site are noted as City gateways, the Tower Bridge/Capitol Mall entry immediately east of Interstate 5, and the I-5 and I Street Bridge off-ramps which enter downtown Sacramento at J and 3rd Streets. Because of surrounding buildings, the views of the ESC from these gateways would tend to be glimpses where the ESC structure would rise above the adjacent Macy's West building, as well as views down 5th and 6th Streets from J Street and Capitol Mall.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
• **LU 2.4.4 Iconic Buildings.** The City shall encourage the development of iconic public and private buildings in key locations to create new landmarks and focal features that contribute to the city's structure and identity. (*RDR/MPSP*)	The ESC would be a 150-foot tall, multi-faceted structure. It would be a distinctive, highly visible, iconic building that would be accentuated by bright lighting and signage; it would be visible in varying degrees from City gateways at Capitol Mall/3rd Street and J/3rd Streets. Especially when lit at night, the ESC building would become the focal points from numerous vantage points in the vicinity, including looking south on 5th Street from the Sacramento Valley Station and the 5th Street bridge in the Railyards and looking north on 5th Street when approaching from the south, looking south on 6th Street from the 6th Street bridge in the Railyards, looking west on K Street along the entirety of the K Street Mall. This component of the project would contribute to and enhance Sacramento's identity.
• **LU 2.4.5 Distinctive Urban Skyline.** The City shall encourage the development of a distinctive urban skyline that reflects the vision of Sacramento with a prominent central core that contains the city's tallest buildings, complemented by smaller urban centers with lower-scale mid- and high-rise development. (*RDR/MPSP*)	The project site is located in Sacramento's urban core, and would include multiple multi-story structures that would likely be of sufficient height to enhance Sacramento's skyline. For the purposes of this analysis, it is assumed that the main structures built within the PUD area would range from mid-rise to up to 30 stories in height (approximately 350 feet) over J Street. Because they would be constructed along the J Street corridor, future high-rise structures constructed subject to the proposed PUD would add notable forms in an area of the City skyline that is between the Capitol Mall/L Street corridor and the Federal Courthouse building on I Street. These buildings would be located in the City's CBD consistent with the City's desire to concentrate its tallest buildings downtown.
Goal LU 2.6 City Sustained and Renewed. Promote sustainable development and land use practices in both new development and redevelopment that provide for the transformation of Sacramento into a sustainable urban city while preserving choices (e.g., where to live, work, and recreate) for future generations.	The Proposed Project would be an infill project that would replace the suburban-scale Downtown Plaza shopping mall and office buildings with a mixed-use development that would include an entertainment and sports center, high-density residential units, hotel, retail, restaurant, and office uses. The project site is adjacent to three Regional Transit light rail lines and bus stops serving numerous transit providers from around the region. The accessibility of transit, in combination with the mix of uses in the project and the density of uses in the project vicinity would result in a high degree of trip internalization, which would serve to minimize congestion and the generation of air pollutants and greenhouse gases. In addition, the project would be consistent with the policy framework of the SACOG Sustainable Communities Strategy, the City's Climate Action Plan, and the ESC would be designed to meet LEED Gold standards thereby ensuring an efficient and sustainable use of the site. The LEED Gold design of the ESC would feature increased levels of energy efficiency, water demand reduction, use of on-site renewable energy generation, use of recycled materials in project construction, use of regionally supplied building materials, and recycling of construction waste.
• **LU 2.6.1 Sustainable Development Patterns.** The City shall promote compact development patterns, mixed use, and higher-development intensities that use land efficiently; reduce pollution and automobile dependence and the expenditure of energy and other resources; and facilitate walking, bicycling, and transit use. (*RDR*)	The Proposed Project would be an infill project that is replacing the suburban-scale, medium density Downtown Plaza with a dense, mixed use development that would include an entertainment and sports center, high-density residential units, retail, hotel, restaurant, and office uses. In addition, the project would be consistent with the City's Climate Action Plan, and the ESC would meet LEED Gold standards, thereby ensuring an efficient and sustainable use of the site. The relevant characteristics of the project site which facilitate sustainable development patterns involve its location in a downtown, infill location, redevelopment of an existing built property, the density of the site and connectivity to the adjacent community, and accessibility to public transportation. The project site is adjacent to three Regional Transit light rail lines and bus stops serving several transit providers (see the discussion of the project's consistency with Goal LU 1.1 above for more detail). See also discussion under Goal LU 2.6, above.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
• **LU 2.6.2 Redevelopment and Revitalization Strategies.** The City shall employ a range of strategies to promote revitalization of distressed, under-utilized, and/or transitioning areas, including: - Targeted public investments. - Development incentives. - Redevelopment assistance. - Public-private partnerships. - Revised development regulations and entitlement procedures. - Implementation of City- or SHRA-sponsored studies and master plans. (*MPSP/RDR/FB/JP*)	The Proposed Project would represent a public-private partnership tentatively articulated in the non-binding preliminary term sheet which outlines the potential for substantial investment of private and City funds. As proposed, the proposed ESC would be funded jointly by public and private investment, with private responsibility for design and predevelopment costs as well as cost overruns, and long term management and operation of the facility, which would be owned by the City of Sacramento. Through adoption of the proposed PUD, SPD, CUP, Sign Ordinance amendments, and other tools, development regulations and procedures have been customized to achieve the City's desired outcomes for redevelopment of the Downtown Plaza property and long-term stability of the Sacramento Kings NBA franchise.
• **LU 2.6.3 Sustainable Building Practices.** The City shall promote and, where appropriate, require sustainable building practices that incorporate a "whole system" approach to designing and constructing buildings that consume less energy, water and other resources, facilitate natural ventilation, use daylight effectively, and are healthy, safe, comfortable, and durable. (*RDR/IGC*)	The proposed ESC would meet LEED Gold standards thereby ensuring an efficient and sustainable use of the site. The following are targets that the applicant has established to be met through project design: • 15% better than Title 24 energy reduction; • 25% better than CalGreen Baseline; • Up to 1% use of on-site generated renewable energy; • 10% use of recycled content in building materials; • 10% use of regionally supplied building materials; and • 75% recycling of construction waste.
• **LU 2.7.4 Public Safety and Community Design.** The City shall promote design of neighborhoods, centers, streets, and public spaces that enhances public safety and discourages crime by providing street-fronting uses ("eyes on the street"), adequate lighting and sight lines, and features that cultivate a sense of community ownership (*RDR*)	The Proposed Project would maintain City sidewalks along 3rd Street, J Street, 7th Street, and L Street. The sidewalks along 5th Street between L and K would be expanded to a minimum width of 40 feet, and a pedestrian entry corridor from J Street to the entry plaza between 5th and 6th Street would provide at least 30 feet of width. The sidewalk on L Street would be maintained with a minimum width of 15 feet. On the project boundaries on 5th Street, the south side of J Street, and the west side of 7th Street, the Central City Urban Design Guidelines would establish a minimum of 16-foot sidewalks and pedestrian spaces, as well as use of sidewalk paving materials that would create a distinctive identity, reduce heat island effects, and provide stormwater management. The public access easement along the historic K Street right of way would be abandoned through the ESC project site. New public access easements would be established to ensure that there is public access to the ESC plaza as well as access from 5th and J Streets, 5th and L Streets, 7th and K Streets, 6th and J Streets, and across the 5th Street overpass to 4th Street and Old Sacramento. The Proposed Project would create additional outdoor spaces for public gatherings that would serve as the "front door" to the ESC. The Sacramento Police Department would also be responsible for traffic management during events at the ESC. This would include physically managing traffic routes in order to funnel traffic onto specific streets and/or toward appropriate exit locations. Pedestrian traffic would be directed to 5th Street, then south across L Street during events and L Street may be closed from 8th Street to 5th Street following large events. Seventh Street may be closed between J and L Streets after large events. Crowd control barricades would be set up in order to ensure safe pedestrian use of 7th Street intermingled with active RT light rail trains along 7th and K Streets. In the event that emergency responders need access to the ESC or immediately surrounding areas, the SPD would stop and redirect traffic and pedestrian movement as necessary in order to allow emergency vehicles where they are needed. The Proposed Project would also include nighttime safety lighting consistent with Policy LU 2.7.4.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
Goal LU 4.4 Urban Neighborhoods. Promote vibrant, high-density, mixed-use urban neighborhoods with convenient access to employment, shopping, entertainment, transit, civic uses (e.g., school, park, place of assembly, library, or community center), and community-supportive facilities and services.	The Proposed Project would create a mixed-use urban neighborhood in downtown Sacramento that would include high-density residential towers with up to 550 residential units, complementing and potentially in mixed-use buildings containing retail, restaurant, cinema, office or other related uses. Adjacency to an entertainment and sports center and other smaller venues within the development would make the neighborhood vibrant and exciting on a year-round basis. The project site is in proximity to parks (Capitol Park), the downtown library, commercial uses and other support facilities in the downtown area. The project site is adjacent to three Regional Transit light rail lines, bus stops serving several transit providers, and is within 800 feet of the Sacramento Valley Station.
• **LU 4.4.1 Well-Defined Street Fronts.** The City shall require that new buildings in urban neighborhoods maintain a consistent setback from the public right-of-way in order to create a well-defined public sidewalk and street. (*RDR*)	The Proposed Project would maintain City sidewalks along J Street, 7th Street, and L Street. Through the creation of public plazas, the Proposed Project would create additional outdoor spaces for public gatherings and to serve as the "front door" to the ESC. Although the ESC structure would sit on its site at an angle to the street, the mixed use buildings that would be constructed along the north edge of the entry plaza would combine with the wide pedestrian entries to define a grid-like block that would create a street-wall along the project's L and 5th Street frontages. Expanded sidewalks would enhance and clearly define the street fronts surrounding the project site. Future development consistent with the proposed PUD would increase the height of the building base and streetwall on the project site to 85 feet to create consistency with the height of the ESC, reflective of the Central City Urban Design Guidelines direction for consistency in streetwall height along City blocks.
• **LU 4.4.2 Building Orientation.** The City shall require that building facades and entrances directly face the adjoining street frontage and include a high proportion of transparent windows facing the street in buildings with nonresidential uses at street level. (*RDR*)	The Proposed ESC would include a number of active building entrances along L Street, including an administrative lobby entrance, a team retail store, and ESC entries for employees, media, Paratransit, and VIPs. Development within the SPD area would conform with the façade transparency requirements of the Central City Urban Design Guidelines.
• **LU 4.4.3 Building Design.** The City shall encourage sensitive design and site planning in urban neighborhoods that mitigates the scale of larger buildings through careful use of building massing, setbacks, facade articulation, fenestration, varied parapets and roof planes, and pedestrian-scaled architectural details. (*RDR*)	The proposed ESC building would have active uses that would create a pedestrian scale along the sidewalk on L Street. Further, the indoor/outdoor design of the main entrance would tend to enhance the pedestrian scale and downplay the monumental nature of ESC. The ESC would be clad in multi-faceted panels mainly of metal, glass, precast concrete, and stone. The main public entrances would be fully glazed multistory spaces oriented to the central pedestrian spine of the entry plaza and would allow views from outside in, and from all levels inside the venue to the outside. The mixed use buildings that would border the northern edge of the entry plaza would create a pedestrian scale street-wall that would provide a visual break to the height and scale of adjacent building structures. As noted elsewhere, the future mixed use buildings constructed pursuant in the proposed SPD would conform to the Central City Urban Design Guidelines, which promote design features to accentuate the pedestrian environment created by new buildings in downtown Sacramento.
• **LU 4.4.4 Ample Public Realm.** The City shall require that higher density urban neighborhoods include small public spaces and have broad tree-lined sidewalks furnished with appropriate pedestrian amenities that provide comfortable and attractive settings to accommodate high levels of pedestrian activity. (*RDR*)	The Proposed Project would maintain and enhance City sidewalks along J Street, 7th Street, and L Street. In the center of the ESC site, the Proposed Project would create a major plaza that would serve as the "front door" to, and facilitate safe and enjoyable pedestrian flow around, the ESC and adjacent retail, restaurant, cinema, fitness, and other uses. The public spaces would be appointed with pedestrian amenities, public art, and other features.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
• **LU 4.4.5 Parking and Service Access and Design.** The City shall require that, to the degree feasible, parking and service areas in urban neighborhoods be accessed from alleys or side streets to minimize their visibility from streets and public spaces. Curb cuts for driveways should not be allowed along the primary street frontage. (*RDR*)	The project would replace 3,700 on-site parking spaces with up to 3,418 off-street, below- and above-grade parking spaces to serve event attendees, residents, and workers. Parking access would remain largely unchanged from the existing conditions, with ingress/egress from J, L, 3rd and 7th Streets. Loading ingress to the ESC would be from L Street mid-block between 6th and 5th Streets; however the project would eliminate loading egress from L Street and relocate the loading egress to 5th Street where it would be less disruptive to L Street sidewalk pedestrian use. It is anticipated that loading and service delivery access for buildings in the PUD area would remain largely unchanged from current conditions, with access points on 4th Street, 6th Street, and the alley between the 660 J Street building and the Ramona Hotel building.
• **LU 4.4.6 Mix of Uses.** The City shall encourage the vertical and horizontal integration of a complementary mix of commercial, service and other nonresidential uses that address the needs of families and other household types living in urban neighborhoods. Such uses may include daycare and school facilities, retail and services, and parks, plazas, and open spaces. (*RDR*)	The proposed SPD would allow for the development of mixed-use buildings that could include high-density residential, hotel, retail, and office uses. The project would include plazas, sidewalks, pedestrian pathways, functional open space, and would include multiple structures with varying architectural styles designed to be consistent with the Central City Urban Design Guidelines. As appropriate and required for the proposed uses, future buildings may include private open spaces, common areas, and internal retail and personal or business services. It is possible that residential structures could include childcare or educational uses.
Goal LU 5.1 Centers. Promote the development throughout the city of distinct, well designed mixed-use centers that are efficiently served by transit, provide higher-density, urban housing opportunities and serve as centers of civic, cultural, and economic life for Sacramento's neighborhoods and the region.	The Proposed Project would create a mixed-use center in downtown Sacramento's central business district, oriented around a new regional entertainment and sports center, and including high-density residential units, hotel, retail, and office uses. These uses would be within walking distance to the State Capitol, numerous State agencies, the County government center, and City Hall. Further, it would be within walking distance to the Crocker Art Museum, the Sacramento Convention Center, the Sacramento Community Theater, the Music Circus, Raley Field in West Sacramento, and Old Sacramento, including the State Railroad Museum. Once developed, uses within the Proposed Project would be within walking distance to the Sacramento Railyards development including the cultural uses that are expected to be constructed in the reused Central Shops, including the State Museum of Railroad Technology.
• **LU 5.1.1 Diverse Centers.** The City shall encourage development of local, citywide, and regional mixed-use centers that address different community needs and market sectors, and complement and are well integrated with the surrounding neighborhoods. (*RDR*)	The Proposed Project would provide for the development of high-rise housing, a type of housing that is of limited availability in the region. The Proposed Project would be developed so as to complement surrounding uses, including the many high-rise offices, cultural, retail/restaurant, and other uses in the neighborhood. The integration with adjacent uses would be reflected in relatively low levels of new vehicular trip generation, high levels of pedestrian travel, and other such factors.
• **LU 5.1.2 Centers Served by Transit.** The City shall promote the development of commercial mixed-use centers that are located on existing or planned transit stops in order to facilitate and take advantage of transit service, reduce vehicle trips, and enhance community access. (*RDR*)	The project site is served by all three existing RT light rail lines, and would be served by the RT Downtown-Natomas-Airport (Green) line once completed. Further, with six adjacent bus stops, the site is served by buses operated by Sacramento Regional Transit, Yolobus, Placer County Transit, Roseville Transit, Elk Grove e-tran, El Dorado Transit and others.
• **LU 5.1.3 Cultural and Entertainment Centers.** The City shall actively support the development of cultural, education, and entertainment facilities and events in the city's centers to attract visitors and establish a unique identity for Sacramento. (*MPSP/IGC/JP*)	The Proposed Project would include an entertainment and sports center that would be an regionally-unique venue located in downtown Sacramento. This would be a state-of-the-art facility that would add to the City's cultural identity and would provide the City with a regional center for concerts, conventions, sporting events, family shows, graduations, and other gathering occasions that would attract visitors from around and outside the Sacramento area.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
• **LU 5.1.4 Major Retail and Office Development.** The City shall work with developers to develop major regional commercial and office projects in centers throughout the city that provide shopping and jobs for all city residents. (*RDR*/*JP*)	The Proposed Project would include up to 350,000 sf of retail/commercial space and 475,000 sf of office space. These uses would provide the City with additional shopping and job opportunities for City residents. More specifically, if all of the allowed space is developed, it is expected that retail employment on the project site would rise from an average of approximately 784 over the past decade to over 1,000 with the new development, and office employment would increase from an average of approximately 556 over the past decade to over 2,150 with the Proposed Project. In addition, the Proposed Project would add approximately 250 hotel employees and about 10 employees for the residential buildings. Total employment on the site would increase by approximately 2,100 employees, excluding the permanent and temporary event employment for the ESC.
LU 5.1.5 Vertical and Horizontal Mixed-Use. The City shall encourage and, where feasible, require the vertical and horizontal integration of uses within commercial centers and mixed-use centers, particularly residential and office uses over ground floor retail. (*RDR*)	The Proposed Project would include a number of buildings that could include a mix of retail/commercial/ cinema/fitness uses on the first floor and office, hotel, and residential uses on the upper floors. These mixed-use buildings would be vertically and horizontally integrated, and would allow residents and workers to take advantage of the variety of land uses contained on-site and elsewhere in the CBD.
Goal LU 5.5 Urban Centers. Promote the development of high-density urban centers that are readily accessible by transit and contain a dynamic mix of retail, employment, cultural, and residential uses.	The Proposed Project would create a mixed-use center in downtown Sacramento's central business district, oriented around a new regional entertainment and sports center, and including high-density residential units, hotel, retail, and office uses. The proposed development would be consistent with the type and density of uses that are called for in the Central Business District land use designation on the 2030 General Plan Land Use & Urban Form Diagram. These uses would be in close proximity to three Regional Transit light rail lines, bus stops serving several regional transit providers, and within three blocks of the Amtrak depot served by the Capitol Corridor Amtrak service. Please also see discussions of Policy LU 2.7.4, Goal LU 4.4, Goal LU 5.1, and Policy LU 5.1.2, above.
• **LU 5.5.1 Urban Centers.** The City shall promote the development of a series of urban centers, as designated in the Land Use & Urban Form Diagram, that create significant opportunities for employment, housing, and commercial activity in areas outside of the Central Business District (CBD). (*RDR*)	
• **LU 5.5.2 Transit-Oriented Development.** The City shall actively support and facilitate mixed-use retail, employment, and residential development around existing and future transit stations (*RDR*)	
Goal LU 5.6 Central Business District. Promote the Central Business District (CBD) as the regional center of the greater Sacramento area for commerce, culture, and government.	The Proposed Project would include an entertainment and sports center in the CBD that would add to the City's cultural identity and would provide the City with a regional center for concerts, conventions, sporting events and other gathering occasions that would attract visitors from outside the Sacramento area. Please also see discussions of Goal LU 5.1 and Policy LU 5.1.3, above.
• **LU 5.6.1 Downtown Center Development.** The City shall encourage development that expands the role of the CBD as the regional center for commerce, arts, culture, entertainment, and government. (*RDR*)	
• **LU 5.6.2 Family-Friendly Downtown.** The City shall promote the CBD as a family-friendly area by requiring the development of a variety of housing types, daycare and school facilities, family-oriented services, and parks, plazas, and open spaces that will safely and comfortably accommodate those who wish to raise a family. (*RDR*)	The proposed SPD would allow for the development of mixed-use buildings that could include high-density residential, hotel, retail, and office uses. The project would include sidewalks, pedestrian pathways, plazas, and would include multiple structures with varying architectural styles consistent with the requirements of the Central City Urban Design Guidelines. As appropriate, each structure may include private open spaces, common areas, internal retail and personal or business services. It is possible that residential structures could include childcare or educational uses. Please also see discussion of Policies LU 2.7.4, LU 4.4.4, and LU 4.4.6.
• **LU 5.6.3 Mixed-Use Downtown Development.** The City shall support a mixed use, vibrant Central Business District by encouraging innovative mixed-use development resulting in development consistent with Sacramento's commitment to environmental sustainability. (*RDR*)	The Proposed Project would be vertically and horizontally integrated mixed-use development that would include an entertainment and sports center, high-density residential units, hotel, retail, and office uses. In addition, the Proposed Project would comply with the City's Climate Action Plan and the Proposed ESC would meet LEED Gold standards thereby ensuring an efficient and sustainable use of the site. Please also see discussion of Goal LU 2.6, Policy LU 2.6.1, and Policy LU 2.6.3.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design (cont.)	
• **LU 5.6.4 Building Height Transitions.** The City shall maintain height standards for the CBD and adjoining transition areas consistent with the General Plan vision for a higher-density Central City and sensitive transitions to surrounding neighborhoods. (*RDR*)	The Proposed Project would include several multi-story buildings in the CBD that would increase density in the Central City and contribute to the City's skyline. There are no specific height limits in the CBD. The ESC would rise to approximately 150 feet in height over L Street, essentially doubling the height of the existing buildings on the project site. Although specific project designs are not currently proposed for the PUD area, it is anticipated that future buildings would range in height from mid-rise to as many as 30 stories, or approximately 350 feet. Please also see the discussion of building height and visibility in Chapter 4.1, Aesthetics, Light and Glare.
• **LU 5.6.5 Capital View Protection.** The City shall ensure development conforms to the Capital View Protection Act. (*RDR/IGC*)	The project site is outside the Capitol View Protection corridor, which extends west on L Street only as far as the east side of 7th Street. It is expected that only small glimpses of the proposed ESC or development in the PUD area would be visible over existing buildings from the northwest corner of Capitol Park (9th and L Streets) due to its distance from the project site, and because it is obscured by existing buildings, signs, and trees. Depending on their ultimate height and location within the project site, very tall buildings constructed in the PUD area may be visible from Capitol Park or from the open space in front of the State Library and Courts buildings between 9th and 10th Streets. The ESC building would not be visible from these locations or the State Capitol. Please also see the discussion of view effects in Chapter 4.1, Aesthetics, Light and Glare.
• **LU 5.6.6 Central City Redevelopment Projects.** The City shall work with the Sacramento Housing and Redevelopment Agency (SHRA), the Capitol Area Development Authority (CADA), and private developers to ensure that redevelopment plans adopted for redevelopment areas surrounding the CBD (e.g., Railyards, River District, Docks Area, R Street) respect and respond to the urban patterns—streets, blocks, building heights, massing—and character established in the CBD, and do not undermine the physical centrality, visual primacy, or land use composition of the CBD. (*IGC/JP*)	The Proposed Project would not be a project subject to redevelopment law since redevelopment agencies have been disbanded in California. However, as noted above, the Proposed Project would be designed to respect and reflect the existing urban pattern. Except as otherwise noted in Chapter 2, Project Description, the proposed ESC and development within the PUD area would be subject to and would conform with all City design standards, including those contained in the General Plan, Central City Community Plan, Central City Urban Design Guidelines, and Planning and Development Code.
• **LU 5.6.7 Cultural Facilities Central City.** The City shall continue to support the existing cultural facilities in the Central City and encourage the development of additional facilities that promote the city as the regional and historic center for meeting and gathering. (*IGC/JP*)	The Proposed Project would include an entertainment and sports center that would be an important and iconic structure in downtown Sacramento. This would be a state-of-the-art regional facility that would add to the City's cultural identity and would provide the City with a regional center for concerts, conventions, sporting events, family shows, graduations, and other gathering occasions that would attract visitors from outside the Sacramento area.
• **LU 8.1.5 LEED Standard for City-Owned Buildings.** The City shall ensure that all new or renovated City-owned buildings are energy efficient and meet, at a minimum, LEED (Leadership in Energy and Environmental Design) Silver or equivalent standard. (*RDR/SO*)	The proposed ESC would be owned by the City and would meet LEED Gold standards thereby ensuring an efficient and sustainable use of the site, and exceeding the requirements of LEED Silver in this policy. It is expected that the project would achieve the following goals: • 15% better than Title 24 energy reduction; • 25% better than CalGreen Baseline; • Up to 1% use of on-site generated renewable energy; • 10% use of recycled content in building materials; • 10% use of regionally supplied building materials; and • 75% recycling of construction waste.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Economic Development	
Goal ED 3.1 Land, Sites, and Opportunities. Provide opportunities for expansion and development of businesses by ensuring availability of suitable sites, appropriate zoning, and access to infrastructure and amenities.	The Proposed Project would increase the amount and diversity of developed space on the project site. Excluding the proposed ESC, the Proposed Project would increase the built space within the project site by approximately 600,000 sf. The site would change from one developed exclusively for retail and office uses, to one that provides space for a wider range of uses including retail, restaurant, office, and hotel businesses, and residential units. By adding a mixed use development to Sacramento's Central Business District, the Proposed Project would increase opportunities for the expansion of existing businesses as well as opportunities for new businesses.
• **ED 3.1.7 Infrastructure and Public Facilities.** The City shall continue to identify, construct, and maintain infrastructure systems and facilities required to promote and sustain a positive economic climate. *(MPSP/SO)*	The Proposed Project would rely upon City and other related infrastructure systems, including roads, water, sewer, drainage, energy, and telecommunications. As described in several chapters of this EIR, the Proposed Project would contribute to continued maintenance and enhancement of these systems through payment of connection and mitigation fees, including fees that would be used to expand the capacity of the City's Combined Sewer System, Regional Transit's proposed new Streetcar, the City's water treatment and conveyance system, and others.
• **ED 4.1.3 Public/Private Partnerships.** The City shall support and encourage public/private partnerships and other efforts to implement the key development projects that meet the City's revitalization and redevelopment goals. (*IGC/JP*)	The Proposed Project would be a public-private partnership intended to replace the aged, inefficient, auto-oriented, suburban Sleep Train Arena with a new, LEED Gold, downtown entertainment and sports center, and, in doing so, to further advance the City's long-term efforts to revitalize and enhance the City's downtown core.
Education, Recreation, and Culture	
Goal ERC 4.1 Diversity of Arts and Cultural Facilities and Programs. Provide a diversity of first-class arts and cultural facilities and programs for people of all ages to improve knowledge of Sacramento's history, enhance quality of life, and enrich community culture.	The Proposed Project would include an entertainment and sports center that would be a state-of-the-art facility that would add to the City's cultural identity and would provide the City with a regional center for concerts, conventions, sporting events, family shows, graduations, and other gathering occasions that would attract visitors from around and outside the Sacramento area. Please also see discussion of Goal LU 5.1, above.
• **ERC 4.1.1 Sacramento as the Region's Cultural Center.** The City shall partner with universities and educational institutions, libraries, arts and cultural organizations and facilities, and creative individuals and supporters to strengthen the region's network of cultural resources. (*IGC/JP*)	The ESC would provide the City a venue that could create opportunities to partner with universities, educational institutions, libraries, and other cultural organizations in order to bring additional cultural events and attractions to Sacramento. It is expected that the ESC would continue to accommodate graduations for local universities and high schools, could serve as a venue for high school and intercollegiate athletic events, would attract musical acts and other performances, and in other similar ways expand the range of cultural resources available to the residents of Sacramento and the region.
• **ERC 4.1.4 Downtown Venues for the Region.** The City shall explore opportunities to work with other jurisdictions in the region to support the development and expansion of regional performing arts venues in downtown Sacramento. (*IGC*)	In addition to athletic events, the proposed ESC would be a venue for large-scale performing arts and musical acts, and would provide the City an opportunity to work with other jurisdictions in the region to develop and expand performing arts in downtown Sacramento.
• **ERC 4.1.9 Citywide Expansion of Resources.** The City shall encourage and support expansion of art and cultural events, festivals, activities, and performances throughout the city. (*SO/IGC/JP*)	As noted above and in Chapter 2, Project Description, the proposed ESC would provide the City with a regional center for concerts, sporting events, family shows, and other cultural events. In conjunction with the Sacramento Convention Center, the ESC could be a venue for large conventions and conferences, expanding the potential for Sacramento to attract large events.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Education, Recreation, and Culture (cont.)	
Goal ERC 5.1 Major Destination Attractions. Maintain and strengthen Sacramento's traditional role as the regional center for major destination attractions.	The proposed ESC would be an important destination attraction for downtown Sacramento and the Sacramento region. It would be a new facility that would provide the City with a state-of-the-art regional center for concerts, conventions, sporting events, family shows, ice shows, and other gathering occasions that would attract visitors from outside the Sacramento area.
• **ERC 5.1.1 Development and Expansion of Attractions.** The City shall support the development and expansion of world-class destination attractions throughout Sacramento including museums, zoos, and the Sacramento River and American River waterfronts. (*RDR*)	
Central City Community Plan Policies	
Land Use and Urban Design	
CC.LU 1.3 Interrelated Land Uses. The City shall provide for organized development of the Central City whereby the many interrelated land use components of the area support and reinforce each other and the vitality of the community. (*RDR/MPSP*)	The Proposed Project would be a mixed-use development in the downtown area of the Central City that would include a variety of interrelated land uses that would serve to benefit and enhance living, working, and shopping opportunities in the Central City. The residential, hotel, and retail/restaurant uses developed in the PUD area would be expected to support and be supported by the ongoing activities at the ESC. Similarly, it is expected that uses developed in the Proposed Project would integrate synergistically with surrounding uses in the project vicinity, including the thousands of office, retail, and government workers employed within walking distance to the project site, the transportation uses around the CBD, and other entertainment, cultural, and event venues within the CBD.
CC.LU 1.5 Office Development. The City shall provide the opportunity for office development in appropriate areas of the Central City, placing emphasis for development in and around the Central Business District. (*MPSP*)	Consistent with policies CC.LU 1.5 and CC.LU 1.6, the Proposed Project would include up to 475,000 sf of office space in the CBD area of downtown Sacramento, an expansion of nearly 200,000 sf over the existing amount of office space on the project site.
CC.LU 1.6 Office Development. The City shall encourage public and private office development, where compatible with the adjacent land uses and circulation system, in the Central Business District, Southern Pacific Railyards, and Richards Boulevard area. (*MPSP*/*JP*)	
CC.LU 1.7 Central Business District. The City shall improve the physical and social conditions, urban aesthetics, and general safety of the Central Business District. (*MPSP*)	With the exception of the Macy's West building, the theater and fitness space, other retail space in the Downtown Plaza development has experienced a steady decline in occupancy from over 90% occupied in 2004 to approximately 50% occupied in 2013. The office space in Downtown Plaza has experienced an average occupancy of approximately 50% during that same period, with occupancy dropping to approximately 35% in 2012. The physical condition of the Downtown Plaza buildings has incrementally deteriorated over recent years due largely to lack of maintenance and upkeep. By replacing an outdated and underutilized space, the Proposed Project would improve the physical and aesthetic conditions of the project site and the west end of the CBD.
Housing	
CC.H 1.1 Mixed-Use Buildings. The City shall provide the opportunity for mixture of housing with other uses in the same building or on the same site at selected locations to capitalize on the advantages of close-in living. (*RDR/MSPS*)	The Proposed Project would provide for vertically and horizontally mixed-use buildings that could include retail/commercial uses on the first floor and office, hotel, and residential uses on the upper floors. These mixed-use buildings would allow residents and workers to utilize and take advantage of the variety of land uses contained within the CBD. Please also see discussion of General Plan Policy LU 5.1.5, above.

TABLE 3-1 (Continued)
SACRAMENTO ENTERTAINMENT AND SPORTS CENTER & RELATED DEVELOPMENT
CITY OF SACRAMENTO 2030 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Central City Community Plan Policies (cont.)	
Historic and Cultural Resources	
CC.HCR 1.1 Preservation. The City shall support programs for the preservation of historically and architecturally significant structures which are important to the unique character of the Central City.	The Proposed Project would attract additional people to the downtown area where they would be able to see and appreciate many of the historical buildings that are in the vicinity. By reconfiguring and opening up the physical space on the project site, thousands of people would have the opportunity to see City landmark structures that are adjacent to the project, including the California Fruit Building, the Traveler's Hotel building, the Ramona Hotel building, and the Hotel Marshall, along with the nearby buildings that are part of the Merchant Street Historic District and the nearby Old Sacramento State Historic Park and National Historic Landmark District. As is addressed in detail in Chapter 4.4, Cultural Resources, the existing Downtown Plaza buildings that would be demolished are not historically or architecturally significant.
Mobility	
CC.M 1.2 Adequate Parking. The City shall provide adequate offstreet parking to meet the needs of shoppers, visitors, and residents.	The Proposed Project would include up to 3,418 off-street parking spaces to serve event attendees, residents, and workers, a reduction of at least 282 spaces compared to the existing 3,700 spaces currently on the project site. It is anticipated that employees, patrons, residents, and event attendees would use on-site parking in combination with nearby off-site parking resources. Studies documented in Chapter 4.10, Transportation, reflect that on weekday evenings there are approximately 7,500 available off-street parking spaces within a one-quarter mile radius of the proposed ESC, and approximately 13,500 available off-street parking spaces within a one-half mile radius of the site. Based on studies of parking occupancy, there would be more than enough parking in the project vicinity to support all anticipated events and uses at the project site.
CC.M 1.7 Increased Frequency for Transit. The City shall encourage increased frequency and scheduling reliability of local transit routes within the Central City area, including signal pre-emption in all major transit corridors.	The project site is immediately adjacent to all of Regional Transit light rail lines, six bus stops serving several regional transit providers, and within three blocks of the Sacramento Valley Station Amtrak depot served by the Capitol Corridor service. It is anticipated that the frequency of local transit options would increase as local transit providers seek to provide service to the daytime and evening employees, residents and visitors to the Proposed Project. The Proposed Project would include the temporary, and possible permanent, relocation of two bus stops that are currently located on the project frontage on L Street to alternate locations within one block of the current bus stop location.

Planning and Development Code – C-3 (Central Business District) Zone

The City of Sacramento's Planning and Development Code (Sacramento City Code Title 17) is intended "[t]o implement the city's general plan through the adoption and administration of zoning laws, ordinances, rules, and regulations (§17.100.010(B)). To achieve this outcome the Planning and Development Code:

- regulates the use of land, buildings, or other structures;
- 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
- regulates the physical characteristics of buildings, structures, and site development, including the location, height, and size of buildings and structures; yards, courts, and other open spaces ; lot coverage; land use intensity through regulation of residential density and floor area ratios; and architectural and site design.

The ESC project site is zoned C-3 (Central Business District Zone) which is addressed in chapter 17.216.800 through 17.216.880 of the Planning and Development Code. The Central Business District zone applies to an approximately seventy (70) block portion of the Central City. The CBD zone is intended for the City's most intense retail, commercial, office developments and is the City's only classification which has no height limit.

This designation provides for by-right mixed-use high-rise development and single-use or mixed-use development within easy access to transit (i.e., ground floor office/retail beneath residential apartments and condominiums) that includes the following:

- Office, retail, restaurant, service, cinema, fitness, hotel, and uses
- Multifamily dwellings (e.g., apartments and condominiums)
- Gathering places such as plazas, courtyards, or parks
- Compatible public, quasi-public, and special uses.

Multi-family residential uses are allowed as permitted uses subject to certain operational requirements established in chapter 17.228.117 of the Planning and Development Code.

There are also a number of land uses that are allowed as conditional uses pursuant to approval by the Planning and Design Commission or the Zoning Administrator. Such conditionally allowed uses in the CBD zone include, but are not limited to, sports complexes, retail stores over 125,000 sf, bars and nightclubs, and outdoor markets.

The CBD zone includes a requirement for ground-floor retail uses which is intended to "preserve, enhance, and ensure establishment of retail commercial, personal service, and pedestrian-oriented uses for the street level of buildings that abut a public street." More specifically, within the project site, 75% of the ground floors must be qualifying retail uses on the south side of J Street between

5th and 7th Streets, on the east side of 5th Street between J and L Streets, on the west side of 5th Street between L and K Streets, and on the east side of 4th Street between L and K Streets. On all other block faces within the project site, a minimum of 50% of ground floors must be qualifying retail uses. Pedestrian-oriented uses that qualify to meet the ground-floor retail requirement include: retail stores, restaurants, bars and nightclubs, indoor athletic clubs and fitness studios, cinemas, commercial services, museums, amusement centers, and theaters. A conditional use permit is required to deviate from the CBD zone ground-floor retail requirements.

Offsite Digital Billboards

Federal

There are no specific federal regulations pertaining to land use consistency or compatibility that would be applicable to the digital billboard portion of the Proposed Project.

State

The California Department of Transportation (Caltrans) is involved in the control of "off-premise" displays along state highways. Such displays advertise products or services of businesses located on property other than the display. Caltrans does not regulate on-premise displays.

Some freeways are classified as "landscaped freeways." A landscaped freeway is defined as one that is now, or may in the future be, improved by the planting of lawns, trees, shrubs, flowers or other ornamental vegetation requiring reasonable maintenance on one or both sides of the freeway (Government Code Section 5216). Off-premise displays are not allowed along landscaped freeways except when approved as part of relocation agreements.

The Federal Highway Administration has entered into written agreements with various states as part of the implementation of the Highway Beautification Act. California has entered into two such agreements: one dated May 29, 1965, and a subsequent agreement dated February 15, 1968. The agreements generally provide that the State will control the construction of all outdoor advertising signs, displays and devices within 660 feet of the interstate highway right-of-way. The agreements provide that such signs shall be erected only in commercial or industrial zones, and are subject to the following restrictions:

- No signs shall imitate or resemble any official traffic sign, signal or device, nor shall signs obstruct or interfere with official signs;
- No signs shall be erected on rocks or other natural features;
- Signs shall be no larger than 25 feet in height and 60 feet in width, excluding border, trim and supports;
- Signs on the same side of the freeway must be separated by at least 500 feet; and
- Signs shall not include flashing, intermittent or moving lights, and shall not emit light that could obstruct or impair the vision of any driver.

California regulates outdoor advertising in the Outdoor Advertising Act (Business and Professions Code, Sections 5200 et seq.) and the California Code of Regulations, Title 4, Division 6 (Sections 2240 et seq.) Caltrans enforces the law and regulations. Caltrans requires applicants for new outdoor lighting to demonstrate that the owner of the parcel consents to the placement sign, that the parcel on which the sign would be located is zoned commercial or industrial, and that local building permits are obtained and complied with. A digital billboard is identified as a "message center" in the statute, which is an advertising display where the message is changed more than once every two minutes, but no more than once every four seconds (Business and Professions Code, Section 5216.4).

The Act prohibits signage along landscaped freeways (§5440). The City has designated all freeways within the City as landscaped freeways (City Code §15.148.840). Caltrans has interpreted these provisions as allowing new billboards along such freeway segments if a relocation agreement has been approved pursuant to §5412 of the Outdoor Advertising Act. The Outdoor Advertising Act contains a number of provisions relating to the construction and operation of billboards:

- The sign must be constructed to withstand a wind pressure of 20 pounds per square feet of exposed surface (Section 5401);
- No sign shall display any statements or words of an obscene, indecent or immoral character (Section 5402);
- No sign shall display flashing, intermittent or moving light or lights (Section 5403(h));
- Signs are restricted from areas within 300 feet of an intersection of highways or of highway and railroad right-of-ways, but a sign may be located at the point of interception, as long as a clear view is allowed for 300 feet, and no sign shall be installed that would prevent a traveler from obtaining a clear view of approaching vehicles for a distance of 500 feet along the highway (Section 5404); and
- Message center signs may not include any illumination or message change that is in motion or appears to be in motion or that change or expose a message for less than four seconds. No message center sign may be located within 500 feet of an existing billboard, or 1,000 feet of another message center display, on the same side of the highway (Section 5405).

Additional restrictions on outdoor signage are found in the California Vehicle Code, Section 21466.5 prohibits the placing of any light source "…of any color of such brilliance as to impair the vision of drivers upon the highway." Specific standards for measuring light sources are provided. The restrictions may be enforced by Caltrans, the California Highway Patrol or local authorities.

Local

The 2030 General Plan land use designations, and Planning and Development Code zoning classifications of the ten potential Offsite Digital Billboard sites are described in Chapter 2, Project Description, and summarized below (Table 3-2).

TABLE 3-2
OFFSITE DIGITAL BILLBOARDS
CITY OF SACRAMENTO 2030 GENERAL PLAN—GOALS AND POLICIES

Applicable 2030 General Plan Goal/Policy	Discussion
Land Use and Urban Design	
LU 2.4.3 Enhanced City Gateways. The City shall ensure that public improvements and private development work together to enhance the sense of entry at key gateways to the city. (*JP*)	The proposed offsite digital billboards that could be located at the I-5 at Water Tower and I-5 at Bayou Road sites would accentuate the sense of these locations as gateways into the City. The signs would be approximately 45-feet above the road elevation and would be lit and animated to be highly visible.
LU 6.1.12 Visual and Physical Character. The City shall promote development patterns and streetscape improvements that transform the visual and physical character of typical automobile-oriented corridors by: • Enhancing the definition of the corridor by locating buildings at the back of the sidewalk, and establishing a consistent street wall • Introducing taller buildings that are in scale with the wide, multi-lane street corridors • Locating off-street parking behind or between buildings (rather than between building and street) • Reducing visual clutter by regulating the number, size and design quality of signs • Removing utility poles and under-grounding overhead wires • Adding street trees	No buildings are proposed as part of the off-site digital billboard portion of the project. The Proposed Project would eliminate the existing City code requirement for relocation agreements that would otherwise result in removal of some existing billboards, and, thus, would not result in the reduction of the number or size of signs in auto-oriented corridors. Nevertheless, because most of the proposed billboard locations are not considered highly visually sensitive and would be high-quality designs, the addition of six offsite digital billboards would not be inconsistent with this policy.
LU 7.2.5 Industrial Development Design. The City shall require that new and renovated industrial properties and structures incorporate high-quality design and maintenance including the following: • Extensive on-site landscaping and buffers • Visual screening of areas used for outdoor storage, processing, and other industrial operations • Consistent architectural treatment of all building elevations • Consistent and well-designed signage • Control of on-site lighting, noise, odors, vibrations, toxic materials, truck access, and other factors that may impact adjoining nonindustrial land uses • Employee amenities, such as outdoor seating for employees	The I-80 at Roseville Road site is located in the M-1 industrial zone. The site is currently dominated by the elevated I-80 structure, power lines, chain link fencing, and existing metal industrial structures. The proposed digital billboard would be designed to be visually appealing and would be visually interesting due to animated and changing messages. By adding a well-designed and visually interesting billboard to an otherwise visually unappealing industrial site, the project would be consistent with this policy.
LU 8.1.11 Joint Development. The City shall encourage public/private partnerships when developing surplus City properties to enhance the surrounding community and provide a source of revenue to fund improvements to city services or facilities.	As proposed, the offsite digital billboards would be privately owned but constructed on City property. Thus, these would be similar to public/private partnerships and would be part of a larger joint development involving the proposed ESC located in downtown Sacramento. The revenues generated by the offsite digital billboards would be part of the revenue stream that would be generated to the City as established in the Development Agreement and other definitive documents.
Economic Development	
Goal ED 3.1 Land, Sites, and Opportunities. Provide opportunities for expansion and development of businesses by ensuring availability of suitable sites, appropriate zoning, and access to infrastructure and amenities.	By creating opportunities for business use of City-owned sites that are currently not available for development or are in use by businesses, the Proposed Project would include opportunities for the expansion of existing businesses as well as opportunities for new businesses. Thus, the project would be consistent with this goal.
ED 4.1.3 Public/Private Partnerships. The City shall support and encourage public/private partnerships and other efforts to implement the key development projects that meet the City's revitalization and redevelopment goals. (*IGC/JP*)	As noted above, the proposed offsite digital billboards would be private enterprises constructed on City-owned property. Since these offsite digital billboards would represent public-private partnership, the project would be consistent with this policy.

2030 General Plan

I-5 at Water Tank

The I-5 at Water Tank site is designated as Public/Quasi-Public and zoned as A-Agricultural.

I-5 at Pioneer Reservoir

The I-5 Pioneer Reservoir site is designated as Urban Center High and zoned as C-2 General Commercial.

Business 80 at Sutter's Landing Regional Park

The Business 80 at Sutter's Landing Park site is designated as Parks and Recreation and zoned as A-OS Agriculture-Open Space.

Business 80 at Del Paso Regional Park/Haggin Oaks

The Business 80 at Del Paso Regional Park/Haggin Oaks site is designated as Parks and Recreation and zoned as R-1 Standard Single Family.

Business 80 at Sutter's Landing Regional Park/American River

The Business 80 at Sutter's Landing Regional Park/American River site is designated as Parks and Recreation and zoned as A-OS Agriculture-Open Space.

I-80 at Roseville Road

The I-80 at Roseville Road site is designated as Employment Center Low Rise and zoned as M-1 Light Industrial.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is designated as Suburban Center and zoned as HC Highway Commercial.

I-5 at Bayou Road

The I-5 at Bayou Road site is designated as Employment Center Mid Rise and zoned as TC Transportation Corridor.

I-5 at San Juan Road

The I-5 at San Juan Road site is designated as Employment Center Mid Rise and zoned as A-OS PUD Agriculture-Open Space Planned Unit Development. The site is located within the Park View/River View Planned Unit Development.

I-5 at Sacramento Railyards

The I-5 at Sacramento Railyards site is designated as Public/Quasi-Public and zoned as TC Transportation Corridor.

Planning and Development Code

As noted above, the zoning classifications for potential billboard sites include R-1 (Single-Family Residential), C-2 (General Commercial), HC (Highway Commercial), M-1 (Light Industrial), A (Agricultural), A-OS (Agriculture-Open Space), A-OS PUD (Agriculture-Open Space Planned Unit Development), and TC (Transportation Corridor).

Sacramento City Code (Title 15 Buildings and Construction)

Signs within all zones in the city are regulated under City Code Title 15, Building and Construction, Chapter 15.148 – Signs. The regulations detailed in Chapter 15.148 govern the number, size, type, location, subject matter and other provisions relating to signs within the various zones of the city. The purpose of the sign regulations is to eliminate potential hazards to motorists and pedestrians; to encourage signs which, by their good design, are integrated with and harmonious to the buildings and sites which they occupy, and which eliminate excessive and confusing sign displays; to preserve and improve the appearance of the City as a place in which to live and to work and as an attraction to nonresidents who come to visit or trade; to safeguard and enhance property values; to protect public and private investment in buildings and open spaces; to supplement and be a part of the regulations imposed and the plan set forth under the comprehensive zoning ordinance of the city; and to promote the public health, safety and general welfare.

Regardless of which sites are chosen for future offsite sign locations, each sign would be required to comply with the regulations established by Chapter 15.148 of the City Code for the zone in which it is located, as noted below:

- CBD zone – Chapter 15.148.190;
- R-1 zone – Chapter 15.148.110;
- C-2 and M-1 zones – Chapter 15.148.160;
- A, A-OS, and A-OS PUD zones – Chapter 15.148.120; and
- Railyards SPD – Chapter 15.148.193.

The City Code does not address signs that would be located in areas zoned TC (Transportation Corridor) since they would be under the jurisdiction of the California Department of Transportation.

Signs may be subject to approval of a zoning administrator's special permit or permitted only with the prior approval of the planning and design commission.

Chapter 15.148.640 of the City Code prohibits animated and intensely light signs, specifically stating that "[n]o sign shall be permitted which is animated by means of flashing, scintillating, blinking or traveling lights or any other means not providing constant illumination. No sign shall be permitted which because of its intensity of light constitutes a nuisance or hazard to vehicular traffic, pedestrians or adjacent properties."

Notwithstanding the prohibition on animated signs, digital billboards on City land are allowed subject to a City Council approval that is regulated specifically within Chapter 15.148.815 of the

City Code, which states that the City Council may approve a relocation agreement that authorizes relocation of an existing fixed billboard and the construction of a new digital billboard on City-owned property adjacent to a freeway, subject to the following additional provisions:

a. The City-owned property is located in a commercial or industrial zone;

b. All digital-display faces must be oriented primarily for viewing from the adjacent freeway;

c. The maximum height of a digital billboard, measured from grade to the top of the digital-display face, is eighty-five (85) ft; and the overall maximum height, measured from grade to the top of the billboard structure, is ninety (90) ft.;

d. A digital billboard may have either one or two display faces, and the maximum area of a display face is seven hundred (700) sf.;

e. An existing off-site sign that is removed and relocated under a relocation agreement that authorizes the construction of a digital billboard may be either a legal conforming sign or a legal nonconforming sign;

f. A digital billboard may display only a series of still images, each of which is displayed for at least eight seconds. The still images may not move or present the appearance of motion and may not use flashing, scintillating, blinking, or traveling lights or any other means not providing constant illumination. Transition or blank screen time between one still image and the next may not exceed one second; and

g. The City must comply with CEQA before authorizing a digital billboard.

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. Physical environmental impacts resulting from the Proposed Project are discussed in the applicable environmental resource 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

ESC Site

The existing land uses adjacent to the project site consist primarily of office buildings and commercial/retail space including Macy's West, 630 K Street, the California Fruit Building, and the Traveler's Hotel Building. At the southeast corner of 6th and J Streets, the Ramona Hotel building currently houses the Church of Scientology. A commercial hotel, the Holiday Inn, is located across 4th Street to the west, and two single room occupancy residential buildings, the Hotel Marshall and Jade Apartments, are located on 7th Street to the east of the project site. Two

residential apartment buildings (Ping Yuen and the Wong Center) are located across J Street north of the project site and there are approved residential buildings planned for construction south of the project site at 301 Capitol Mall (The Towers) and 601 Capitol Mall (Aura).

The ESC would replace one existing developed urban use for another. The addition of mixed-use buildings ranging from mid-rise up to approximately 30 stories (350 feet in height) along J Street would intensify but not materially change the pattern of land uses on the project site or in the surrounding area. Furthermore, it is not anticipated that operation of 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 (see Sections 4.1 Aesthetics, Light and Glare; 4.2 Air Quality; and 4.8 Noise for project impacts related to these topic areas).

The retail and commercial components of the Proposed Project would be the similar to those currently occurring on the project site, so the Proposed Project would not introduce a new type of sensitive use to the area. The construction and operation of the proposed ESC would introduce a major new public gathering place and event facility into a part of Sacramento where such uses have not previously occurred. The uses within the Downtown Plaza property would be more intensive, but not materially different than the uses that occur in and around the Sacramento Convention Center complex located about six blocks west at K and 13th Streets. In that location a major event facility coexists positively with nearby office, hotel, retail and restaurant uses. While there are not examples in Sacramento of housing mixed with such hotel, commercial, event, and office uses, other cities in the California contain such examples, such as in the South of Market area of San Francisco (around AT&T Park) and the Gaslamp Quarter of downtown San Diego (around Petco Park).

The two bus stops that would be temporarily and/or permanently displaced would be replaced at locations within one block that, in terms of adjacent land uses, would be similar in character to the existing locations. Therefore, it is not anticipated that any land use incompatibility with existing and planned adjacent land uses would occur.

Offsite Digital Billboard Sites

Each of the proposed digital billboard sites is located along a freeway within the City limits. The discussion, analysis, and conclusions regarding the project's compatibility with existing and planned land uses, including discussion of location, size, height, and lighting, are based on compliance with the various conditions stated in the City Code, mitigation measures identified in this environmental document, and the provisions of federal and state law. Enforcement of these provisions is assigned to various entities, and in many cases compliance efforts would be undertaken, if at all, following receipt of complaints. Significant effects could occur if the proposed offsite digital billboards, if approved, installed and operated, would not comply with restrictions regarding location, size, height, intensity of light or other restrictions. Compliance with applicable regulations would ensure that effects would be less than significant. Therefore, it is not anticipated that any land use incompatibility with existing and planned adjacent land uses would occur.

I-5 at Water Tank

The I-5 at Water Tank site is adjacent to the I-5 southbound lanes, near its intersection with Freeport Boulevard. The site is adjacent to an iconic City water tank (emblazoned with "Welcome to Sacramento" on its southeast face), as well as a single family residence at the eastern end of El Morro Court. There are several other homes on El Morro Court from which an elevated billboard would be visible. The proposed digital billboard would be within the chain link fence, would face north and south, would be approximately 936 square feet in size and approximately 45 feet in height.

It is possible that the billboard would be visible from backyards of homes located on the south side of El Morro Court, from the front yards of homes located on the north side of El Morro Court, and from the backyards of homes located on the east side of El Rito Way between El Morro Court and Los Rancho Way. From these homes, depending on the precise location and height of the sign, the size and shape of the billboard may be seen. The billboard faces are comprised of a series of light emitting diodes (LEDs). An LED is at full brightness when viewed straight on — or from dead center. The level of brightness is cut in half by moving the viewing position to a 35° angle from dead center, and at a sufficient angle the LED lights are not visible. The height and angle of the billboard would be designed to be seen from straight on by drivers in cars on the elevated I-5. The height, alone, would ensure that no residents on ground level in backyards or in homes would see the signs from straight on. Depending on the orientation angle of the billboard faces, the visibility of the LED lights would be materially reduced or eliminated. As is discussed in Chapter 4.1, Aesthetics, Light and Glare, the intent of Mitigation Measure 4.1-1(a) would be to ensure that the light from the billboard at this location would be sufficiently reduced to avoid disturbance of activities in homes and yards of nearby residences. Nevertheless, depending on the final placement and design of the digital billboard at this location, it is possible that Mitigation Measure 4.1-1(a) may not be able to fully screen the billboard face from nearby homes. Thus, a digital billboard at this site could be considered incompatible with adjacent residential uses.

There are no other uses in the vicinity of this site with which an off-site digital billboard would be incompatible.

US 50 at Pioneer Reservoir

The nearby land uses at the Pioneer Reservoir site include the elevated section of US-50/Pioneer Bridge, the covered Pioneer Reservoir structure, a rail line, and the Sacramento River. As is described in the Project Description, the billboard at this site would be elevated to a height 45 feet above the road bed of westbound US-50. Other than the billboard structure, the billboard face would not be materially visible from the ground level at this site due to the oblique angles. The addition of the billboard post in this location would not be incompatible with any adjacent or nearby land uses.

Business 80 at Sutter's Landing Regional Park

The Business 80 at Sutter's Landing Regional Park site is located within the former City landfill site adjacent to Business 80. The proposed digital billboard site is surrounded by Sutter's Landing Regional Park on the west, north and east. A future digital billboard would not be incompatible with uses on these sides. The property south of this site, across Business 80, is currently being

studied for residential development as part of the McKinley Village proposal. Although no project has yet been approved, it is possible that, if approved, the digital billboard at this location would be visible from one or more residences. However, because the billboard would be oriented to provide a single face visible to drivers on eastbound Business 80, views from the residences in the proposed McKinley Village project, if it were approved and developed, would likely be oblique and the visibility of the light and animation would be materially diminished. In addition, there are three static billboards that are currently on the north side of Business 80, so the addition of an additional billboard would not be incompatible with future planned residential uses.

Business 80 at Del Paso Regional Park/Haggin Oaks

The Business 80 at Del Paso Regional Park/Haggin Oaks site is immediately south of the golf course, in the approximately 15-foot-wide area between the Haggin Oaks Trail and the Business 80 right-of-way. The proposed digital billboard site is surrounded by the Haggin Oaks Trail to the west and east, the Alister MacKenzie Golf Course to the north, and Business 80 to the south. Across Business 80 are various commercial and industrial uses. While the billboard would be visible from various angles to golfers playing holes 3, 4, 8 and 9 of the Alister MacKenzie Golf Course, there would be no aspects of the project that would be incompatible with the adjacent recreational uses.

Business 80 at Sutter's Landing Regional Park/American River

The Business 80 at Sutter's Landing Regional Park/American River site is located near the intersection of Business 80 and the American River. The proposed American River site is located immediately southwest of an existing levee and the American River Parkway, and east of the Union Pacific Railroad tracks. The proposed American River site is surrounded by Sutter's Landing Regional Park to the north and west. The City of Sacramento's 2003 Sutter's Landing Park Master Plan identifies this area of the park as a future natural area, including such active and passive recreational features as disc golf, hiking trails, historical/natural interpretive signage, mountain biking, and viewing/overlook areas.[4] The only currently funded improvement planned for this part of the park involves the planting of trees as mitigation for tree removal at other locations; this project was initiated in late November 2013.[5] The City has identified a range of unfunded projects for the Park, including a possible City gateway/park sign for the triangle area in which the digital billboard site would be located.[6]

The proposed digital billboard at this site would not be the type of use that was envisioned in the Sutter's Landing Park Master Plan. Nevertheless, there are a number of static billboards in or adjacent to the Park. Further, the location identified for a digital billboard at this site would be immediately adjacent to the Business 80 freeway, with its associated noise and light. In the context of the existing overall environment, the addition of the proposed digital billboard would

4 City of Sacramento Department of Parks and Recreation, 2003. *Overall Master Plan for Sutter's Landing Park.* September 2003.

5 City of Sacramento Department of Parks and Recreation, 2013a. *Existing & Funded Improvements, Sutter's Landing Park.* June 2013.

6 City of Sacramento Department of Parks and Recreation, 2013b. *Proposed Unfunded Projects, Sutter's Landing Park.* June 2013.

not represent a substantial change from the existing conditions. In the context of future plans for the project site to be part of a natural area, a proposed digital billboard would not be incompatible with planned active recreational uses, such as mountain biking or disc golf. However, the proposed digital billboard at this location may be considered to be inconsistent or incompatible with future planned use of the project site as a natural area, including passive recreational uses such as hiking on trails with interpretive signage or day or night use of viewing platforms or overlooks.

In addition, in March 2012, the City Council approved the 28th Street Landfill Tree Mitigation Committee Report to City Council.[7] The Report outlined a plan to mitigate for the loss of habitat values due to tree removal from a detention basin in Sutter's Landing Regional Park that had previously occurred. In part, the mitigation project called for restoration of the "City's portion of the Triangle area by planting and seeding native trees, native shrubs and other native plants (vines, forbs, and grasses), following removal of the existing non-native plants and preparation of the site."[8] Implementation of the mitigation project was initiated in November 2013. Construction and operation of a digital billboard at this location could potentially temporarily disrupt portions of the mitigation project due to construction activities and would result in a loss of a small amount of land that would otherwise have been restored (see Impact 4.3-5), and could be considered incompatible with the natural habitat and mitigation uses of the this site. See also the discussion, below, of consistency with the American River Parkway Plan.

I-80 at Roseville Road

The I-80 at Roseville Road site is located at the intersection of I-80 westbound and Roseville Road. The proposed Roseville Road digital billboard site is fully developed and lies within a larger parcel occupied by the United States Air Force, North Highlands Air National Guard Station. The proposed Roseville Road digital billboard site is completely paved. An existing metal building used by the Air National Guard covers a portion of the site. Immediately south of the site, I-80 is elevated above the site approximately 25-30 feet. The Air National Guard Station is to the northeast of the proposed digital billboard site. There are no adjacent or nearby land uses that would be incompatible with the proposed digital billboard at this location.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is located in the southeastern corner of a parcel adjacent to the SR 99 southbound onramp from eastbound Calvine Road, bound by West Stockton Boulevard to the south and a truck driveway providing access to an existing Foods Co. retail store. The parcel is fenced and is primarily used as a stormwater detention basin. An overhead power line crosses the proposed digital billboard site, approximately 15 feet west of the chain link fence separating the parcel from the SR 99 right-of-way. The power line is approximately 18-20 feet high. The proposed Calvine Road digital billboard site is surrounded by the detention basin and elevated

7 City of Sacramento Department of Parks and Recreation, 2012. *28th Street Landfill Tree Removal Mitigation Committee, Report to the Sacramento City Council.* March 13, 2012. The report was approved by the City Council through Resolution #2012-061 on March 13, 2012.

8 Ibid, page 24.

Calvine Road to the north, SR 99 to the east, commercial and multi-family residential uses to the south, and the detention basin and commercial uses to the west.

There are no uses on the project site that would be incompatible with the presence of a digital billboard. The proposed billboard may be visible from the multi-family residential units that area about 400-feet south of the site on W. Stockton Blvd. However, these residences are located in an area that is surrounded by intense commercial, institutional, and industrial uses. The addition of a digital billboard in this location would not materially change the character of the vicinity and would not adversely affect the existing and future planned uses in the area.

I-5 at Bayou Road

The I-5 at Bayou Road site is located in North Natomas, north of the Westlake neighborhood near the I-5 southbound to SR 99 northbound ramp. The proposed billboard would be located approximately 30 feet south of Bayou Road and approximately 50-60 feet east of an existing City of Sacramento utilities box. The proposed Bayou Road digital billboard site is surrounded by Bayou Road and I-5 to the north, the North Natomas Self Storage facility to the east, open space and residential uses to the south, and open space and agricultural land to the west.

The closest residences are located approximately 400 feet south of the digital billboard site. The site would be partially screened from these residences by the North Natomas Self Storage facility, and would only be obliquely visible out windows of the northwest-most residences on Gresham Lane and Lanfranco Circle. In light of the angle required for the billboard to be visible to drivers on southbound I-5, it is highly unlikely that any material visibility of the billboard face would be possible from these residences. The other uses surrounding this site would not be incompatible with the construction and operation of a digital billboard.

I-5 at San Juan Road

The I-5 at San Juan Road site is located in North Natomas, at the northwest corner of the intersection of I-5 and San Juan Road. The site is between the I-5 right-of-way and a parcel planned for commercial uses. The site is surrounded by open space and I-5 to the north, I-5 to the east, and open space and residential uses across San Juan Road to the south and west.

It is possible that the billboard would be visible from homes located on the south side of San Juan Road, from the front yards of homes located on the north side and east end of Almonetti Avenue. From these homes, depending on the precise location and height of the sign, the size and shape of the billboard may be seen. As noted previously, the billboard faces are comprised of a series of LEDs, which are at full brightness when viewed straight on. The level of brightness is cut in half by moving the viewing position to a 35° angle from dead center, and at a sufficient angle the LED lights are not visible. The height and angle of the billboard would be designed to be seen from straight on by drivers in cars on the elevated I-5. Given that I-5 is elevated by approximately 15 feet at this location, the height, alone, would ensure that no residents on ground level in homes, on walkways or sidewalks would see the signs from straight on. Depending on the orientation angle of the billboard faces, the visibility of the LED lights would be materially reduced or eliminated for ground-level observers, but it is possible that individuals in front yards or looking out first or

second floor windows at units closest to the billboard could have an angle that would allow visibility of the billboard faces. As is discussed in Chapter 4.1, Aesthetics, Light and Glare, the intent of Mitigation Measure 4.1-2(h) would be to ensure that the light from the billboard at this location would be sufficiently reduced to avoid disturbance of activities in homes and yards of nearby residences. Nevertheless, depending on the final placement and design of the digital billboard at this location, it is possible that Mitigation Measure 4.1-1(a) may not be able to fully screen the billboard face from nearby homes. Thus, a digital billboard at this site could be considered incompatible with adjacent residential uses.

The vacant parcel immediately to the west of this site is designated Employment Center Mid Rise in the 2030 General Plan, and will be developed with commercial uses in the future. These uses would not be incompatible with the construction and operation of a digital billboard.

I-5 at Sacramento Railyards

The I-5 at Sacramento Railyards site is located in the downtown Sacramento Railyards adjacent to the I Street onramp to northbound I-5. The site is designated as Public/Quasi-Public and zoned as TC Transportation Corridor. The site is currently used for transportation purposes, serving as parking for the adjacent Sacramento Valley Station, and it is anticipated that in the future an intermodal transportation facility will be constructed to replace and expand the uses that are currently on site. Approximately 400 feet southeast of the site, across I and 3rd Streets, is a Vagabond Inn motel with rooms that have visibility to the project site. At this site, the digital billboard would be elevated to provide direct straight-on views from drivers on northbound I-5, and thus any views from the ground level would be oblique, resulting in limited visibility of the LED sign. There are no adjacent or nearby land uses that would be incompatible with the construction and operation of a digital billboard at this site.

Consistency with Adopted Plans, Policies, and Zoning

An inconsistency is identified if the Proposed Project conflicts with the specific policies of the City's General Plan, CCCP, or Planning and Development Code. Regional plans addressing specific environmental issues, such as the Sacramento Area Regional Ozone Attainment Plan, are addressed in the applicable technical sections of this EIR. This chapter differs from the technical sections in Chapter 4, in that only issues of consistency of the Proposed Project with City land use policies are addressed, as opposed to environmental impacts and mitigation measures. The analysis below 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. Ultimately, it is within the authority of the City Council to interpret City policies and to determine if the project is consistent or inconsistent with adopted plans and policies. Any inconsistencies with plans or policies adopted for the purpose of mitigating an environmental effect will be further discussed in appropriate sections of the EIR.

ESC Site

Sacramento Area Council of Governments Blueprint

The Proposed Project generally complies with the Blueprint's seven principles by developing a site that has previously been developed (infill); developing a site that is within downtown Sacramento (a major employment area); encouraging a range of transit opportunities due to the project's location near downtown Sacramento and proximity to recreational and commercial uses; including high-density residential units; providing a mix of land uses, including residential, retail/commercial, hotel, and office uses; and developing an attractive project with quality design, as specified in the Central City Urban Design Guidelines.

Sacramento 2030 General Plan

The ESC project site is designated as Central Business District (CBD) in the City's 2030 General Plan. The CBD is Sacramento's most intensely developed area. The CBD allows for a mixture of retail, office, residential, governmental, entertainment and visitor-serving uses. The Proposed Project includes a mixture of retail/commercial, office, hotel, residential, and entertainment uses consistent with the land uses identified for the CBD. The Proposed Project would not change the land use designation of the project site and would not require any General Plan Amendments in order to be approved by the City.

The 2030 General Plan includes specific goals and policies designed to support a balanced system of retail/commercial, office, residential, and entertainment uses throughout the City. As demonstrated in Table 3-1 above, the Proposed Project would be considered consistent with the goals and policies contained in the City's 2030 General Plan.

Central City Community Plan

The primary goal of the CCCP is to continue the revitalization of the Central City. The CCCP also sets forth policies to provide for organized development of the Central City whereby the many interrelated land use components of the area support and reinforce each other and the vitality of the community. The Proposed Project would result in the construction of a mixed use development in downtown Sacramento that would include an entertainment and sports center, high-density residential units, hotel, retail, and office uses. The project site is adjacent to three Regional Transit light rail lines and bus stops serving several transit providers and includes significant off-street parking. Additionally, the project would enhance the unique visual features of the entrance to the Central City through distinctive architecture, signage, and lighting, and by adding to downtown's skyline. As demonstrated in Table 3-1 above, the Proposed Project would meet many of the policies set forth in the CCCP, therefore, it would be considered consistent with the intent of the CCCP.

City of Sacramento Planning and Development Code

As described above, the Proposed Project is located in the Central Business District zone (C-3). Office, hotel, retail, multi-family residential, and entertainment uses are permitted in the C-3 district. The C-3 is intended for the most intense retail, commercial, and office uses in the City. Goals for the CBD zone include accelerating economic growth and revitalization and enhancing the character

of Sacramento's downtown. The Proposed Project would replace the under-performing and under-utilized Downtown Plaza property with a mixed use development that would include an entertainment and sports center, high-density residential units, hotel, retail, and office uses thereby improving the physical and social conditions, urban aesthetics, and safety of the project site and the CBD. The Proposed Project would be consistent with the City's Planning and Development Code.

The Capitol View Protection Requirements contained in the Sacramento City Planning and Development Code (Section 17.216.860) includes height restrictions on the blocks surrounding the State Capitol building. However, the height restrictions along L Street 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 State Capitol reflects a City policy to encourage high-density, high-rise buildings in the CBD, and to create a prominent skyline of taller buildings in downtown Sacramento.

Offsite Digital Billboards

Sacramento 2030 General Plan

Up to six offsite digital billboards are proposed at 10 potential sites throughout the City of Sacramento. The locations, land use designations, and zoning classifications of the 10 potential offsite digital billboard locations are described in Chapter 2, Project Description. The following General Plan policies relate to development issues associated with digital billboards:

Policies

- **LU 7.2.5 Industrial Development Design.** The City shall require that new and renovated industrial properties and structures incorporate high-quality design and maintenance including the following:
    - Extensive on-site landscaping and buffers
    - Visual screening of areas used for outdoor storage, processing, and other industrial operations
    - Consistent architectural treatment of all building elevations
    - Consistent and well-designed signage
    - Control of on-site lighting, noise, odors, vibrations, toxic materials, truck access, and other factors that may impact adjoining nonindustrial land uses
    - Employee amenities, such as outdoor seating for employees
- **LU 2.4.3 Enhanced City Gateways.** The City shall ensure that public improvements and private development work together to enhance the sense of entry at key gateways to the city.
- **LU 6.1.12 Visual and Physical Character.** The City shall promote development patterns and streetscape improvements that transform the visual and physical character of typical automobile-oriented corridors by:

  - Enhancing the definition of the corridor by locating buildings at the back of the sidewalk, and establishing a consistent street wall
  - Introducing taller buildings that are in scale with the wide, multi-lane street corridors
  - Locating off-street parking behind or between buildings (rather than between building and street)
  - Reducing visual clutter by regulating the number, size and design quality of signs
  - Removing utility poles and under-grounding overhead wires
  - Adding street trees

- **LU 7.2.5 Industrial Development Design.** The City shall require that new and renovated industrial properties and structures incorporate high-quality design and maintenance including the following:
  - Extensive on-site landscaping and buffers
  - Visual screening of areas used for outdoor storage, processing, and other industrial operations
  - Consistent architectural treatment of all building elevations
  - Consistent and well-designed signage
  - Control of on-site lighting, noise, odors, vibrations, toxic materials, truck access, and other factors that may impact adjoining nonindustrial land uses
  - Employee amenities, such as outdoor seating for employees

- **LU 8.1.11 Joint Development.** The City shall encourage public/private partnerships when developing surplus City properties to enhance the surrounding community and provide a source of revenue to fund improvements to city services or facilities.

- **ED 4.1.3 Public/Private Partnerships.** The City shall support and encourage public/private partnerships and other efforts to implement the key development projects that meet the City's revitalization and redevelopment goals.

The analysis in this EIR, presented in Table 3-2, demonstrates that, with the conditions applicable under current law and the mitigation measures identified in this EIR, the construction and operation of up to six offsite digital billboards would not have a significant effect on the environment. Construction and operation of offsite digital billboards as proposed in the project would not result in inconsistencies or conflicts with the 2030 General Plan.

City of Sacramento Planning and Development Code and Sacramento City Code Title 15

As discussed above, the project would allow for the construction and operation of up to six offsite digital billboards on City-owned property within Sacramento. Zoning classifications for potential billboard sites include R-1 (Single-Family Residential), C-2 (General Commercial), HC (Highway Commercial), M-1 (Light Industrial), A (Agricultural), A-OS (Agriculture-Open

Space), A-OS PUD (Agriculture-Open Space Planned Unit Development), and TC (Transportation Corridor). All signs within the City are regulated under City Code Title 15, Building and Construction, Chapter 15.148 – Signs. The regulations detailed in Chapter 15.148 govern the number, size, type, location, subject matter and other provisions relating to signs within the various zones of the City. Regardless of which sites are chosen for future offsite billboard locations, each billboard would be required to comply with the regulations established by Chapter 15.148 of the City Code for the zone in which it is located. Billboards may be subject to approval of a zoning administrator's special permit or permitted only with the prior approval of the Planning and Design Commission. Because all offsite digital billboards would be required to comply with City Code as well as the provisions of federal and state law related to location, size, height, and lighting, the offsite digital billboards portion of the Proposed Project would also be consistent with the requirements of the City's Planning and Development Code and City Code Title 15.

American River Parkway Plan

The American River Parkway is an open space which extends approximately 29 miles from Folsom Dam at the northeast to the American River's confluence with the Sacramento River at the southwest. The Business 80 at Sutter's Landing Regional Park/American River offsite digital billboard site is located adjacent to, but outside of, the boundary of the American River Parkway.

The American River Parkway Plan is the policy document for the Parkway. The County of Sacramento adopts the Parkway Plan as an element of its General Plan. The City of Sacramento references the Parkway Plan in its General Plan.

The Parkway Plan addresses the entire length of the Parkway which includes areas in the unincorporated County, the City of Sacramento, the City of Rancho Cordova and the Lake Natoma portion of the Folsom Lake State Recreational Area. The Plan acts as an informational document and an invitation for citizen participation in the planning process. It also provides basic policy guidance for the future of the Parkway. The Parkway Plan focuses on policies related to activities within the Parkway itself, however specific direction is also provided in the policies to encourage a positive relationship with adjacent land uses while still protecting the Parkway from visual impacts outside of the Parkway.

The stated goals of the Parkway Plan are:

- To provide, protect and enhance for public use a continuous open space greenbelt along the American River extending from the Sacramento River to Folsom Dam.
- To provide appropriate access and facilities so that present and future generations can enjoy the amenities and resources of the Parkway which enhance the enjoyment of leisure activities.
- To preserve, protect, interpret and improve the natural, archaeological, historical and recreational resources of the Parkway, including an adequate flow of high quality water, anadromous and resident fishes, migratory and resident wildlife, and diverse natural vegetation.

- To mitigate adverse effects of activities and facilities adjacent to the Parkway.
- To provide public safety and protection within and adjacent to the Parkway.

In addressing issues that involve the relationship of adjacent land uses to the Parkway, the Parkway Plan states that "[a]ccomplishing the goal of minimizing visual impacts upon the Parkway may be achieved through a variety of policy tools in local zoning ordinances, as discussed in policy 7.24, such as setbacks, stepping development away from the Parkway, limiting building scale, vegetative screening, use of appropriate colors and materials, and guidelines to discourage intrusive lighting and commercial advertising." Nevertheless, the Parkway Plan recognizes that between the confluence of the American and Sacramento Rivers and Business 80, the Parkway is in proximity to highly urbanized areas near downtown Sacramento. The Parkway Plan expressly supports higher density urban uses in this reach of the Parkway, "provided that development immediately adjacent to the Parkway continues to respect the intent of the Parkway goals by minimizing visual impacts through context sensitive design and building structure." [9]

There are several specific policies of the American River Parkway Plan that would be relevant to the potential construction and operation of a digital billboard at the Business 80 at Sutter's Landing Regional Park/American River site, as noted below.

Goal 7.19 Jurisdictions shall use their authority to reduce, eliminate, and/or mitigate potential adverse impacts upon the Parkway caused by adjacent land uses and activities.

Policies

- **7.19.1** Structures shall be located so that neither they, nor activities associated with them, cause damage to Parkway plants or wildlife.
- **7.19.2** Structures shall be located so that neither they, nor activities associated with them, impede the recreational use of the Parkway and such structures shall be consistent with the goals and policies of this Plan.

While these policies reflect a general theme of the Parkway Plan to avoid visual intrusion of urban land uses into the Parkway, there is also a recognition, noted above, that in the portion of the Parkway in proximity to downtown Sacramento there will be visible urban uses. The Plan states that "[v]iews from the Parkway toward adjacent land uses in this area are expected to include some visible urban structures." In recognizing this expectation, it further states that "Development immediately adjacent to the Parkway should, however, continue to respect the intent of Parkway goals by minimizing visual impacts through context sensitive design and building structure." [10] Please also see the discussion of Policy 7.24 of the Parkway Plan in section 4.1, Aesthetics, Light and Glare.

9 Sacramento County, 2008. *American River Parkway Plan 2008.* p. 112.
10 Sacramento County, 2008. *American River Parkway Plan 2008.* p. 113.

3.3 Population and Housing

3.3.1 Introduction

The purpose of this chapter is to identify, estimate, and evaluate population and housing changes that would be caused by development of the Proposed Project. This chapter also describes the existing population and housing levels in the City of Sacramento. Additionally, this chapter summarizes City plans and policies pertaining to housing and commercial/office uses, including affordable housing policies and policies related to the maintenance of a jobs/housing balance. Potential inconsistencies with adopted City plans or policies are identified.

No comments were received in response to the Notice of Preparation (NOP) relating to population or housing issues.

Sources used in the preparation of this section include:

- U.S. Census (2010), American Fact Finder;
- Sacramento Area Council of Governments (SACOG), Projections of Employment, Population, Households, and Household Income in the SACOG Region for 2000-2050;
- California Department of Finance (DOF), City/County/State Population and Housing Estimates; and
- The City of Sacramento 2030 General Plan and Master EIR.

The information contained in this chapter is used as a basis for analysis of project and cumulative impacts in the technical sections of this EIR. However, changes in population and housing, in and of themselves, are considered social and economic effects, not physical effects on the environment. CEQA provides that economic or social effects are not considered significant effects on the environment unless the social and/or economic effects are connected to physical environmental effects. A social or economic change related to a physical change may be considered in determining whether the physical change is significant (CEQA Guidelines section 15382). The direction for treatment of economic and social effects is stated in section 15131(a) of the CEQA Guidelines:

> *"Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on physical changes."*

3.3.2 Environmental Setting

Population and Housing Conditions

Regional Population

According to SACOG, the greater Sacramento area, including the counties of Sacramento, Placer, El Dorado, Yolo, Sutter, and Yuba, experienced high population growth between 1990 and 2000. The area had a regional population of approximately 1,603,863 in 1990; 1,936,006 in 2000; and 2,319,348 in 2010.[11] This is an increase of approximately 21 percent between 1990 and 2000; and 20 percent between 2000 and 2010, making it one of the fastest growing areas in the State. Although the rate of population growth has decreased somewhat since the economic downturn began in 2007, historic trends in population growth are expected to continue, with regional population projected to reach 3,232,589 by 2030 and 3,952,098 by 2050.[12]

City of Sacramento Population

The City of Sacramento's population was approximately 473,509 as of January 1, 2013.[13] The City had a population of 466,488 in 2010, having grown by 10.2 percent between 1990 and 2000 and by 14.6 percent between 2000 and 2010. The population increased by approximately 97,123 residents, about 27 percent, over this 20-year period. Table 3-3 summarizes the population and housing information for the City of Sacramento.

TABLE 3-3
SACRAMENTO POPULATION AND HOUSING TRENDS

	1990	2000	2010	Change 1990-2000	% Change 1990-2000	Change 2000-2010	% Change 2000-2010
Population	369,365	407,018	466,488	37,653	10.2%	59,470	14.6%
Housing Units	153,362	163,957	190,911	10,595	6.9%	26,954	16.4%

SOURCE: Department of Finance, 2013. *California Department of Finance, Demographic Research Unit. Table E-1 Population Estimates for Cities, Counties, and the State - January 1, 2012 and 2013*. Undated.

Population Characteristics

The median age of Sacramento residents was 33 years in 2010; similar, but slightly younger than the median age for all California residents (35.2 years). Approximately 78 percent of all City residents (363,482 individuals) were over the age of 16 in 2010, about 11 percent were seniors, and 22 percent

[11] Sacramento Area Council of Governments, 2012. *California State Department of Finance Population and Housing Estimates 1990-2012*. June 8, 2012.
[12] Sacramento Area Council of Governments, 2005. *Projections of Employment, Population, Households, and Household Income in the SACOG Region for 2000-2050*. September 15, 2005. p. 2.
[13] Department of Finance, 2013. *California Department of Finance, Demographic Research Unit. Table E-1 Population Estimates for Cities, Counties, and the State - January 1, 2012 and 2013.* Undated.

were under the age of 16. Statewide, in 2010, about 64 percent of residents were between the ages of 18 and 65, 11 percent were seniors, and 25 percent were under the age of 18 (U.S. Census, 2010).[14]

Housing

Approximately 37,549 housing units were added in Sacramento between 1990 and 2010, a 19.7 percent increase. Housing stock in the city increased by 10,595 housing units, or about 6.9 percent, between 1990 and 2000 and by 26,954 housing units, or about 16.4 percent, between 2000 and 2010. Overall, housing in Sacramento increased at a slightly slower rate than population between 1990 and 2010 – by about 24.5 percent, compared to a 27 percent increase in population. The housing vacancy rate for Sacramento in 2010 was approximately 8.5%.[15]

Prior to 2008 housing prices in Sacramento had seen dramatic increases. However, beginning in 2008, the market demand for housing declined sharply nationwide, and Sacramento was no exception. This trend appears to have taken a turn over the past year or so as housing prices have begun to increase again. However, compared to housing prices in the Bay Area, prices are still relatively low. This will continue to make Sacramento a more affordable option for people employed within a reasonable commuting distance.

Jobs-Housing Balance

The concept of jobs/housing balance refers to the relationship of residences to jobs in a given community or area. Assuming a reasonable match between the affordability of housing and the incomes of jobs in the local market, if the number and proximity of residences is proportionate to the number and proximity of jobs, the majority of employees would have the opportunity to work and reside in the same community. A well-balanced ratio of jobs and housing can contribute to reductions in the number of vehicle trips resulting from commuting due to employment opportunities in closer proximity to residential areas. Such a reduction in vehicle trips would necessarily result in lower levels of air pollutant emissions (including lower greenhouse gas emissions) and less congestion on area roadways and intersections. An important consideration in evaluating the jobs/housing balance is whether housing in the community is affordable to local employees. The availability of an adequate housing supply, presenting various price levels including those that are reasonably available to those holding jobs that are offered in the community, provides the potential to reduce the length of commutes between residences and work sites.

Sacramento's employment base in 2010 was approximately 296,398, with 190,911 total housing units.[16] This translates into an employee per unit ratio of 1.55:1, which implies that employees are traveling from the surrounding region to fill jobs within the City. The extent to which this occurs depends on a variety of factors related not only to employment and housing in the city,

14 U.S. Census, 2010. *American Fact Finder. Profile of General Population and Housing Characteristics: 2010.* Summary File 1.

15 Ibid.

16 City of Sacramento, 2013. *City of Sacramento Economic Development Department Key Demographics.* http://www.cityofsacramento.org/econdev/demographic-marketInformation/key-demographics.cfm. Accessed September 11, 2013.

but economic factors affecting the city and region, including, importantly, the affordability of housing. People are often willing to commute longer distances from areas where their housing dollar goes further.

3.3.3 Regulatory Setting

State

California Housing Element Requirements

California law (Government Code Section 65580, et seq.) requires cities and counties to include as part of their General Plans a housing element to address housing conditions and needs in the community. Housing elements are prepared approximately every five years (eight following implementation of SB 375), following timetables set forth in the law. The housing element must identify and analyze existing and projected housing needs and "make adequate provision for the existing and projected needs of all economic segments of the community," among other requirements.

Local

Sacramento Area Council of Governments (SACOG)

The Sacramento Area Council of Governments (SACOG) is the official regional planning agency of Sacramento County. SACOG is an association of local governments in the six-county Sacramento Region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba as well as 22 incorporated cities within those counties. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG approves the distribution of affordable housing in the region and assists in planning for transit, bicycle networks, clean air and airport land uses.

Sacramento 2030 General Plan

Housing Element

The Housing Element is part of the City's General Plan and sets forth the policies and programs to address the housing needs of all households in Sacramento. State law (Government Code Sections 65580-65589.8) requires that every city and county in California adopt a Housing Element, subject to State approval, as part of its General Plan. The City adopted the 2013-2021 Housing Element on December 17, 2013.

The 2013-2021 Housing Element is expected to be certified by the State in early 2014. The following goals and policies from the adopted 2013-2021 Housing Element relate to new development and are applicable to the Proposed Project:

Goal H-2.2

Development. Assist in creating housing to meet current and future needs.

Policies

- **H-2.2.1 Quality Infill Development.** The City shall promote quality residential infill development by maintaining and implementing flexible development standards.

- **H-2.2.2 Financial Tools to Diversify Residential Infill Development.** To the extent resources are available, the City shall use financial tools to diversify market developments with affordable units, especially in infill areas.

- **H-2.2.3 Offsetting Development Costs for Affordable Housing.** The City shall defer fees to Certificate of Occupancy (COO) to help offset development costs for affordable housing and will offer other financial incentives including, but not limited to, water development fee waivers and sewer credits.

- **H-2.2.4 Funding for Affordable Housing.** The City shall pursue and maximize the use of all appropriate state, federal, local, and private funding for the development, preservation, and rehabilitation of housing affordable for extremely low-, very low-, low-, and moderate-income households, while maintaining economic competitiveness in the region.

- **H-2.2.5 Review and Reduce Fees for Affordable Housing.** The City shall work with affordable housing developers as well as other agencies and districts to review and reduce applicable processing and development impact fees for very low- and low-income housing units.

- **H-2.2.6 Update the Mixed Income Housing Ordinance.** The City shall revise its Mixed-Income Housing Ordinance to promote affordable housing citywide and to require developers to contribute to the production of housing affordable to lower- and moderate income households.

- **H-2.2.7 Suburban Infill and Secondary Units.** The City shall continue to support efforts to provide more varied housing opportunities in existing suburban neighborhoods through infill and intensification on existing available sites, by allowing secondary units on single-family lots, and allowing for additional development on excessively large lots.

The goals and policies included in the Housing Element seek to aid in the development, improvement, and maintenance of housing in the City of Sacramento. The City views housing policies as part of the City's overall mission to strengthen neighborhoods, improve livability and conditions for all residents, and maintain the economic well being of the City and all its residents. The Proposed Project includes new housing opportunities in downtown Sacramento and will pay City of Sacramento Housing Trust Fund fees, as appropriate, that helps to achieve the goals and policies listed above.

3.3.4 Proposed Project Setting and Analysis

The Proposed Project would include demolition of 857,943 sf of retail/commercial and office space, and the subsequent construction of an approximately 779,000 sf, 17,500 seat entertainment and sports center (including practice facility and associated administrative office space) along with 1.5 million sf of retail/commercial, office, hotel, and residential space, along with below-and-above grade parking spaces and associated public and private open spaces.

ESC employment would include permanent employment associated with the operations of the ESC and the Sacramento Kings, as well as temporary employment to support events throughout the year. The ESC would include office space for the approximately 265 employees of the Sacramento Kings, including 10-13 employees who are involved in the operations and maintenance of the ESC facility. Based on the average levels of occupancy in the buildings on the project site over the last decade, it is estimated that there have been an average of 1,340 retail/commercial and office employees at the project site (excluding the Macy's West building). Under future conditions it is expected that total employment on the site, excluding employment at the ESC, would rise to a total of 3,424 employees, an increase in employment at the project site of approximately 2,084 jobs. In addition, the Proposed Project would include construction of up to 250 hotel rooms that would employ approximately 250 people. The project also includes construction of up to 550 multi-family residential units that could house approximately 1,155 residents and employ approximately 10 staff.

Changes in Population and Housing

Downtown Project Site

On September 20, 2012, the SACOG Board unanimously approved the 2013-2021 Regional Housing Needs Plan (RHNP). The RHNP was prepared by SACOG in response to statutory requirements, policy direction from the State of California Department of Housing and Community Development (HCD), and mandated deadlines for delivery of housing need allocation numbers to local jurisdictions within the region. The most important component of the RHNP is that it distributes the allocation of housing units in each of four income categories to each city and county in the six county region, including the Tahoe Basin portions in El Dorado and Placer Counties. The region's total housing allocation is 104,970 units for the RHNP plan period that covers January 1, 2013 through October 31, 2021. The allocation is based on the SACOG region's projected housing needs over the planning period. SACOG projects that the regional population will increase by approximately 23 percent, from 2,769,200 to 3,413,136 persons, between 2020 and 2035 and that the number of housing units will also increase by approximately 23 percent, from 1,084,463 to 1,335,705 units, in the same time period.[17]

[17] Sacramento Area Council of Governments, 2010. *Draft Regional Growth Projections for the Metropolitan Transportation Plan Update*. March 31, 2010.

The City's 2030 General Plan assumed that new growth would occur and factored in the additional new residents based on the change in land use designations. The 2030 General Plan assumed the City would add approximately 97,000 new housing units and 197,000 new residents within the next 20 years. The General Plan's land use diagram was designed to accommodate the projected population growth.

Additionally, the 2030 General Plan includes a number of goals and policies designed to support infill development along with well-planned development that accommodates the growing needs of the City while also preserving the many unique aspects of Sacramento. Goal LU 1.1 of the 2030 General Plan encourages sustainable growth and change through orderly and well-planned development that provides for the needs of existing and future residents and businesses. Policies LU 1.1.2 and LU 1.1.3 ensure that the City regulates the levels of building intensity and population density according to the standards and land use designations set out in the General Plan and the City's Planning and Development Code. These policies require that cumulative development not exceed 650,000 persons and 474,000 employees by 2030, and require the City to review and adjust remaining capacities of the General Plan's land use, population, and employment every five years, subject to evaluation of their impacts. The MEIR concludes that buildout of the General Plan under the adopted Land Use and Urban Form Diagram would accommodate projected housing demand within the City. It should also be noted that development and population growth has slowed considerably since the economic downturn in 2008. Thus, it is unlikely that the growth projections contained in the MEIR will be realized within the 2030 planning horizon.

The Proposed Project would be consistent with and does not propose to change the 2030 General Plan land use designations for the project site. Therefore, the proposed number of housing units and population projections for this site are consistent with the assumptions of the 2030 General Plan. The project itself would not significantly induce population growth or result the loss of housing within the City.

Offsite Digital Billboards

Construction and operation of the six offsite digital billboards would not include housing, remove housing, or require the hiring of workers from outside the project area and would therefore not induce substantial population growth or result in a shortage of housing in the project area.

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CHAPTER 4
Environmental Impacts, Setting, and Mitigation Measures

4.0 Introduction to the Analysis

This EIR evaluates the physical environmental effects that would be potentially affected by the implementation of the Proposed Project. Some environmental effects that are typically considered under CEQA would not be affected by the Proposed Project and, pursuant to CEQA, are not further analyzed in this EIR. A discussion of those issues that were not further analyzed in the EIR can be found later in this chapter.

4.01 Definitions of Terms Used in the EIR

This EIR uses a number of terms that have specific meaning under CEQA. Among the most important of the terms used in the EIR are those that refer to the significance of environmental impacts. The following terms to describe environmental effects of the Proposed Project:

- **Significance Criteria:** A set of criteria used by the lead agency to determine at what level or threshold an impact would be considered significant. Standards of Significance used in this EIR include those standards provided by the City of Sacramento. In determining the level of significance, the analysis assumes that the Proposed Project would comply with relevant federal, State, and local regulations and ordinances.

- **Significant Impact:** A project impact is considered significant if the Proposed Project would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project-related physical change compared to specified significance criteria. A significant impact 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."[1]

- **Potentially Significant Impact:** A potentially significant impact is identified where the Proposed Project may cause a substantial adverse change in the environment, depending on certain unknown conditions related to the project or the affected environment. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.

[1] State CEQA Guidelines, section 15382.

- **Less-than-Significant Impact:** A project impact is considered less than significant when the physical change caused by the Proposed Project would not exceed the applicable significance criterion.

- **Significant and Unavoidable Impact:** A project impact is considered significant and unavoidable if it would result in a substantial adverse physical change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level.

- **Cumulative Impact:** Under CEQA, a cumulative impact refers to "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."[2] Like any other significant impact, a significant cumulative impact is one in which the cumulative adverse physical change would exceed the applicable significance criterion and the Proposed Project's contribution is "cumulatively considerable."[3]

- **Mitigation Measure:** A mitigation measure is an action that could be taken that would avoid or reduce the magnitude of a significant impact. Section 15370 of the State CEQA Guidelines defines mitigation as:

    a. Avoiding the impact altogether by not taking a certain action or parts of an action;

    b. Minimizing impacts by limiting the degree of magnitude of the action and its implementation;

    c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

    d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and

    e. Compensating for the impact by replacing or providing substitute resources or environments.

4.02 Section Format

Chapter 4 is divided into technical sections (e.g., section 4.1, Aesthetics, Light and Glare) that present for each environmental resource issue area the physical environmental setting, regulatory setting, standards of significance, analytical methods, and impacts to the environment, and, where required, potentially feasible mitigation measures for significant impacts. Each section includes an analysis of project-specific and cumulative impacts for each issue area.

The technical environmental sections each begin with a description of the project's **environmental setting** and the **regulatory setting** as it pertains to a particular issue. The environmental setting provides a point of reference for assessing the environmental impacts of the Proposed Project and

2 State CEQA Guidelines, section 15355.
3 State CEQA Guidelines, section 15130(a).

project alternatives. The environmental setting discussion addresses the conditions that exist prior to implementation of the project. This setting establishes the baseline by which the Proposed Project and project alternatives are measured for environmental impacts. The regulatory setting presents relevant information about federal, state, regional, and/or local laws, regulations, plans or policies that pertain to the environmental resources addressed in each section.

Next, each section presents **significance criteria,** which identify the standards used by the City of Sacramento to determine the significance of effects of the Proposed Project. The significance criteria used for this project were derived from the City of Sacramento's established significance standards, which, in turn, reflect policies of the 2030 General Plan, as well as other criteria applicable under CEQA, including thresholds established by trustee and responsible agencies.

A **methods and assumptions** description in each section presents the analytical methods and key assumptions used in the evaluation of effects of the Proposed Project, and is followed by an **impacts** and **mitigation** discussion. The impact and mitigation portion of each section includes impact statements, prefaced by a number in bold-faced type. An explanation of each impact is followed by an analysis of its significance. The subsection concludes with a statement that the impact, following implementation of the mitigation measure(s) and/or the continuation of existing policies and regulations, would be reduced to a less-than-significant level or would remain 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 State CEQA Guidelines, direct, indirect, short-term, long-term, onsite, and/or off-site impacts are addressed, as appropriate, for the environmental issue area being analyzed. Under CEQA, economic or social changes by themselves are not considered to be significant impacts, but may be considered in linking a project to a physical environmental change, or in determining whether an impact is significant.

Where enforcement exists and compliance can be reasonably anticipated, this EIR assumes that the Proposed Project would meet the requirements of applicable laws and other regulations.

Mitigation measures pertinent to each individual impact, if available, appear after the impact discussion section. The magnitude of reduction of an impact and the potential effect of that reduction in magnitude on the significance of the impact is also disclosed. An example of the format is shown below.

4.02.1 Impacts and Mitigation Measures

Impact 4.X-1: Impact statement.

A general discussion of impact for the Proposed Project in paragraph form is provided. To identify impacts that may be site- or project element-specific, where appropriate, the discussion differentiates between effects at the Downtown project site, including the Entertainment and Sports Center (ESC) project element and the future development within the PUD area, and the

Offsite Digital Billboard sites. A statement of the level of significance before application of any mitigation measures is provided in ***bold and italics***.

Mitigation Measure

4.X-1 (ESC/PUD/DB)

Recommended mitigation measure in italics and numbered in consecutive order.

Where appropriate, one or more potentially feasible mitigation measures are described. If necessary, a statement of the degree to which the available mitigation measure(s) would reduce the significance of the impact is included in ***bold and italics***.

4.02.2 Cumulative Impacts

An analysis of cumulative impacts follows the project-specific impacts and mitigation measures evaluation in the each section. As defined in State CEQA Guidelines section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other past, present and reasonably foreseeable projects causing related impacts. An introductory explanation that defines the cumulative analysis methodology and the cumulative context being analyzed for respective sections (e.g., SACOG projections, the Sacramento Valley Air Basin) is included at the beginning of the cumulative impact analysis in each technical section. In some instances a project-specific impact may be considered less than significant, but may be considered potentially significant in combination with development of the surrounding area or in combination with regional growth projections. In some instances, a potentially significant impact may result on a project level but would not result in a considerable contribution to a significant cumulative impact. The cumulative impacts analysis is formatted the same as the project-specific impacts, as shown above.

4.03 Issues Previously Determined to be Less Than Significant

Upon review of the Proposed Project, the City of Sacramento determined that due to the physical characteristics of the project site and the project as proposed several environmental issues would involve impacts that would be less than significant and need not be further considered in the Draft EIR.[4] The discussions below provide brief statements of reasons for the City's determination that these issues do not warrant further consideration in the EIR.

[4] Public Resources Code, Section 21003(e) states that "[t]o provide more meaningful public disclosure, reduce the time and cost required to prepare an environmental impact report, and focus on potentially significant effects on the environment of a proposed project, lead agencies shall, in accordance with Section 21100, focus the discussion in the environmental impact report on those potential effects on the environment of a proposed project which the lead agency has determined are or may be significant. Lead agencies may limit discussion on other effects to a brief explanation as to why those effects are not potentially significant."

4.03.1 Geology and Soils

Seismic Ground Shaking

No Alquist-Priolo Earthquake Fault Zones are present in the city of Sacramento. Therefore, no evidence exists to suggest that there is a reasonable chance of fault rupture within the Downtown project site or Offsite Digital Billboard sites. As discussed in the City of Sacramento 2030 General Plan Master EIR, despite its relatively distant location from known faults and fault zones, people and structures within the city could be subject to the effects of groundshaking caused by a seismic event located miles away.[5] The resulting vibration could cause damage to buildings, roads, and infrastructure (primary effects), and could cause ground failures such as liquefaction or settlement in loose alluvium and/or poorly compacted fill (secondary effects).[6]

Portions of the city, including the Downtown project site, are underlain by artificial fill and alluvial deposits that, in their present states, could become unstable during seismic ground motion. To reduce the primary and secondary risks associated with seismically induced groundshaking, it is necessary to take the location and type of subsurface materials into consideration when designing foundations and structures.

As part of the construction permitting process, the City requires completed reports of soil conditions at the specific construction sites to identify potentially unsuitable soil conditions including potential exposure to potentially damaging seismic vibrations, ground failure, liquefaction, settlement, subsidence, lateral spreading, and collapse. The City requires that these evaluations be conducted by registered soil professionals, and measures to eliminate inappropriate soil conditions must be applied, depending on the soil conditions. The design of foundation and excavation-wall support must conform to the analysis and implementation criteria described in the California Building Code (CBC), Chapters 16, 18, 33, and the appendix to Chapter 33.

For these reasons, there would be no adverse effects of the Proposed Project related to seismic ground shaking.

Soil Erosion

Construction activities at the Downtown project site would result in site preparation activities, such as excavation, grading and trenching, which would result in the exposure of soils. The Downtown project site and the Offsite Digital Billboard sites are relatively flat and in the case of the ESC site, below grade.

Compliance with the City of Sacramento's Grading Ordinance, Chapter 15.88 of the Sacramento Municipal Code, requires that an Erosion and Sediment Control Plan must be prepared for each project within the city prior to the commencement of grading. An erosion control professional,

5 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.

6 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.

landscape architect, or civil engineer specializing in erosion control must design the Erosion and Sediment Control Plan and be on the project site during the installation of erosion and sediment control measures, and supervise implementation of the installation and maintenance of such facilities throughout the site clearing, grading and construction periods.[7]

For these reasons, construction of the Proposed Project would not substantially alter topography and there would be minimal, if any, erosion from the project sites.

Unstable Geological Units and Expansive Soils

Due to the relatively flat topography of the city, landslides are not considered to be major threats to any areas within the city, including the Downtown project site and the Offsite Digital Billboard sites.

Subsidence occurs over large areas with substantial withdrawal of oil, natural gas, or groundwater. There are no active oil or natural gas production operations near the project site or the city as a whole, so subsidence resulting from such activities would not occur within the city, including the Downtown project site or the Offsite Digital Billboard sites.[8] There are groundwater withdrawal activities located within the city and subsidence has been observed within the city, specifically in downtown Sacramento near I-5 associated with the long-term dewatering of the "boat" section of I-5.[9] The Proposed Project would not include any long-term, permanent dewatering.

Subsidence or settlement may also occur over smaller areas near dewatering activities. Because of the shallow water table, dewatering would be necessary during excavation and foundation support construction activities within the Downtown project site. Often, groundwater provides partial support for the near-surface soil materials and, when withdrawn, allows the soils to slough into the excavation. If the dewatering system draws down the water table adjacent to the excavation, there is the possibility of undermining foundations on the adjacent site, causing cracking or collapse. To avoid these conditions, dewatering system design and excavation-wall support need to be designed appropriate to the soil conditions. The required site-specific evaluation of soil conditions must contain recommendations for these systems specific to the site, and be incorporated into the construction design.

As is described in Chapter 2, Project Description, the project proposes to use monitor wells to gain historical data both prior to and during the construction dewatering period. The wells would be either new or existing wells around the ESC site, including the project vicinity covering an area with a radius of about three-quarters of a mile. The system of monitoring wells would be used to determine subsidence parameters which in turn would dictate to the dewater subcontractor how low the immediate ESC water table can be dropped. Automatic controls may be used to

7 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.
8 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.
9 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.

alternate pumps and subsequent discharge quantities during the construction dewatering period. For special areas, such as the loading ramp on the 5th Street side of event level and adjacent to the Hotel Marshall, a shallow well point system would be utilized to reduce the cone of influence that typically develops with dewatering systems of any type.

As part of the construction permitting process, the City requires completed reports of soil conditions at the specific construction sites to identify potentially unsuitable soil conditions including liquefaction, settlement, subsidence, lateral spreading, and collapse. The City requires that these evaluations be conducted by registered soil professionals, and measures to eliminate inappropriate soil conditions must be applied, depending on the soil conditions. The design of foundation and excavation-wall support must conform to the analysis and implementation criteria described in the CBC, Chapters 16, 18, 33, and the appendix to Chapter 33.[10]

For these reasons, the project would not adversely affect the local geology or soil, or contribute to subsidence that could adversely affect nearby structures.

Capability to Support Septic Tanks

There are no plans to provide wastewater service via septic tank or other alternative wastewater disposal systems. All proposed sewer impacts would involve connections to existing service systems (addressed in section 4.11, Utilities and Service Systems). For this reason, the ability of the project soils to support septic is not further considered in this EIR.

4.03.2 Biological Resources – Conflicts with a Recognized Habitat Conservation Plan

The Downtown project site and eight Offsite Digital Billboard sites are located in primarily urbanized environments that are not within the boundaries of a local Habitat Conservation Plan (HCP), a Natural Communities Conservation Plan (NCCP), or any other habitat conservation plan.

Two of the proposed Offsite Digital Billboard sites – I-5 at Bayou Road and I-5 at San Juan Road – are within the boundary of the Natomas Basin Habitat Conservation Plan (NBHCP). The NBHCP authorizes a maximum of 17,500 acres of development in the Natomas Basin within the approved development areas, to be mitigated at a ratio of 0.5 to 1 (i.e., every acre of development requires one-half acre of compensatory mitigation). The proposed billboard sites within the Natomas Basin are located within existing developed areas or areas planned for future development. The City of Sacramento is currently a participant in the NBHCP and would comply with general guidelines and specific mitigation requirements of the NBHCP. Thus, the Proposed Project would be consistent with the NBHCP. Therefore, this issue is not further considered in this EIR. All impacts to sensitive species habitat are addressed in section 4.3, Biological Resources.

[10] City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. March 3, 2009. p. 6.5-20.

4.03.3 Hydrology and Water Quality – Impacts Resulting from Seiche, Tsunami, or Mudflow

Due to the relatively flat topography of the Downtown project site and Offsite Digital Billboard sites, the potential for mudflow or a mudslide would be highly unlikely. A seiche is an oscillation of the surface of a landlocked body of water that varies in period from a few minutes to several hours. Although there is potential for inundation from a seiche from the Sacramento River, the probability of seiche is very low. Further, the Downtown project site and Offsite Digital Billboard sites are not located in an area subject to tsunami waves. Therefore, the project's potential to expose people or structures to a significant risk of flooding, as a result of inundation by seiche, tsunami, or mudflow is extremely low. For these reasons, impacts from seiches, tsunamis or mudflows were not further considered in this EIR.

4.03.4 Mineral Resources – Loss of Availability of Important Mineral Resources

The Downtown project site and Offsite Digital Billboard sites are located in a disturbed environment surrounded by urban uses. The Surface Mining and Reclamation Act (SMARA) directs the State Geologist to classify (identify and map) the non-fuel mineral resources of the State to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Areas known as Mineral Resource Zones (MRZs) are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four general classifications (MRZ-1 through MRZ-4) as described below.

MRZ-1: Areas where available geologic information indicates there is little or no likelihood for presence of significant mineral resources.

MRZ-2a: Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.

MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic. Further exploration and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a.

MRZ-3a: Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration within these areas could result in the reclassification of specific localities as MRZ-2a or MRZ-2b.

MRZ-3b: Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration could result in the reclassification of all or part of these areas as MRZ-3a or specific localities as MRZ-2a or MRZ-2b.

MRZ-4: Areas of no known mineral occurrences where geologic information does not rule out the presence or absence of significant mineral resources.

Public Resources Code Section 2762 directs that if a use is proposed that might threaten the potential recovery of minerals from an area that has been classified MRZ-2, the county (or city) must specify its reasons for permitting use, provide public notice of those reasons, and forward a copy of its statement of reasons to the State Geologist and State Mining and Geology Board.

Downtown Sacramento, including the Downtown project site is classified as MRZ-1. In addition, all but two of the Offsite Digital Billboard sites are classified as MRZ-1. These sites are not underlain by significant mineral resources. Two Offsite Digital Billboard sites, the Business 80 at Sutter's Landing Regional Park/American River and the SR 99 at Calvine Road sites are classified as MRZ-3. The two sites are within the urbanized area of the City of Sacramento, and unlikely to be available in the long-term for mineral extraction. Further, at the Business 80 at Sutter's Landing Regional Park/American River site, mineral extraction would be inconsistent with the American River Parkway Plan.

For these reasons the potential for the Proposed Project to cause loss of a local or regionally identified mineral resource was not further considered in this EIR.

4.03.5 Transportation and Circulation

The potential Offsite Digital Billboard sites are each located within the city limits and are in close proximity to a freeway. Five of the proposed Offsite Digital Billboard sites (US 50 at Pioneer Reservoir, Business 80 at Sutter's Landing Regional Park, Business 80 at Sutter's Landing Regional Park/American River, I-5 at Roseville Road, and I-5 at Sacramento Railyards) are located near an existing rail line. While five of the proposed sites are located near a rail line, the orientation of the digital billboard face and restrictions on light intensity would ensure that no significant hazards to rail traffic would occur. The remaining digital billboard locations are not adjacent to any rail line, waterway or airport, and would not result in uses that would generate significant rail, waterborne or air traffic.

The construction of Offsite Digital Billboards would involve just a few truck trips over approximately five days, and billboard operations would not result in any increase in vehicle trips. The proposed Offsite Digital Billboards would be located outside traveled portions of roadways, and would present no obstacles to emergency access. The digital billboards would have the capacity to display official messages regarding emergencies, and could perform as part of the emergency response system, thus resulting in beneficial effects on emergency response. No parking demand would result from the Offsite Digital Billboards, and the digital billboards would not present any conflict with policies regarding alternative transportation. In particular, the digital

billboard that could be constructed at the Business 80 at Sutter's Landing Regional Park would be oriented to be seen by motorists on eastbound Business 80, and would not visually conflict with the Caltrans digital information sign located immediately to the east and which is oriented to be viewed by motorists on westbound Business 80.

For these reasons, the effects of the Offsite Digital Billboards on transportation and circulation were not further considered in this EIR.

4.03.6 Noise and Vibration

Aircraft Noise

The Downtown project site is located approximately eight miles southeast of Sacramento International Airport and approximately four miles northwest of Sacramento Executive Airport. McClellan Park is approximately six miles northeast of the Downtown project site. The Downtown project site is not located within an airport land use plan area or within two miles of an airport or private airstrip; therefore, development of the Downtown project site would not expose people to excessive airport noise levels.

Development of the Offsite Digital Billboards would result in construction workers temporarily present at the billboard sites. The I-5 at Bayou Road billboard site is approximately two miles southeast of Sacramento International Airport, and outside of the overflight zone. The I-5 at Water Tank billboard site is approximately two miles southwest of Sacramento Executive Airport, and outside of its overflight zone. The Business 80 at Del Paso Regional Park/Haggin Oaks billboard site is one and a half miles south of McClellan Park, and within the overflight zone. Construction of digital billboards at these locations would only expose a few construction workers at each site to aircraft overflight for a maximum of approximately five days. No permanent workers would remain at the Offsite Digital Billboard sites. Therefore, there would be no adverse impacts resulting from exposure to aircraft noise. For these reasons, impacts related to aircraft noise are not discussed further in the EIR.

Operational Vibration

The most common sources of operational ground-borne vibration in urban environments are trains, buses and trucks driving on rough roads. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Vibration can also occur from traffic on highways and heavy rail lines. The Downtown project site is approximately one-tenth of a mile from the I-5 main line and approximately one-quarter mile from the Union Pacific lines north of the site. Although the Downtown project site is proximate to two potential operational vibration sources, intervening buildings cause some dissipation of vibration levels. Operational activities at the Downtown project site would not result in vibration levels in excess of normal urban vibration levels caused by roadway activities and other urban activities.

Operation of the Offsite Digital Billboards would not result in any vibration that could affect adjacent uses. Likewise, adjacent highway traffic and other potential vibration sources would not

affect operation of the Offsite Digital Billboards. Therefore, there would be no adverse impact resulting from operational vibration. For these reasons, impacts related to operational vibration are not discussed further in the EIR.

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4.1 Aesthetics, Light and Glare

4.1.1 Introduction

This section addresses potential effects related to the aesthetics, or visual quality, of the project vicinity, which is defined in this section as follows:

- *Downtown project site*: The entire project site, including the ESC site and project mixed use sites, but exclusive of the digital billboard sites;
- *ESC site*: The area in which the ESC arena and practice facilities/office building would be located;
- *SPD area*: The portion of the project site where the mixed use development would be located, which excludes the ESC site;
- *project vicinity*: The area surrounding and near the project site; and
- *offsite digital billboard sites*: The ten potential sites where digital billboards could be located.

4.1.2 Environmental Setting

Regional Setting

The City of Sacramento is characterized by a downtown urban core surrounded by suburbs and agricultural land. To the east, on clear days the foothills of the Sierra Nevada Mountains provide a backdrop to the visual setting of the City. Downtown Sacramento is framed by a grid pattern of bisecting streets. Buildings range from small single-family residences to large high-rise office buildings. Buildings are comprised of a multitude of materials including metal, glass, wood, brick, and stone. Typical of the visual character of a downtown area of a city, the Central Business District (CBD) of Sacramento is characterized by larger multi-story buildings constructed of metal and glass. High-rise buildings in downtown Sacramento range in height from approximately 150 feet to 425 feet.

Sacramento's downtown skyline is visible from nearby locations such as the West Sacramento riverfront, the SR 160 and Business 80 bridges over the American River, as well as from miles around the City, including from eastbound I-80 on the Sacramento-Yolo Causeway, from westbound I-80 east of the City of Roseville, from northbound I-5 between Elk Grove and Sacramento, from southbound I-5 north of the downtown area, and from westbound US-50 as far east as El Dorado Hills. High-rise buildings are the distinctive features of the skyline, including the Wells Fargo Center, the California Environmental Protection Agency building, the U.S. Federal Courthouse, the U.S. Bank Plaza Building, the Sheraton Grande Hotel, the California State Capitol building, the Renaissance Tower Building, and, by night, the distinctive blue light of the Esquire Plaza building and the colorful LED lit top of the US Bank Plaza Building.

The City is bisected by a number of major freeways including Interstate 5 (I-5) that traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno, as well as Highway 50, which provides an east-west connection between Sacramento and South Lake Tahoe. In some areas, freeways are lighted by poles and overhead lamps. In most areas within the City, surrounding development generates light that provides ambient light in the vicinity. Headlights from motor vehicles contribute to the ambient light conditions. Some freeways in the City are landscaped. Such sections of freeways are improved by planting of lawns, trees, shrubs, flowers or other ornamental vegetation on at least one side or on the median of the freeway. None of the freeway segments within the City, including I-5 as it passes through downtown Sacramento near the Downtown project site, have been identified as scenic.[1]

Downtown Project Site

The Downtown project site is located within the CBD of downtown Sacramento, which is a developed urban area characterized by a wide mix of building types and sizes. Much of the CBD is developed in mid-rise buildings ranging from two to six stories, multi-story high rises constructed mainly of stone, brick, metal and glass, interspersed with parks and municipal uses are prominent visual features in the project vicinity. More recently constructed buildings tend to be taller than the older buildings. The CBD includes buildings of varying styles, from the 1920's Italianate masonry and terra-cotta facades to the 1950's-era modern steel and glass clad exteriors to more recently design post-modern buildings. A few large buildings dominate most blocks in the CBD. A sense of unity is achieved by a recurring pattern of large buildings with uniform setbacks, block-like shapes, and exterior materials of concrete, steel, glass, terra cotta, stucco, and other similar building façade materials. Particular buildings tend to represent distinct areas of downtown, such as the Wong Center and associated building bounded by 4th, 5th, I, and J Streets, across J Street from the Downtown Project site, which represents Sacramento's historical "Chinatown."

The Downtown Project site currently consists of most of what is known as Downtown Plaza – a large two-level outdoor shopping mall. Downtown Plaza represents a departure from the traditional urban form in downtown Sacramento as it interrupts the traditional street grid by creating a six-block superblock with one continuous building mass ranging in height from 20 to 60 feet in height that tends to wall off the site from the street face. Downtown Plaza also includes the Downtown Plaza West Garage, located at 3rd and L Streets, which is a six-story, concrete, above grade parking structure.

[1] California Department of Transportation (Caltrans), 2012. *California Scenic Highway Program.* www.dot.ca.gov/hq/LandArch/scenic/schwy.htm. Accessed August 5, 2013.

View Points

The Downtown project site can be viewed by people living in, working in, visiting, and driving through downtown Sacramento. The most direct views are from motorists traveling along 4th, 5th, 6th, 7th, J, K, and L Streets, as well as those driving south on the elevated section of I-5 as they approach downtown. The Downtown project site can also be seen by persons living and working in buildings surrounding the site. See Figure 4.1-1 through Figure 4.1-5 for views of the Downtown project site and the surrounding area. The Wong Center residential senior residential building is located across J Street approximately 140 feet northwest from the Downtown project site and has largely unimpeded views of it (see Figure 4.1-3).

Motorists traveling on southbound I-5 have partially obstructed views of the Downtown project site; these views are diminished by the topography of I-5 and existing buildings (especially the California Fruit Building and the Holiday Inn), as well as trees and signs. Motorists on I-5 northbound are generally unable to see the site due to grade differences where the freeway is below-grade as well as due to intervening buildings along Capitol Mall that obscure the view. By the time the freeway is above grade, the site is generally in the peripheral vision of anyone in a vehicle.

Due to the topography and grade changes, existing buildings, landscaping, streets, signs, and lighting in and around downtown Sacramento, the Downtown project site can only be seen by those in relatively close proximity.

Sensitive Receptors

A sensitive receptor is defined as an individual that is especially sensitive to changes in aesthetic qualities, which could include changes in lighting, shadows, or surrounding visual character, for example. Uses that accommodate sensitive receptors typically include residential, recreational, and park uses.

Sensitive receptors would include residents of the Ping Yuen Apartments and the Wong Center, residents of the Hotel Marshall and Jade Apartments, and residents of south and west facing units on the upper floors of Riverview Plaza (600 I Street), 630 I Street high-rise residential buildings located on I Street west of 7th Street, Bridgeway Towers (500 N Street), and 800 J Lofts (800 J Street). Visitors to the Old Sacramento State Historic Park and St. Rose of Lima Park could also be considered sensitive receptors.

Light and Glare

Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare, and if designed incorrectly, could be considered unattractive. Although nighttime light is a common feature of urban areas, spillover light can adversely affect light-sensitive uses, such as residential units at nighttime.

PHOTOGRAPH 1. Downtown Plaza entrance at 7th Street and K Street intersection.

PHOTOGRAPH 2. Looking west toward the downtown project site from 8th Street and K Street intersection.

SOURCE: ESA, 2013

Figure 4.1-1
Project Site Photographs

PHOTOGRAPH 3. Looking east down K Street from 7th Street and K Street intersection.

PHOTOGRAPH 4. View of downtown project site from the southwest corner of 5th Street and L Street.

SOURCE: ESA, 2013

Figure 4.1-2
Project Site Photographs

PHOTOGRAPH 5. Looking north across J Street at the Ping Yuen Building and Wong Center from 6th Street and J Street intersection.

PHOTOGRAPH 6. The Hotel Marshall and Jade Apartments with office building in background at 7th Street and L Street intersection.

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SOURCE: ESA, 2013

Figure 4.1-3
Project Site Photographs

PHOTOGRAPH 7. Looking toward the downtown project site from 9th Street and Capitol Mall intersection.

PHOTOGRAPH 8. Looking toward the downtown project site from 10th Street and L Street intersection.

SOURCE: ESA, 2013

Figure 4.1-4
Project Site Photographs

PHOTOGRAPH 9. View of Downtown Plaza deck above 5th Street and Sacramento downtown skyline looking south from 5th Street and J Street intersection.

PHOTOGRAPH 10. The Sacramento downtown skyline and urban nature of the proposed project area at 5th Street and L Street intersection.

SOURCE: ESA, 2013

Figure 4.1-5
Project Site Photographs

Ambient light levels or illumination is measured in foot-candles. Table 4.1-1 lists typical ambient illumination levels in foot-candles for exterior and interior lighting. "Horizontal" footcandles measure light illumination on a horizontal surface, such as a sidewalk or parking lot; "vertical" foot-candles measure light illumination on a vertical surface.

TABLE 4.1-1
TYPICAL ILLUMINATION LEVELS IN FOOT-CANDLES

Light Source	Foot-Candles
Starlight	0.0002
Moonlight	0.02
Street Lighting	0.6-1.6
Direct Sunlight	6,000-10,000
Office Lighting	70-150

SOURCE: City of Sacramento, 2009. *Sacramento 2030 General Plan Master EIR*. Certified March 3, 2009. Table 6.13-1, p. 6.13-8.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare.

The City of Sacramento is primarily built-out, and a significant amount of artificial light and glare from urban uses already exists. Existing sources of light and glare in the project vicinity are mostly from outdoor lamps in the parking lots surrounding existing commercial uses and from outdoor lights illuminating the existing buildings and businesses. The downtown area has a higher concentration of artificial light and reflective surfaces that produce glare than the outlying residential areas due to the amount of artificial light associated with exterior building lights, lighted signs, street lights, roadways, signal lights, and parking area lights. Some of the most notable sources of nighttime light in the downtown skyline include colored light features on high-rise buildings such as the Esquire Building and US Bank Tower. At the street level, the Crest Theater and Esquire Theater on K Street are visually notable at night due to bright neon signs.

Although many of the buildings in downtown Sacramento are clad in non-reflective surfaces such as stone or terra cotta, the project vicinity contains a few notable sources of reflective glare, including several buildings with exteriors dominated by mirrored glass, including 300 Capitol Mall, Renaissance Tower, 500 Capitol Mall, the US Bank Tower at 7th and Capitol Mall, and the CalStrs building in West Sacramento. In addition, on the Downtown project site, the 2nd through 4th floors to the 660 J Street building are clad in dark reflective glass. Finally, automobiles traveling along adjacent roadways (i.e., J and L Streets, 5th Street, Capitol Mall, etc.) also contribute to nighttime sources of light and glare in the project vicinity.

Offsite Digital Billboard Sites

As described in Chapter 2, the Proposed Project would include construction and operation of up to six (6) offsite digital billboards on City-owned property within Sacramento. At this time a total of ten potential sites are under consideration and are evaluated in this EIR. The visual settings of the ten potential digital billboard sites are described below.

I-5 at Water Tank

The proposed digital billboard footprint is within a larger, mainly vacant site surrounded by a chain-link fence that secures a tall, metal water tank (see Figure 4.1-6). The site is adjacent to single-family homes to the north and west; industrial buildings associated with the Freeport Water Treatment Plant to the south, and elevated I-5 to the east. The site is bare ground and scattered gravel. An active water valve and two capped water well pipes are within the footprint. Mature trees are immediately north of the proposed digital billboard location, within the backyard of the adjacent property (see Figure 4.1-7). Residents of nearby homes would be considered sensitive receptors for visual issues at this location.

US 50 at Pioneer Reservoir

The US 50 at Pioneer Reservoir site is an asphalt and gravel access path with some mature ornamental shrubs along the edges of the reservoir, immediately north of the Pioneer Bridge and adjacent to the reservoir structure (see Figure 4.1-8). The visual environment around this site includes the reservoir roof made of flat concrete slabs with pipes and other mechanical equipment on the roof. The roof is approximately 10-12 feet above ground level. The elevated concrete pillars and steel girders supporting the Pioneer Bridge structure and the on-ramp from southbound I-5 can be seen adjacent to this site to the south and southeast. Immediately east of the reservoir are the arched roofs of the one-story California Automobile Museum. A chain-link fenced surface parking lot is underneath the Pioneer Bridge and immediately adjacent to, and visible from, the proposed digital billboard site. An elevated railroad track and publicly accessible bike trail are immediately north of the site.

Sensitive receptors for visual issues at this site include boaters, fisherman, bicyclists using the Sacramento River Bike Trail, and passengers on the Sacramento Southern Railroad excursion train that operates from the State Railroad Museum in Old Sacramento on spring and summer weekends.

Business 80 at Sutter's Landing Regional Park

The visual setting of the proposed Business 80 at Sutter's Landing Regional Park digital billboard site is dominated by the stand of mature eucalyptus, black walnut and other trees that have grown adjacent to the southbound lanes of Business 80, the grassy hill that rises to Sutter's Landing Regional Park, along with gravel access roads, pipelines (part of the former landfill methane extraction system), and several large static billboards (see Figure 4.1-9). The area is vegetated with low grasses, shrubs and mature trees. Methane release valves and piping lie above ground, immediately adjacent to the proposed digital billboard site. An approximately 15-foot high digital

SOURCE: ESA, 2013

Figure 4.1-6
Interstate 5 at Water Tower Billboard Site

SOURCE: ESA, 2013

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Figure 4.1-7
Mature Trees and Residence Near
Interstate 5 and Water Tower Billboard Site

SOURCE: ESA, 2013

Figure 4.1-8

US 50 at Pioneer Reservoir Billboard Site – Looking South

SOURCE: ESA, 2013

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Figure 4.1-9

Business 80 at Sutter's Landing Regional Park Billboard Site

freeway information sign is located immediately adjacent to the freeway safety barrier, about 40 feet northeast of the proposed billboard site. Three static billboards are situated along the Sutter Landing Park access road, approximately 50 feet north of Business 80. The base of the static billboards is approximately 30 feet above the freeway grade, and the signs are approximately 20-feet high.

Business 80 is immediately south of the site. The property across Business 80 is ruderal grassland with four large static billboards along the length of the property. The Union Pacific Railroad on an elevated levee, along with trees and a water tower in the East Sacramento neighborhood are in the background.

There are no sensitive receptors with views of this site.

Business 80 at Del Paso Regional Park/Haggin Oaks

The visual character of the Business 80 at Del Paso Regional Park/Haggin Oaks site is a heavily vegetated stand of mature oak, eucalyptus, and other trees, approximately 30-40 feet in height, on the freeway edge alongside the asphalt Haggin Oaks Trail (see Figure 4.1-10). The proposed digital billboard site contains various ornamental trees, planted approximately every 10 feet. The ground is covered with short grasses and tree debris. Immediately north of the trail is an approximately 10-foot high grassy embankment that visually separates the freeway from the adjacent golf course.

A 20-foot high digital freeway information sign, an approximately 60-foot high power transmission line, and a number of one- and two-story commercial and industrial buildings in and around the intersection of Auburn Boulevard and Bell Street are located across Business 80 from this site (see Figure 4.1-11).

Golfers playing the Alister MacKenzie Golf Course would be considered sensitive receptors for visual issues at this site.

Business 80 at Sutter's Landing Regional Park/American River

The proposed Business 80 at Sutter's Landing Regional Park/American River digital billboard site is a large grassy field adjacent to the freeway and the American River (see Figure 4.1-12). The site is covered with short grasses, small shrubs, gravel, and exposed soil. Immediately north of the site, the levee slope rises to a gravel road that is on top of the levee. Mature trees, scrubby understory, and the American River can be seen to the north (see Figure 4.1-13). Views from this site to the west include two well-established gravel access roads, railroad tracks that are elevated on a constructed levee, a large static billboard adjacent to the freeway and railroad tracks, several mature trees and large shrubs, and the railroad bridge that crosses Business 80. Views to the south, across Business 80, are to a concrete block soundwall (that protects the River Park neighborhood) and mature trees that tower over the wall.

Boaters, fishermen, and others recreating in the American River Parkway would be considered sensitive receptors for visual issues at this site.

SOURCE: ESA, 2013

Figure 4.1-10
Business 80 at Del Paso Regional Park/Haggin Oaks
Billboard Site, Looking Northeast

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SOURCE: ESA, 2013

Figure 4.1-11

Commercial Buildings and Power Lines Across Business 80 from Business 80 at Del Paso Regional Park/Haggin Oaks Billboard Site

SOURCE: ESA, 2013

Figure 4.1-12

Business 80 at Sutter's Landing Regional Park/American River Billboard Site

SOURCE: ESA, 2013

Figure 4.1-13
View of American River from Business 80 at
Sutter's Landing Regional Park/American River Billboard Site

I-80 at Roseville Road

The I-80 at Roseville Road site is visually dominated by the elevated structure of westbound I-80, approximately 25 feet above Roseville Road (see Figure 4.1-14). The proposed digital billboard site is paved asphalt surrounded by a chain link fence topped with concertina wire. A metal sided, one-story portable building is located on the site. Above the site are numerous telephone poles supporting a range of power and telecommunication lines. Separating the site from Roseville Road is an approximately 3-foot deep dirt roadside drainage ditch.

Views from the site to the north, across Roseville Road, are to the Union Pacific railroad tracks, a number of one-story metal-sided industrial buildings along Talent Street and Harris Avenue, numerous chain link fences, elevated power and telecommunication lines, and open land toward the runways at McLellan Air Park. Views to the south and southwest, under the elevated I-80, are of mowed ruderal grasses and scattered oak trees and shrubs, as well as the paved parking lots of RT's Roseville Road light rail station.

There are no known sensitive receptors around the proposed I-80 at Roseville Road digital billboard site.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is a flat, grassy site adjacent to the SR 99 southbound on-ramp from Calvine Road. The proposed digital billboard site is adjacent to a depressed, grassy detention basin on the west, the elevated embankment of Calvine Road as it passes over SR 99 to the north, SR 99 and the Calvine Road northbound onramp to the east, and commercial and multi-family residential uses to the south (see Figure 4.1-15). Longer-range views from this site tend to be of commercial buildings to the west, northwest, east, and southeast.

The proposed digital billboard site is adjacent to a grassy depression used as a stormwater detention basin. The slope to the detention basin is inset from the fence line by approximately 30 feet. The digital billboard site would be within this 30-foot edge of the parcel, which is approximately five feet above the bottom of the detention basin. The proposed digital billboard site is covered with annual grasses and small shrubs. An overhead power line, approximately 18-20 feet high, crosses the proposed digital billboard site, approximately 15 feet west of the chain link fence separating the parcel from the SR 99 right-of-way.

Residents of multi-family housing located south of the digital billboard site would be considered sensitive receptors for visual issues.

I-5 at Bayou Road

The proposed I-5 at Bayou Road digital billboard site is a vacant parcel that separates residential and commercial development from active agricultural land to the west. The proposed billboard would be located approximately 30 feet south of Bayou Road and approximately 50-60 feet east of an existing City of Sacramento utilities box (see Figure 4.1-17). The parcel is covered with

SOURCE: ESA, 2013

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Figure 4.1-14
Interstate 80 at Roseville Road Billboard Site

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SOURCE: ESA, 2013

Figure 4.1-15
SR 99 at Calvine Road Billboard Site

[Figure 4.1-16 intentionally deleted]

SOURCE: ESA, 2013

Figure 4.1-17
Interstate 5 at Bayou Road Billboard Site

ruderal grasses. Views to the north are to Bayou Road and a landscaped strip planted with trees as well as I-5 and the landscaped center median planted with mature oleander plants. Views to the west and southwest are of open agricultural fields. Immediately east of the site is a one- and two-story, stucco self-storage building with clay tile roof, and turf and ornamental landscaping along the south side of Bayou Road (see Figure 4.1-17). South of the proposed billboard site are single-family tract houses, vacant land, and agricultural land.

Residents of homes south of the Bayou Road site would be considered sensitive receptors for visual issues at this site.

I-5 at San Juan Road

The I-5 at San Juan Road site is a flat, grass and gravel property immediately adjacent to the north of San Juan Road. The proposed digital billboard site is surrounded by open farmland to the north, a sloped-sided dirt drainage ditch with standing water and many grasses and cattails, and a grassy embankment that rises to I-5 on the east (see Figure 4.1-18). To the south, across the paved San Juan Road, there are two access roads, a drainage channel that runs south at the toe of the I-5 embankment, and two-story, stucco-sided, multi-family homes to the southwest. An undeveloped plowed field is immediately west of the site, with views to two-story, stucco-sided multi-family residential structures west of Duckhorn Drive, farther to the west (see Figure 4.1-19).

Residents of the nearby residences south of San Juan Road would be considered sensitive receptors for visual issues at this site.

I-5 at Railyards

The proposed Railyards digital billboard site is an asphalt-paved parking lot that is visually dominated by the elevated I-5 northbound lanes on the west and the elevated I-5 northbound onramp from I Street on the east. Views to and from the site from nearly every direction are of the concrete pillars and metal I-beams that support the elevated road structures on either side of the project site (see Figure 4.1-20). There are views to this site from the front of the Sacramento Valley Station depot building. Looking from this site to the west are some glimpse views to the east levee of the Sacramento River, to adjacent open lands under the elevated structure of Jibboom Street, and to the metal- and brick-sided Central Shops buildings in the Sacramento Railyards property.

Residents of west and north facing units on floors 4-12 of the Wong Center building would have views toward the Railyards digital billboard site, as would some residents of units facing I Street in the Ping Yuen apartments; these residents would be considered sensitive visual receptors.

SOURCE: David Nybo, 2013; ESA, 2013

Figure 4.1-18
Interstate 5 at San Juan Road Billboard Site

SOURCE: ESA, 2013

Figure 4.1-19
San Juan Road, Multi-Family Residences, and
Plowed Areas South of
San Juan Road Billboard Site

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: David Nybo, 2013; ESA, 2013

Figure 4.1-20
Interstate 5 at Sacramento Railyards Billboard Site

4.1.3 Regulatory Setting

Federal

The federal Highway Beautification Act of 1965 (23 U.S.C. 131) provides for control of outdoor advertising, including removal of certain types of signs, along the interstate highway system. It requires certain junkyards along Interstate or primary highways to be removed or screened and encourages scenic enhancement and roadside development. The Federal Highway Administration (FHWA) enforces the Act. As part of its enforcement effort, the FHWA has entered into agreements regarding the Act with state departments of transportation. The agreements with California are described under the State provisions, below.

State

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. The corridor protection program does not preclude development, but seeks to encourage quality development that does not degrade the scenic value of the corridor. Jurisdictional boundaries of the nominating agency are also considered. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program. County roads can also become part of the Scenic Highway System. To receive official designation, the county must follow the same process required for official designation of State Scenic Highways.

According to the California Department of Transportation (Caltrans) list of designated scenic highways under the California Scenic Highway Program, there are no highway segments within the City of Sacramento that are designated scenic. SR 160 from the Contra Costa County line to the south city limit of Sacramento is the only officially designated state scenic highway near the City of Sacramento.[2] The Downtown Project site is not visible from SR 160.

[2] California Department of Transportation, 2012. *California Scenic Highway Program.* www.dot.ca.gov/hq/LandArch/scenic/schwy.htm. Accessed August 5, 2013.

Caltrans Landscape Architecture Program

Caltrans is involved in the control of "off-premise" displays along state highways. Such displays advertise products or services of businesses located on property other than the display. Caltrans does not regulate on-premise displays. Some freeways are classified as "landscaped freeways." A landscaped freeway is defined as one that is now, or may in the future be, improved by the planting of lawns, trees, shrubs, flowers or other ornamental vegetation requiring reasonable maintenance on one or both sides of the freeway (California Government Code Section 5216). Off-premise displays are not allowed along landscaped freeways except when approved as part of relocation agreements.

The Federal Highway Administration has entered into written agreements with various states as part of the implementation of the Highway Beautification Act. California has entered into two such agreements: one dated May 29, 1965, and a subsequent agreement dated February 15, 1968. The agreements generally provide that the State will control the construction of all outdoor advertising signs, displays and devices within 660 feet of the interstate highway right-of-way. The agreements provide that such signs shall be erected only in commercial or industrial zones, and are subject to the following restrictions:

- No signs shall imitate or resemble any official traffic sign, signal or device, nor shall signs obstruct or interfere with official signs;
- No signs shall be erected on rocks or other natural features;
- Signs shall be no larger than 25 feet in height and 60 feet in width, excluding border, trim and supports;
- Signs on the same side of the freeway must be separated by at least 500 feet; and
- Signs shall not include flashing, intermittent or moving lights, and shall not emit light that could obstruct or impair the vision of any driver.

California regulates outdoor advertising in the Outdoor Advertising Act (Business and Professions Code, Sections 5200 et seq.) and the California Code of Regulations, Title 4, Division 6 (Sections 2240 et seq.) Caltrans enforces the law and regulations. Caltrans requires applicants for new outdoor lighting to demonstrate that the owner of the parcel consents to the placement sign, that the parcel on which the sign would be located is zoned commercial or industrial, and that local building permits are obtained and complied with. A digital billboard is identified as a "message center" in the statute, which is an advertising display where the message is changed more than once every two minutes, but no more than once every four seconds (Business and Professions Code, Section 5216.4).

The Act prohibits signage along landscaped freeways (Business and Professions Code, Section 5440). Caltrans has interpreted the Act as allowing new billboards along such freeway segments if a relocation agreement has been approved pursuant to Business and Professions Code, Section 5412 of the Outdoor Advertising Act. None of the potential digital billboard locations that are evaluated in this EIR are adjacent to freeway segments that are designated by Caltrans as

landscaped freeway, and, thus, a relocation agreement pursuant to the Outdoor Advertising Act is not required for any of the locations evaluated in this EIR. Although the City has designated all freeways within the City as landscaped freeways under the City Code, the City Code does not alter the Caltrans designation of the freeways. The Outdoor Advertising Act contains a number of other provisions relating to the construction and operation of billboards:

- The sign must be constructed to withstand a wind pressure of 20 pounds per square feet of exposed surface (Business and Professions Code, Section 5401);
- No sign shall display any statements or words of an obscene, indecent or immoral character (Business and Professions Code, Section 5402);
- No sign shall display flashing, intermittent or moving light or lights (Business and Professions Code, Section 5403(h));
- Signs are restricted from areas within 300 feet of an intersection of highways or of highway and railroad right-of-ways, but a sign may be located at the point of interception, as long as a clear view is allowed for 300 feet, and no sign shall be installed that would prevent a traveler from obtaining a clear view of approaching vehicles for a distance of 500 feet along the highway (Business and Professions Code, Section 5404); and
- Message center signs may not include any illumination or message change that is in motion or appears to be in motion or that change or expose a message for less than four seconds. No message center sign may be located within 500 feet of an existing billboard, or 1,000 feet of another message center display, on the same side of the highway (Business and Professions Code, Section 5405).

The Business and Professions Code, Section 5272 includes an exemption from many of the restrictions for certain arenas. To qualify for the exemption, the arena must:

- Be located on public land.
- Provide a venue for professional sports on a permanent basis.
- Have a capacity of 5,000 or more seats.
- Have an advertising display in existence before January 1, 2009.

Additional restrictions on outdoor signage are found in the California Vehicle Code. Section 21466.5 prohibits the placing of any light source "…of any color of such brilliance as to impair the vision of drivers upon the highway." Specific standards for measuring light sources are provided. The restrictions may be enforced by Caltrans, the California Highway Patrol or local authorities.

Senate Bill 31 - The Outdoor Advertising Act of 2013 (SB 31)

SB 31 of 2013 amends Section 5272 of the Business and Professions Code, relating to outdoor advertising. SB 31 recasts the arena advertising exception to exempt from the Act specified advertising displays authorized by local ordinance at the premises of an arena, defined as a venue

with a capacity of 15,000 seats or more that is capable of providing a permanent venue for professional sports, or a contiguous development project or district encompassing or adjacent to the venue that extends not more than 1,000 feet from a structure connected to the venue, as specified. These advertising displays are authorized to advertise any products, goods, or services sold within that area on a regular basis, or marketed or promoted in that area pursuant to a sponsorship marketing plan. SB 31 also authorizes up to two advertising displays that are not required to comply with the act, which the bill would require to be visible when approaching off-ramps from the interstate, primary, or state highways used to access the premises of an arena.

Local

City of Sacramento 2030 General Plan

The 2030 General Plan includes the following goals and policies that are relevant to the Proposed Project:

Land Use and Urban Design

Goal LU 2.4 City of Distinctive and Memorable Places. Promote community design that produces a distinctive, high-quality built environment whose forms and character reflect Sacramento's unique historic, environmental, and architectural context, and create memorable places that enrich community life.

Policies:

- **LU 2.4.1 Unique Sense of Place.** The City shall promote quality site, architectural and landscape design that incorporates those qualities and characteristics that make Sacramento desirable and memorable including: walkable blocks, distinctive parks and open spaces, tree-lined streets, and varied architectural styles. (*RDR*)

- **LU 2.4.2 Responsiveness to Context.** The City shall require building design that respects and responds to the local context, including use of local materials where feasible, responsiveness to Sacramento's climate, and consideration of cultural and historic context of Sacramento's neighborhoods and centers. (*RDR*)

- **LU 2.4.3 Enhanced City Gateways.** The City shall ensure that public improvements and private development work together to enhance the sense of entry at key gateways to the city. (*JP*)

- **LU 2.4.4 Iconic Buildings.** The City shall encourage the development of iconic public and private buildings in key locations to create new landmarks and focal features that contribute to the city's structure and identity. (*RDR/MPSP*)

- **LU 2.4.5 Distinctive Urban Skyline.** The City shall encourage the development of a distinctive urban skyline that reflects the vision of Sacramento with a prominent central

core that contains the city's tallest buildings, complemented by smaller urban centers with lower-scale mid- and high-rise development. (*RDR/MPSP*)

Goal LU 2.7 City Form and Structure. Require excellence in the design of the city's form and structure through development standards and clear design direction.

Policies:

- **LU 2.7.3 Transitions in Scale.** The City shall require that the scale and massing of new development in higher-density centers and corridors provide appropriate transitions in building height and bulk that are sensitive to the physical and visual character of adjoining neighborhoods that have lower development intensities and building heights. (*RDR*)

- **LU 2.7.4 Public Safety and Community Design.** The City shall promote design of neighborhoods, centers, streets, and public spaces that enhances public safety and discourages crime by providing street-fronting uses ("eyes on the street"), adequate lighting and sight lines, and features that cultivate a sense of community ownership. (*RDR*)

- **LU 2.7.5 Development along Freeways.** The City shall promote high-quality development character of buildings along freeway corridors and protect the public from the adverse effects of vehicle-generated air emissions, noise, and vibration, using such techniques as:

    - Requiring extensive landscaping and trees along the freeway fronting elevation
    - Establish a consistent building line, articulating and modulating building elevations and heights to create visual interest
    - Include design elements that reduce noise and provide for proper filtering, ventilation, and exhaust of vehicle air emissions (*RDR/MPSP*)

- **LU 2.7.6 Walkable Blocks.** The City shall require new development and redevelopment projects to create walkable, pedestrian scaled blocks, publicly accessible mid-block and alley pedestrian routes where appropriate, and sidewalks appropriately scaled for the anticipated pedestrian use. (*RDR*)

- **LU 2.7.7 Buildings that Engage the Street.** The City shall require buildings to be oriented to and actively engage and complete the public realm through such features as building orientation, build-to and setback lines, façade articulation, ground-floor transparency, and location of parking. (*RDR*)

- **LU 2.7.8 Screening of Off-street Parking.** The City shall reduce the visual prominence of parking within the public realm by requiring most off-street parking to be located behind or within structures or otherwise fully or partially screened from public view. (*RDR/MSPS*)

- **LU 6.1.12 Visual and Physical Character.** The City shall promote development patterns and streetscape improvements that transform the visual and physical character of typical automobile-oriented corridors by:

    - Enhancing the definition of the corridor by locating buildings at the back of the sidewalk, and establishing a consistent street wall
    - Introducing taller buildings that are in scale with the wide, multi-lane street corridors
    - Locating off-street parking behind or between buildings (rather than between building and street)
    - Reducing visual clutter by regulating the number, size and design quality of signs
    - Removing utility poles and under-grounding overhead wires
    - Adding street trees (*RDR/MPSP*)

Environmental Resources

Policies:

- **ER 7.1.1 Protect Scenic Views.** The City shall seek to protect views from public places to the Sacramento and American rivers and adjacent greenways, landmarks, and urban views of the downtown skyline and the State Capitol along Capitol Mall. *(RDR)*

- **ER 7.1.2 Visually Complementary Development.** The City shall require new development be located and designed to visually complement the natural environment/setting when near the Sacramento and American rivers, and along streams. *(RDR)*

- **ER 7.1.4 Standards for New Development.** The City shall seek to ensure that new development does not significantly impact Sacramento's natural and urban landscapes. *(RDR)*

- **ER 7.1.5 Lighting.** The City shall minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary. *(RDR)*

- **ER 7.1.6 Glare.** The City shall require that new development avoid the creation of incompatible glare through development design features. *(RDR)*

The Proposed Project at the Downtown project site would be consistent with each of the General Plan goals and policies listed above. Consistent with Policy LU 2.4.1 and 2.4.4, the urban form of the proposed ESC would be reflective of unique, distinctive buildings in downtown Sacramento. The 150-foot tall, rounded and multi-faceted ESC building would be a distinctive, highly visible, iconic structure that would be accentuated by bright lighting and signage; it would be visible in varying degrees from City gateways at the intersections of Capitol Mall and Third Street and J and Third Streets. Consistent with Policy LU 2.4.2, the rounded corners and distinctive shapes would add the ESC to the list of buildings in downtown Sacramento that are noteworthy for their

design, including the State Capitol, the 1215 K Street building, the Cathedral of the Blessed Sacrament, and the City Hall Annex. Consistent with Policy LU 2.4.5, the Downtown project site is located in Sacramento's urban core, and would include multiple multi-story structures that would be of sufficient height to enhance Sacramento's skyline. Finally, consistent with Policy LU 2.7.4, the site design would create unique, distinctive plazas and open spaces on the northwest, northeast, and southwest sides of the ESC building. For these reasons, the Proposed Project at the Downtown project site would be consistent with the policies listed above.

For the most part, the proposed digital billboards at the potential sites considered in this EIR would be consistent with the visual resources policies of the 2030 General Plan. Consistent with Policy LU 2.4.3, digital billboards at the I-5 at Water Tank and I-5 at Bayou Road sites would provide the opportunity to enhance the sense of entry to the City at these locations. Policy LU 6.2.12 calls for reduction in "visual clutter by regulating the number, size and design quality of signs." Offsite digital billboards would be highly regulated and as conditional uses would be subject to review by the Planning and Design Commission, however removal of the requirement for relocation agreements in conjunction with new digital billboards would result in an increase in the number of billboards in the City. Policies ER 7.1.1, ER 7.1.2, and ER 7.1.4 direct the City to ensure that new development is visual compatible with natural and urban settings, and to protect views from public places to the Sacramento and American Rivers. Further, Policy ER 7.1.5 directs the City to minimize obtrusive light. In relation to these policies, digital billboards at the I-5 at Water Tank and I-5 at San Juan Road sites could adversely affect nearby residences as a result of light from the billboard faces, and a digital billboard at the Business 80 at Sutter's Landing Regional Park/American River site could adversely affect views from the Park to the American River Parkway.

Central City Community Plan (CCCP)

The City of Sacramento currently has seven adopted community plans that include policies and land use diagrams that pertain to the respective community plan areas. The Downtown project site is located within the Central City Community Plan Area bounded by the Sacramento River on the west, the American River on the north, Business 80 and Alhambra Boulevard on the east, and parcels fronting southern edge of Broadway on the south. Community plans are part of the 2030 General Plan and are intended to supplement city-wide policies based on conditions or issues unique to the community plan area. The following policies from the CCCP are applicable to the Proposed Project:

Land Use and Urban Design

- **CC.LU 1.2 Visual Qualities.** The City shall improve the visual qualities of improvements, especially signing, building and yard maintenance, commercial developments and overhead utilities. (*RDR*)

- **CC.LU 1.3 Interrelated Land Uses.** The City shall provide for organized development of the Central City whereby the many interrelated land use components of the area support and reinforce each other and the vitality of the community. (*RDR/MPSP*)

- **CC.LU 1.7 Central Business District.** The City shall improve the physical and social conditions, urban aesthetics, and general safety of the Central Business District. (*MPSP*)

Consistent with the CCCP policies above, the proposed ESC building would step down to a pedestrian scale at the sidewalk through edge buildings and the practice facility that would face L and 5th Streets. Further, the indoor/outdoor design of the main entrance would tend to enhance the pedestrian scale and downplay the monumental nature of ESC. The ESC and its adjacent structures would be clad mainly in panels of metal and/or perforated metal, tinted glass, and pre-cast concrete with stone aggregate. The main public entrances would be fully glazed multistory spaces oriented to the central pedestrian spine of the plazas and open spaces, and would allow views from outside in and from all levels inside the venue to the outside. The northern edge of the mixed use development in the SPD area would create a pedestrian scale street-wall that, along with other pedestrian scale features of the event plaza (such as the proposed landscaped bosque with seating, other outdoor seating areas, and potential hydroponic gardens), would provide a visual break to the massiveness of the building structure. As noted elsewhere, the future mixed use buildings constructed pursuant to the proposed SPD would conform to the Central City Urban Design Guidelines, which promote design features to accentuate the pedestrian environment created by new buildings in downtown Sacramento.

Sacramento Central City Urban Design Guidelines – Central Core

The Central City Urban Design Guidelines (CCUDG) direct future growth in the Central City Community Plan area. The CCUDG generally provide guidance in three areas: the urban design framework, the public realm, and the private realm. They establish a framework of urban design concepts intended to inform all decisions relating to the physical form and character of public and private development throughout the Central City.

The CCUDG include guidelines specifically developed for the Central Core, including the Downtown Project site. The Central Core guidelines include the following design concepts:

Architectural Response

- Creative re-interpretation of existing patterns and forms is preferred, rather new buildings emulating existing buildings through false historicism.
- Employing contrast, rather than re-interpretation of existing forms and patterns, is also an acceptable design strategy.

Climate

- Taller thinner towers are preferred for Sacramento, particularly because they provide better solar access and less shading of surrounding uses.

Topography

- Architects should design new structures to take full advantage of existing view corridors while minimizing any obstructions to neighboring views by employing slender tower forms.
- Design of taller buildings should consider the effects on the City skyline.

Urban Forest

- Designs must accommodate both existing and future tree canopies and root zones.

Street Frontages

- The pattern of building frontages established by the original 40-foot wide parcels should not be lost. Even for large projects covering entire city blocks or large portions of blocks, building articulation should be incorporated into the design in order to maintain the rhythm and fine grained pattern to the street facades.

Architectural Vocabulary

- The following architectural elements should inform future development:
    - A vertical emphasis to recessed windows and window groupings with a hierarchy of vertical fenestration patterns;
    - Facades that exhibit a very balanced proportion of solid wall surface to exterior window openings;
    - Buildings that are expressive of traditional base, middle and top sections with strong horizontal bases, cornice lines and street walls; and
    - Decorative building tops, particularly on many older buildings, that add distinctive silhouettes to the Sacramento skyline.

Materials and Colors

- New development should reflect the City's finest buildings that are generally lighter colored in soft grays and creams which reflect the common use of materials such as granite and limestone, and not appear distinctly at odds with their surrounding context.

Tower Massing and Separation

- The building pattern should reflect a two-tiered approach that requires smaller floorplates for all towers, and smaller floorplates for residential towers than for office towers.
- Residential towers are not required to step-back their floors above the street-wall base height, as is required for office towers.
- Future commercial and residential towers should be required to maintain at least an 80-foot setback, the width of a typical Sacramento downtown street, from adjacent towers.
- No more than 4 towers per block is recommended.

The CCUDG Core Area Private Realm Guidelines provide design guidance related to height, building mass, architectural style, building materials and other design characteristics of buildings in the downtown area. From a visual perspective, the guidelines related to facades provide the most direct guidance to the look and visual character of buildings. Facades are guided to be designed in order to achieve the following principles:

- *Ground Level*: The ground floor, especially the area facing onto public sidewalks, shall incorporate the most public and active spaces within the building, to activate the street. Parking shall not be an appropriate use along a building's public frontage.
- *Transparency*: The facade of a building shall be appropriately transparent to allow active ground floor uses, such as retail, commercial or community uses, to be visible from the street.
- *Streetwall Articulation*: The street walls defining urban blocks shall be articulated to create rhythm and variety, achieving a fine-grained pattern to the urban fabric.
- *Building Corners*: Building corners are a placemaking element that should be designed to accentuate the unique location of the urban corner.
- *Windows*: To provide human scale to buildings, windows shall be well-proportioned, varied across a project, articulate the wall system, and be operable where appropriate.
- *Entrances*: Entrances shall be well-designed, appropriately scaled, and easy to find. They shall be a special feature in the design of the building.
- *Shade and Cover*: Canopies, awnings and sunshade shall be used to provide shade and cover for people and buildings, contributing to comfort and sustainability.
- *Elevations*: Elements that project from a building façade shall serve to animate the building's elevations, by adding visual variety & interest while enhancing the connection between public & private realms.
- *Façade Materials*: Buildings shall be constructed with exterior materials of the highest quality. Exterior materials, textures and colors shall be selected to further articulate the building design.
- *Lighting*: Building facades shall have illumination appropriate to their use and location, with light fixture design selected to best complement the architectural design of the project.
- *Exterior Signage*: All signage on the exterior, or visible from the exterior, of a structure shall be designed to carefully integrate with the structure's architecture, and should enhance the appearance of the structure as well as contribute to the overall character of the streetscape.
- *Construction Screening*: Temporary construction screening should have a strong graphic appearance in addition to providing for safe pedestrian routes along exposed sides of a construction site.

City of Sacramento Planning and Development Code (Title 17)

The City of Sacramento's Planning and Development Code (Sacramento City Code Title 17) is intended "[t]o implement the city's general plan through the adoption and administration of zoning laws, ordinances, rules, and regulations (§17.100.010(B)). To achieve this outcome the Planning and Development Code:

- regulates the use of land, buildings, or other structures;
- 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
- regulates the physical characteristics of buildings, structures, and site development, including the location, height, and size of buildings and structures; yards, courts, and other open spaces ; lot coverage; land use intensity through regulation of residential density and floor area ratios; and architectural and site design.

The Downtown Project site is zoned C-3 (Central Business District Zone) which is addressed in chapter 17.216.800 through 17.216.880 of the Planning and Development Code. The CBD zone is intended for the City's most intense retail, commercial, office developments and is the City's only classification that has no height limit. Chapter 17.216.870 incorporates generally applicable development standards within the C-3 zone. Per chapter 17.216.870, sign standards and regulations are addressed in chapter 15.148 (discussed below) and architectural design guidelines and exceptions to the height and area standards are addressed in chapter 17.600.

Sacramento City Code (Title 15)

All signs within the City are regulated under City Code (Title 15), Building and Construction, Chapter 15.148 – Signs. The regulations detailed in Chapter 15.148 govern the number, size, type, location, subject matter and other provisions relating to signs within the various zones of the City. Regardless of which sites are chosen for future offsite billboard locations; each billboard will be required to comply with the regulations established by Chapter 15.148 of the City Code for the zone in which it is located. Signs may be subject to approval of a zoning administrator's special permit or permitted only with the prior approval of the Planning and Design Commission. All offsite digital billboards would be required to comply with City Code as well as the provisions of federal and state law related to location, size, height, and lighting; accordingly, the offsite digital billboard portion of the Proposed Project would also be consistent with the requirements of the City's zoning ordinance. It should be noted that Chapter 15.148.815 of the City Code requires a relocation agreement resulting in the removal of an existing sign associated with approval of any digital billboard. The Proposed Project includes a proposal to eliminate this requirement.

Chapter 15.148.640 of the City Code prohibits animated and intensely lit signs, specifically stating that "[n]o sign shall be permitted which is animated by means of flashing, scintillating, blinking or traveling lights or any other means not providing constant illumination. No sign shall be permitted which because of its intensity of light constitutes a nuisance or hazard to vehicular traffic, pedestrians or adjacent properties."

Notwithstanding the prohibition on animated signs, digital billboards on City land are allowed subject to a City Council approval that is regulated specifically within Chapter 15.148.815 of the City Code, which states that the City Council may approve a relocation agreement that authorizes relocation of an existing fixed billboard and the construction of a new digital billboard on City-owned property adjacent to a freeway, subject to the following additional provisions:

a. The City-owned property is located in a commercial or industrial zone;

b. All digital-display faces must be oriented primarily for viewing from the adjacent freeway;

c. The maximum height of a digital billboard, measured from grade to the top of the digital-display face, is eighty-five (85) feet; and the overall maximum height, measured from grade to the top of the billboard structure, is ninety (90) feet;

d. A digital billboard may have either one or two display faces, and the maximum area of a display face is seven hundred (700) square feet;

e. An existing off-site sign that is removed and relocated under a relocation agreement that authorizes the construction of a digital billboard may be either a legal conforming sign or a legal nonconforming sign;

f. A digital billboard may display only a series of still images, each of which is displayed for at least eight seconds. The still images may not move or present the appearance of motion and may not use flashing, scintillating, blinking, or traveling lights or any other means not providing constant illumination. Transition or blank screen time between one still image and the next may not exceed one second; and

g. The City must comply with CEQA before authorizing a digital billboard.

The Proposed Project would include an amendment to the City Code that would eliminate the requirement for a relocation agreement with the approval of a digital billboard.

American River Parkway Plan

The purpose of the American River Parkway Plan is to provide a guide for land use decisions affecting the Parkway, and the plan specifically addresses the preservation, use, development and administration of the Parkway. The following policies from the American River Parkway Plan specifically relate to the potential digital billboard location at Sutter's Landing Regional Park near the American River:

- **Policy 7.24.** In order to minimize adverse visual impacts on the aesthetic resources of the Parkway, local jurisdictions shall regulate adjacent development visible from the Parkway. These local regulations shall take into account the extent to which the development is visible from the parkway. Regulations may include tools to address design, color, texture and scale, such as:

    - Setbacks or buffers between the Parkway and the development.
    - Structures to be stepped away from the Parkway or limits on building scale.
    - Screening of structures visible from the Parkway with landscaping, preferably native vegetation or other naturally occurring features.
    - Use of colors and materials including non-reflective surfaces, amount of glass, and requiring medium to dark earth tone colors that blend with the colors of surrounding vegetation, particularly in sensitive bluff or river's edge locations.

- Guidelines to discourage intrusive lighting and commercial advertising.

- **Policy 7.25.** Between the confluence of the Sacramento and American rivers and the Capital City Freeway (Business-80) the Parkway context is the Sacramento downtown urban core for the Sacramento metropolitan region. Protection of the Parkway's aesthetic values in this reach should be accomplished within the context of creating a vital urban area. Development immediately adjacent to the parkway shall respect the intent of the Parkway goals by reducing visual impacts through context sensitive site planning and building design.

The only element of the Proposed Project that would relate to the policies of the American River Parkway Plan would be the potential digital billboard at Sutter's Landing Regional Park near the American River. Depending on the precise location of the billboard, it is possible that it would be visible to people recreating in the Parkway. In light of the need for the billboard to be clearly visible, it would be unlikely that screening of the billboard would be feasible. Setting the location of the billboard at a sufficient distance such that it would be out of the line of sight from the river elevation, reviewing lighting impacts and obtrusiveness could resolve concerns with inconsistency, but it is unclear whether these issues could be addressed and still provide a viable billboard location that would have the required visibility from the adjacent Business 80 freeway.

4.1.4 Impacts and Mitigation Measures

Methodology

A description of the visual character of the project site and project vicinity was prepared from visits to the site and surrounding vicinity in August and September 2013. The site plan and visual photosimulations for the Proposed Project were evaluated to assess the potential effects of project development on the visual character of the project site and the vicinity, including the ways that the Proposed Project would change views to and from the Downtown project site. The Proposed Project physical characteristics were compared with the visual features of the existing Downtown project site and the existing built environment of the project vicinity. The project design characteristics were compared to the existing conditions as well as to the intent and parameters expressed in the Central City Urban Design Guidelines, and the magnitude of the change in visual character were assessed.

The proposed cladding of the ESC and the guidelines for building facades in the Central City Urban Design Guidelines were assessed for the potential to create distracting or hazardous glare. The proposed lighting plan for the ESC and the lighting elements of the Central City Urban Design Guidelines were assessed for the potential to create spillover light that would adversely affect adjacent or nearby uses.

The visual effects of construction equipment and activities would be intermittent and temporary and would be screened in accordance with applicable City policies and regulations; as such, they are not significant and are not evaluated in detail in this section.

Offsite Digital Billboard Evaluation

Digital billboards rely on light emitting diode (LED) technology to display colorful, changing, and sometimes animated messages on a display screen. The digital billboards proposed as part of the project would have one or two screens, oriented to be visible from vehicle travelling on nearby freeway segments. Digital billboards using LED technology are designed to make the message displays visible to motorists viewing the billboard from straight on. The LED cells are designed to be screened from oblique angles. An LED is at full brightness when viewed straight on — or from dead center. The level of brightness is cut in half by moving the viewing position to a 35° angle from dead center, and at a sufficient angle the LED lights are not visible. The height and angle of the billboards would be designed to be seen from straight on by drivers in cars on nearby freeways. The height, alone, would ensure that no residents on ground level in backyards or in homes would see the signs from straight on. Depending on the orientation angle of the billboard faces, the visibility of the LED lights would be materially reduced or eliminated. Some traditional billboards have been illuminated, and this is typically accomplished with the installation of stationary incandescent lights regulated by timers. Lighting levels are not subject to adjustment based on ambient conditions. The primary effect of these billboards is related to the brightness of the billboard background as seen from the viewer's perspective. The brightness of the LED display is subject to adjustment based on ambient conditions. The display, for example, is adjustable, so it may be brighter in the daytime than in darkness, and respond to changes in the ambient light conditions.

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the State CEQA Guidelines, impacts to aesthetics may be considered significant if the Proposed Project would result in one or more of the following:

- Have a substantial adverse effect on a scenic vista;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or
- Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.
    - *Glare.* Glare is considered to be significant if it would be cast in such a way as to cause public hazard or annoyance for a sustained period of time.
    - *Light*. Light is considered significant if it would be cast onto oncoming traffic or residential uses.

A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. No scenic vista is present in the project vicinity. The Downtown project site is located in a developed urban setting within the City of Sacramento and therefore the Proposed Project would not have an impact on a scenic vista.

None of the freeway segments within the City have been designated as scenic. The closest project feature to SR 160 south of the City would be the offsite digital billboard site at I-5 at Water Tank, but the site is not visible from the point where SR 160 enters the City. Thus, the Proposed Project would not damage scenic resources in the vicinity of a scenic highway. For these reasons, the first and third bullet points above are not further addressed in this section of the EIR.

Impact Analysis

Impact 4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.

Downtown Project Site

Changes in the visual character or quality of a site are often perceived as subjective and individual. The 2030 General Plan provides guidance that reflects the diverse nature of the built environment in Sacramento and the complex nature of urban design in the community. Policies such as LU 2.4.1 and LU 2.4.2 reflects Sacramento's traditional character and places a priority on design that "respects and responds to the local context," and, at the same time, policies such as LU 2.4.4 and LU 2.4.5 reflect the City's aspiration for iconic buildings and a distinctive skyline that creates landmarks and visually reinforces downtown Sacramento's role as the region's business and governmental core.

In downtown Sacramento, the Sacramento Central City Urban Design Guidelines (CCUDG), adopted in June 2009, represent a recent articulation of community's goals and values surrounding urban design and architectural quality, and create an objective framework in which to consider aesthetic changes which may otherwise be considered subjective. They are intended "to ensure that proposed higher density development also provides the qualities and amenities that will create an attractive, livable downtown with a lively mix of uses, walkable streets, an open and interesting skyline, and a high level of design expression." As such, for the purposes of this analysis, the Proposed Project is considered in light of the CCUDG. Substantial compliance with the CCUDG was used as the measure of significance.

ESC Site

The ESC would be located in the southeast quadrant of the Downtown Project site, generally along L Street between 5th Street and 6th Street. The ESC building would be multi-faceted with round edges and corners, with a streetwall along the L Street frontage. The north side of the ESC would be framed by a large entry plaza, which would have a northern edge defined by the southern edge of mixed use buildings in the SPD area. The design, shape and scale of the ESC would be distinctive from other commercial, office, or other buildings in downtown Sacramento; however, it is worth noting that there are other noteworthy buildings in downtown Sacramento that are distinctive and uniquely recognizable by their design, including the State Capitol, the 1215 K Street building, the Cathedral of the Blessed Sacrament, and the City Hall Annex. By adding another architecturally distinctive building in downtown Sacramento, the ESC would reflect the urban design heritage of Sacramento's Central City.

Views

The approximately 150-foot tall, multi-faceted ESC structure itself would be a distinctive, highly visible, iconic structure that would be instantly recognizable due to a design unique in the region, especially at night when it would be accentuated by bright lighting and signage. The ESC would be visible in varying degrees from City gateways at Capitol Mall/3rd Street and J/3rd Streets, and in view corridors looking west on K and L Streets and north and south on 5th and 6th Streets. The approach to the site on northbound 5th Street would be particularly distinctive because of the visibility of the ESC from the 5th and L Street intersection. In addition, passersby on Interstate 5 would have glimpses of the ESC as they pass through downtown Sacramento. In these ways, the ESC would reflect the City's goals for distinctive and iconic buildings.

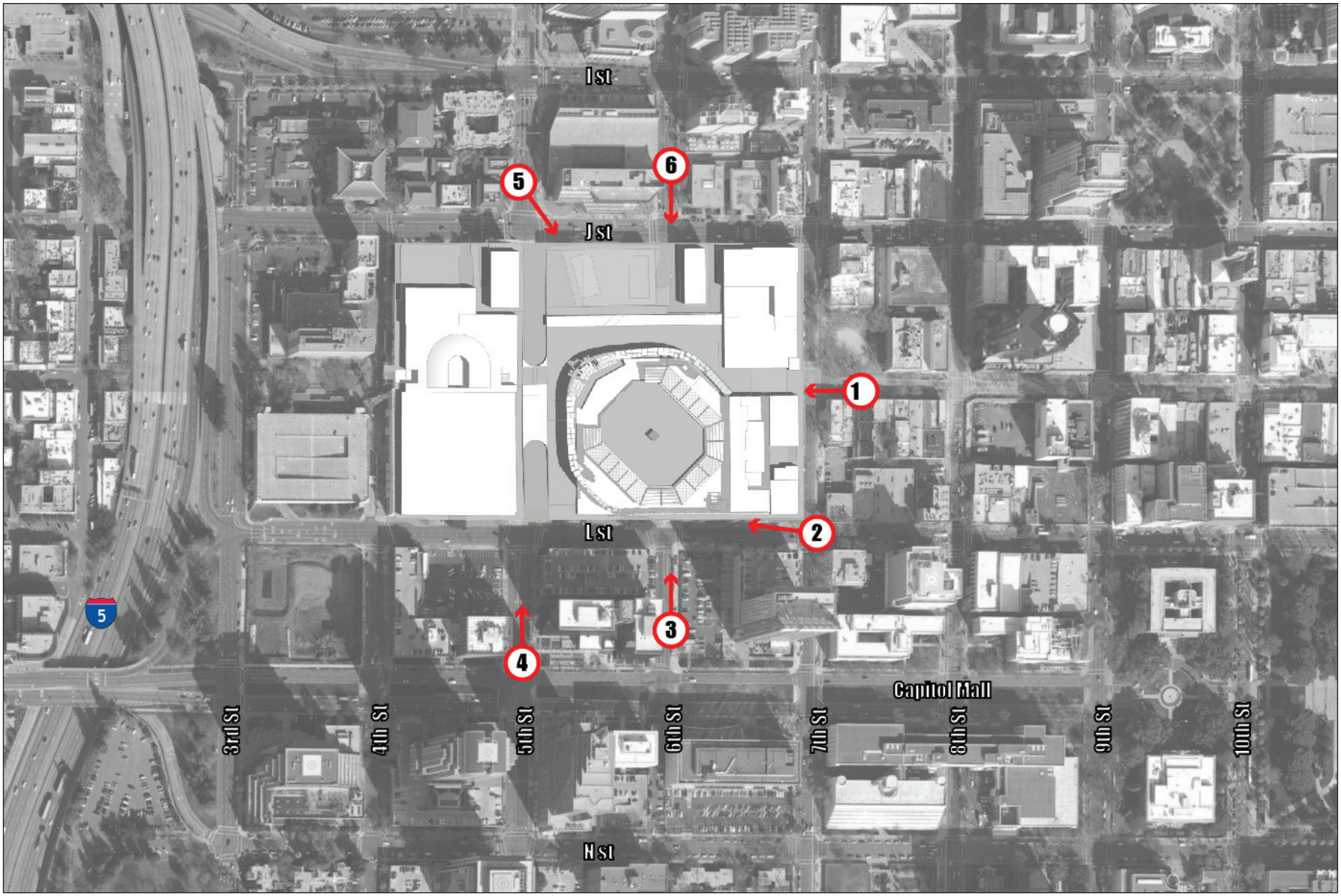
Based on the photo location map provided in Figure 4.1-21, photographs of representative public views of and across the ESC site from a variety of view locations are provided in Figure 4.1-22 through Figure 4.1-27, as described further below.

As shown in Figure 4.1-22, taken from mid-block on K Street between 7th and 8th Streets and looking west, the ESC would figure prominently in the view, becoming a distinctive visual anchor to this view. Views from further east on K Street would become increasingly sparse as trees, building signage, street furniture, street lights and signs, RT loading ramps, and other physical features incrementally block views down K Street.

Figure 4.1-23 is taken at the corner of L and 7th Streets, providing a pedestrian-level view looking west on L Street toward the project site. The ESC and contiguous practice facility would create a streetwall consistent with other buildings along L Street, but taller in height than the adjacent Hotel Marshall at 7th Street and the Macy's building at 5th Street.

As is depicted on Figure 4.1-24, the distinctive multi-faceted southern face of the ESC building would be highly visible when looking north from Capitol Mall at 6th Street. Motorists, pedestrians, and bicyclists approaching this location on Capitol Mall would be provided a clear view of the ESC from this vantage.

Figure 4.1-25 presents the most prominent view of the ESC, that provided to those traveling north on 5th Street. The ESC would be setback from the alignment of 5th Street; this setback would be accentuated by the rounded, multi-faceted façade of the ESC and by the raised terrace that would be located at the 5th and L Street intersection. At the pedestrian level, the ESC would create an active streetwall along L Street that would have continuity with the adjacent Marshall Hotel to the east and the Macy's building to the west, and would be reflective of the streetwall on 5th Street between Capitol Mall and L Street (from the 555 Capitol Mall parking structure). Again, the multi-faceted, multi-textured façade and elevated roofline of the ESC building would be visible from this vantage point, which may be the first direct view of the ESC for motorists approaching from the south and west.



Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: AECOM, 2013

Figure 4.1-21
Photosimulation Location Map

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SOURCE: AECOM, 2013

Figure 4.1-22
Photosimulation of ESC from Mid-Block on
K Street Between 7th and 8th Streets, Looking West

SOURCE: AECOM, 2013

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 4.1-23
Photosimulation of ESC from the Corner of
L Street and 7th Street

SOURCE: AECOM, 2013

Figure 4.1-24
Photosimulation of ESC Looking North on 6th Street

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: AECOM, 2013

Figure 4.1-25
Photosimulation of ESC Looking North from
Capitol Mall at 5th Street

Figure 4.1-26 presents the view looking south on 5th Street toward the project site. This is the view that motorists approaching from the north, through the Railyards, and train passengers and other pedestrians who may be walking to the ESC from the Sacramento Valley Station may have as they approach the ESC. It would also be a view seen by motorists entering the City from I-5 as they travel east on J Street. Depending on the design of future development in the SPD area, more or less of the ESC building may be visible, but pedestrian access points should provide views through to the entry plaza and the main entry to the ESC, as well as the multi-faceted 5th Street frontage.

Figure 4.1-27 depicts views from the north for those approaching on southbound 6th Street. The northeast face of the ESC would be prominent in views past the historic Ramona Hotel building on the east and new development in the SPD area to the west. High-rise buildings on Capitol Mall, such as Wells Fargo Tower and 500 Capitol Mall would remain visible over the roofline of the ESC.

Central City Urban Design Guidelines

The Sacramento Central City Urban Design Guidelines (CCUDG) provide direction to encourage and promote an array of visual and aesthetic characteristics of building and landscape design in the City's central core. The ESC would be a unique structure designed to accommodate large events and by virtue of its size and mass would not be able to meet every specific element addressed in the CCUDG. The CCUDG's principles are not prescriptive, however, and on balance, the design of the ESC would substantially comply with the aspirations expressed in the CCUDG principles, as discussed below. With a focus on the most visible parts of building design, the following discussion is organized around the key principles related to building facades articulated in the Core Area Private Realm Guidelines of the CCUDG.

Ground Level. The ESC would respond to the changing grade of the project site with multiple street level experiences. At the main entrance, the Main Concourse level would face onto and be integrated with the active public space of the entry plaza This plaza would be directly connected, both functionally and visually, north to J Street, south to L Street, and both east and west to K Street. These public spaces and their adjacent streets would be activated by virtue of a close visual connection to activities within the ESC, as well as with other retail and entertainment uses that would be developed around the plazas. On the northeast side of the ESC, along the K Street corridor, the ground level would be activated by retail and restaurant space that could be operated outside of event times, including a portion of the retail and concessions on the ESC Main Concourse proximate to the northeast entrance.

On the L Street face, the street level (Lower Mezzanine level) of the ESC would be activated by several entrances to the ESC (serving media, employees, VIPs, as well as Paratransit), a team-oriented retail store, an administrative lobby serving as the entrance to the administrative offices in the practice facility, as well as distinctive signage and lighting. The truck and service delivery entrance would be screened by a roll-down door when not in use. Since all parking on the ESC site would be below grade, no parking would be visible on the ESC's public frontage.

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: AECOM, 2013

Figure 4.1-26
Photosimulation of ESC Looking South on 5th Street

SOURCE: AECOM, 2013

Figure 4.1-27
Photosimulation of ESC from 6th Street, Looking South

Transparency. It is anticipated that the façade of the main entry of the ESC, facing the entry plaza, would be comprised of multi-faceted panels that would be comprised of a variety of materials including transparent glazing, allowing views from the entry plaza into the Main Concourse, which would include a variety of active uses. The street level facade along L Street, including the façade of the practice facility, would be comprised of a combination of a high percentage of transparent glazed surfaces and opaque solid surfaces. At street level, multiple entrances to the ESC, the practice facility, the team retail store would provide a high degree of permeability, and combined with distinctive signage would minimize the potential for blank walls along the L Street frontage.

Streetwall Articulation. The multi-faceted ESC would be highly articulated both vertically and horizontally. Around the majority of the building, facing 5th Street and the plazas around the northern side, the multi-faceted façade would extend from the ground level to the roof parapet. Along L Street, the building would establish a streetwall consistent with the pattern in the City core. At the street level, the streetwall would be highly articulated with building entrances; above the street level, the multi-faceted ESC façade would be the dominant design feature. The design of the practice facility would evoke the pattern of urban blocks that currently does not exist along L Street which is largely an unbroken built streetwall under existing conditions. The 5th Street entry to the rising to the entry plaza, with the highly visible outdoor terrace overlooking the 5th St./L St. intersection, would create visual interest, accentuated by the multi-faceted façade of the ESC, and further visually activated by colorful signage and lighting.

Building Corners. Under existing conditions, building corners on L Street are inactive building edges, or entries to below-grade parking or service entries. The corners of the ESC would be rounded and integrated into the multi-faceted façade design that would wrap the building, making them somewhat less distinct than in traditional buildings with 90-degree angled corners. With the proposed ESC, the southeast corner of the at 5th and L Street would become a major entry to the public open spaces and plazas around the ESC entrance. The 5th and L Street corner would accentuated by the outdoor terrace that would visually overlook the street corner, and would become a major visual element through the use of distinctive lighting and signage., At the Upper Concourse level, a small outdoor balcony would add visual interest and activity to the building corner. In the northwest corner of the ESC, the main entry to the ESC would be accentuated by the highly active entry plaza and with an Upper Concourse-level outdoor terrace that would overlook the plaza level activities. The northeast corner of the building would serve as a secondary entry to the ESC, and could be opened to accentuate the pedestrian level with accessible retail and restaurant spaces that would be active during and between ESC events. Interest would be added to the upper levels of this northeast corner of the building by a balcony and rooftop terrace that would be accessible by ticketed patrons during events.

Windows. The ESC would provide a use of windows and glazing in a manner that would be unique in downtown Sacramento. The multi-faceted ESC façade would include glass panels that would be highly articulated from the ground level to the roof parapet, and with extensive variation would create an undulating sense of depth and irregular shadows and silhouettes. Entrances would be accentuated by glass curtain walls that would create a clearly understood

hierarchy of entry and exit to the ESC. While there would be operable systems to allow natural air flow into the ESC, the windows in the façade are not intended to be operable in the traditional sense.

Entrances. The main entrance would open to the entry plaza and other open spaces that would be designed with direct access to J, K, L and 5th Streets. The creation of wide entries to the entry plaza and front door to the ESC from J and L Streets would maximize the visibility of the entrance on the northwest corner of the building. Distinctive signage and the Upper Concourse-level outdoor terrace that may overlook the main entrance would create additional emphasis on the visual importance of the main entry. In and around the main entry, the public and private realms would be integrated through the use of a large central entrance. A unique feature of the ESC design would be the potential for the building façade to be opened, a small portion of the entry plaza secured, and a free-flow indoor-outdoor experience created for ticketed attendees to ESC events. When opened, the edge of the entry plaza would be complementary to the interior surfaces of the Main Concourse, allowing for ESC event attendees to flow in and out of the building within a secured area open to ticketed patrons.

A way-finding program would be implemented throughout the Downtown project site and on nearby streets, increasing the accessibility of the ESC to pedestrians and other visitors to the project vicinity.

Shade and Cover. Cantilevered cornices on the ESC façade at the roof parapet would create the potential for shade and cover of portions of the surrounding plaza areas. This would be especially true at the main entrance where an outdoor terrace on the Upper Concourse level could extend over the entry and create cover in inclement weather. The southern edge of the mixed use development in the SPD area would create a sense of enclosure on the on the northern edge of the plaza areas that would surround the northern side of the ESC structure. During warm weather, the ESC design that cantilevers over portions of the plaza area, along with landscape trees (agricultural and native species), would provide shade that would cool and make the public open spaces around the ESC more usable. Along L Street, the building face at the street level would be recessed and would create street level cover during wet weather.

Elevations. As can be seen in the elevations presented in Figure 2-5 through 2-7, the building facades would reflect a design that would be unique in downtown Sacramento. From L and 5th streets, the multi-faceted ESC structure would rise above the street with tall, vertical panels of metal and/or perforated metal, glass with tinting, and precast concrete with stone aggregate that would be highly articulated and would appear to undulate in a non-repetitive pattern. Portions of the elevations could be brightly and colorfully lit, and could include visual displays either through large-scale interior signs and banners that would be visible through to the outside, or through static and/or animated imagery that would be projected onto the façade through the use of lasers, LED, or other projection technology. Along the building's western and northern faces, the façade would extend from the ground to the roof parapet, creating a lit and colorful multi-faceted elevation that would create striking views from close up and viewed from a distance down view

corridors such as looking west on K Street from 10th Street and beyond, looking south on 5th Street from I Street and north on 5th Street from Capitol Mall, and other viewscapes.

On the L Street frontage, a cantilevered cornice at the top of the Lower Mezzanine level would distinguish the street frontage from the multi-faceted ESC façade, above. At the pedestrian level, the L Street frontage would be articulated by numerous entrances, as well as a team store, service and delivery vehicle entry, and the overlooking outdoor terrace.

As noted elsewhere, several terraces and balconies would add further articulation to the ESC elevations. At the Main Concourse level, an outdoor terrace would prominently overlook the intersection of L and 5th Streets. At the Suite level, small exterior balconies would overlook the northeast face on K Street, L Street, and 5th Street. At the Upper Concourse level, an exterior terrace may overlook the northeast face toward K Street and a balcony may overlook the outdoor terrace at 5th and L Streets. The large outdoor terrace would overlook the main entry and entry plaza on the northwest face of the ESC, and large rooftop terraces would overlook K and L Street from the roof of the practice facility.

Facade Materials. The ESC building would be clad largely in a variety of materials, including multi-faceted panels of metal and/or perforated metal, glass with tinting, and precast concrete with stone aggregate. Some materials may be reflective while others would be matte. Glass curtain walls would be key features of the entries on the northwest and northeast faces of the building to allow views into the ESC concourse levels from the entry plaza areas, and views into the upper concourse from J Street, 5th Street, and other points west and north. Distinctive lighting and signage could be positioned inside the glass walls and panels, and could be visible from inside and outside the ESC, making the glass features of the façade visually distinctive and highly visible.

Lighting. The ESC would be brightly lit for visibility during and between events. Exterior lighting for the ESC would be provided to illuminate different areas of the building and surrounding plazas. The type of lighting and its intensity would vary, however, depending on how the venue is being used at any given time.

Around the ESC, in the entry plaza and other open spaces, a variety of different lighting techniques would be employed depending on the location. These would range from lighting integrated into the landscape to LED lights and video screens along the façade. Some of these elements would be signage opportunities as well, and so there would be some overlap between signage and lighting in these instances.

Exterior Signage. The proposed ESC would incorporate extensive, varied signage that would promote the Sacramento Kings, building activities and events, building and team sponsors, and civic activities. Vertical signage along the sides of the buildings would be required at key points around the venue. As the main entry is located on the northwest side of the building facing the plaza, venue signage would be provided in this area to accentuate this facade. Upper level venue signage would be provided along the southwest corner and southern face of the ESC, which would be visible by people approaching from 5th Street and along L Street. These signs adhered

to the upper faces of the ESC, facing to the south, southwest, and west would be intended to be viewed from further distances, including Capitol Mall and I-5. Signage also would be located at the main entries to the entry plaza, at J Street, L Street, or K Street from the east or west. Signage could either be placed along the southern edge of mixed use buildings in the SPD area or as stand-alone graphic elements. Some signs would be at street level along the L Street (south) or 5th Street (west) side of the ESC. All of these signs would be brightly lit and designed for a high degree of visibility from a distance.

Given that this venue would be visible from above during televised broadcasts, rooftop signage would be provided on top of the ESC.

Construction Screening. During construction, the ESC site would be secured through a combination of construction fencing, plywood walls, and vehicular barriers. As is presented on Figure 2-20, street frontages along L Street from 5th Street to 7th Street, and on J Street from 5th Street to 6th Street, would be screened by a 45-inch high concrete or water-filled K-rail vehicular barrier. The K-rail would be topped by a five-foot cyclone fence that may be made opaque through the use of a fabric windscreen.

Construction fencing (six-foot high cyclone fence) would extend from L Street to J Street along the 5th Street alignment, at the plaza level. Construction fencing would also secure the site from 6th Street, behind the Ramona Hotel building, connecting to the 660 J Street office building.

Six-foot plywood walls would be constructed across K Street immediately west of the 630 K Street building and the entrance to the 24 Hour Fitness business, as well as on the west side of 5th Street on the west side of the 5th Street overpass structure.

The proposed ESC would respond positively to most of the principles of the Central City Urban Design Guidelines. While it would be a unique large building with a distinctive and iconic design, and would be a type of structure that was not originally anticipated by the CCUDG, the proposed ESC would be generally consistent with the urban character of the existing setting and would substantially comply with the direction articulated in the CCUDG. Therefore, the proposed ESC would not substantially degrade the existing visual character or quality of the site and its surroundings.

SPD Area

As is described in Chapter 2, Project Description, for the purposes of this analysis it is assumed that the main structures built within the SPD area would include mid- to high-rise towers that could range up to 20-30 stories in height (approximately 240-350 feet). Buildings in the upper ranges of this height would alter the form of the project site from a height and scale that is comparable to a suburban shopping center to the form reflective of an urban downtown.

The existing uniform structures of Downtown Plaza would be rebuilt to individual structures that would reestablish north-south pedestrian flow on 6th Street from J Street through to L Street. The Proposed Project would return the form of the project site to one that more closely than under current conditions reflects the historic blocks of downtown, with varied architecture, consistent

with the direction of 2030 General Plan Policies LU 2.4.1 and 2.4.2. By generally utilizing the development standards of the CCUDG, the development in the SPD area would result in slender towers over building bases that would frame the ESC, with appropriate guidance from the CCUDG that would complement the historic landmark structures that are present on J Street, including the California Fruit Building, the Travelers Hotel building, and the Ramona Hotel building.

Skyline

The Sacramento skyline would be physically altered with implementation of the proposed SPD. Taller buildings that would be constructed under the proposed SPD could be similar in height and bulk to high-rise buildings that already exist in downtown Sacramento, including structures such as the Wells Fargo Center, 500 Capitol Mall, and US Bank Tower on Capitol Mall, the Renaissance Tower on K Street, and the Federal Courthouse on I Street. Because they would be constructed along the J Street corridor, future high-rise structures constructed in the SPD area could add notable forms in an area of the City skyline that is between the Capitol Mall/L Street corridor and the Federal Courthouse building on I Street. These buildings would be located in the CBD consistent with the City's desire to concentrate its tallest buildings downtown and to continue the development of a distinctive skyline (see General Plan Policy LU 2.4.5). The high-rise mixed use buildings that may be constructed on J Street would tend to fill in a gap in the skyline between the high buildings of the Capitol Mall corridor and the high buildings of the I and J Street corridors. Viewers outside the CBD would also potentially be able to see any 15 to 30 story buildings from a distance. For example, viewers from surrounding freeways would be able to see the physical change of additional high-rises in the downtown area. Because the project vicinity is characterized by several other high-rise buildings up to 30 floors, the addition of the Proposed Project would contribute to the downtown urban character of the City and would not degrade the existing visual character of the area.

Block Form and Streetwall

The blocks on J Street from 4th to 6th Streets currently lack the visual and physical character of an urban downtown. The south block face of J Street between 4th and 5th Streets is currently landscaped with turf and redwood trees. Under the Proposed Project, this block would be developed to create a streetwall that would create continuity from the California Fruit Building to the Travelers Hotel building. Between 5th and 6th Street on the south side of J Street, the block-long building structure is set back from the street to accommodate an entry to the Plaza East Parking Garage in a parallel traffic lane that dominates the visual character of the street face. As proposed in the SPD, this block would be redeveloped and the traditional streetwall reestablished, potentially with a hotel porte-cochere, consistent with the streetwall established by the Travelers Hotel building to the west and the Ramona Hotel building to the east. These factors, along with the potential high-rise structures and the continued reliance on below-grade parking would ensure that the proposed SPD would respond positively to the direction in General Plan Policy 6.1.12.

Shade and Shadow

There are existing apartments (Ping Yuen and Wong Center) and office buildings immediately north of the project site across J Street from sites that under the proposed SPD could potentially

include the development of high-rise buildings. There is potential for shadows created by multi-story buildings constructed in the SPD area to shade the Ping Yuen and Wong Center Apartments and open spaces, sidewalks, and other public and private open spaces north of J Street during the day, especially during the winter when the sun is generally lower in the southern sky. During hot summer days in Sacramento shadows are known to improve the usability of open spaces and parks. As directed by the CCUDG, future high-rise tower structures would oriented in a manner to reduce the potential for shading effects that could adversely affect nearby open spaces, including those in the Ping Yuen residential development. In addition, the CCUDG would ensure that high-rise towers are slender, avoiding the potential for long-duration shadows during winter days. More slender towers would tend to ensure that any new shadows created would be of shorter duration.

Signage

All parcels on the Downtown project site, as well as other adjacent parcels within the superblock bounded by 3rd, 7th, J, and L Streets, would be part of a new City sign district that would establish sign regulations that would allow deviations from the City's currently adopted sign ordinance. The proposed sign district would allow a wide array of types, sizes, and location of signs, while requiring that signs respond to the overall architectural design themes within the ESC and SPD area. Key proposed requirements of the district may limit exterior signage to the Sacramento Kings, ESC events, building and team sponsors, commercial tenants, and products sold on the property. Unique signage such as rooftop, laser, digital, rotating or animated, projected image, magnetic or electronic message signage would be allowed. The number, location, and size of signs would be determined in the future during Site Plan and Design Review and would be subject to Planning Director approval. Signs that may be placed on listed historic buildings would be required to meet Secretary of Interior Standards and would be subject to review by the Preservation Commission.

While the signs that would be allowed within the sign district could be distinctive and different in character than existing signage in downtown allowable under the City's sign ordinance. However, the proposed sign district encourages the signs to respond to the architectural and cultural significance of the ESC, to reflect the unique nature of the project, and to respond to the overall architectural design theme of the buildings in the Proposed Project. Further, the proposed sign district regulations recognize the importance of harmonious design throughout the sign district. As noted above, the visual and historic character of historic landmark buildings within the sign district would be protected by requiring compliance with the Secretary of Interior standards for listed historic buildings.

General Plan Policy Consistency

The City intends for the CBD to be the most intensely developed area of the City with increased density, height, and the inclusion of unique and iconic places. The City's 2030 General Plan includes a number of goals and policies aimed at achieving these goals. Goal LU 2.4 aims at creating a city of distinctive and memorable places while promoting community design that produces a distinctive, high-quality built environment whose forms and character reflect Sacramento's unique historic, environmental, and architectural context, and create memorable

places that enrich community life. Policy LU 2.4.1 aims to create a unique sense of place while promoting quality site, architectural and landscape design that incorporates those qualities and characteristics that make Sacramento desirable and memorable including: walkable blocks, distinctive parks and open spaces, tree-lined streets, and varied architectural styles.
Policy LU 2.4.4 encourages the development of iconic public and private buildings in key locations to create new landmarks and focal features that contribute to the City's structure and identity. While Policy LU 2.4.5 encourages the development of a distinctive urban skyline that reflects the vision of Sacramento with a prominent central core that contains the City's tallest buildings, complemented by smaller urban centers with lower-scale mid- and high-rise development. The Proposed Project would be consistent with the vision for the City detailed in the policies above.

Design Review

The proposed design of buildings consistent with the SPD would be subject to review by the City using the criteria listed in the Central City Urban Design Guidelines. 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 the considerations for project design would be that pedestrian levels would be appropriate in scale and detailing to the surrounding area; that the highest quality materials and detailing would be used on all elevations of the building; and that the Proposed Project would complement existing downtown high-rise development. Review would also consider the details of fenestration, the 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. As detailed above, the construction of an ESC and associated multi-story buildings in downtown Sacramento is consistent with existing City policy. Because the project would involve the construction of new buildings that advance the City's adopted goals and policies, the visual changes associated with the project are not seen as adverse. Furthermore, the design review process would ensure that the Proposed Project would be of a high quality design and that it would not substantially degrade the existing character or quality of the area or the project site.

Public Art

Examples of public art are found throughout the Downtown project site. The public art at the site includes a series of decorative ceramic panels comprised of textured fired adobe tiles with incised sculptural relief that varies among the panels around the Downtown Plaza buildings. Twenty-eight of the panels exist around the site. Photographs of the ceramic tile panels are presented in Appendix G, page 37.

In addition to the ceramic panels, several other sculptures exist on the site. The applicant has indicated that ceramic panels and sculptures would be made available for relocation, if possible and if desired by other private or public organizations. If the existing public art cannot be feasibly relocated, it would be demolished along with the existing Downtown Plaza buildings.

Pursuant to Title 2, Chapter 2.84.100 of the City Code, "[n]ot less than two percent of the total cost of any eligible construction project shall be expended for artworks." The Proposed Project would comply with this requirement.

Summary

As a result of the Proposed Project, the visual character of the project site would undergo a transformation as the uniform, solid mass of the Downtown Plaza would be redeveloped into a large, visually-iconic sports and entertainment center with distinctive multi-story high rises and visually interesting pedestrian open spaces. The addition of mixed-use buildings ranging from mid-rise to as many as 30 or more stories (approximately 350 feet in height) would change the visual nature of the project site, as the site would become grander in scale. The changes in the height, design, and visual prominence of development on the project site would be consistent with City policy regarding urban design in the project vicinity as articulated in the 2030 General Plan and the Central City Design Guidelines. While the changes in the visual character of the project site would be dramatic, the analysis demonstrates that they would not be adverse within the context of the City's articulated aesthetic values. For these reasons, the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and this impact is considered ***less than significant***.

Offsite Digital Billboards

As discussed above, the Proposed Project allows for the construction and operation of up to six (6) digital billboards on City-owned property within Sacramento. Each of the proposed digital billboard sites would be located along a freeway within the City limits. After specific billboard locations are determined, City staff would review the proposed billboard and design conditions would be imposed to ensure compliance with existing code requirements. The following ten sites have been identified as potential locations for digital billboards:

I-5 at Water Tank

The proposed billboard at this site would be a double-face V-shaped billboard on a center pole. The lighted face that would be oriented to be seen by northbound traffic would not be visible to nearby residences. It is possible, however, that the billboard face oriented to the north, to be seen from southbound traffic, would be visible from backyards of homes located on the south side of El Morro Court, from the front yards of homes located on the north side of El Morro Court, and from the backyards of a few homes located on the east side of El Rito Way between El Morro Court and Los Rancho Way. From these homes, depending on the precise location and height of the billboard, the elevated structure of the billboard and the animated light of the billboard face may be seen from outdoor or through windows at indoor locations at these homes.

Due to the developed urban nature of the project vicinity, including the elevated, steel, water tank and elevated freeway nearby, the presence of a tall billboard structure alone would not create an adverse effect on the visual character of the site or its surrounding properties. However, due to the potential visibility of the billboard face from backyards and through windows to indoor areas, it is possible that nighttime operation of a billboard in this location could result in a substantial degradation of the visual environment for sensitive receptors at this location.

US 50 at Pioneer Reservoir

The nearby land uses at the US 50 at Pioneer Reservoir site the elevated section of US 50/Pioneer Bridge, the covered Pioneer Reservoir structure, a rail line, and the Sacramento River. As is described in the Project Description, the billboard at this site would be elevated to a height 45-feet above the roadbed of westbound US-50. Other than the billboard structure, the billboard face would not be materially visible from the ground level at this site due to the oblique angles. The addition of the billboard post in this location would not have adverse effect on the visual character of the site or its surrounding properties. The presence of a tall billboard structure alone would not create an adverse effect on the visual character of the site or its surrounding properties, and would not result in a substantial degradation of the visual environment at this location.

Business 80 at Sutter's Landing Regional Park

The Business 80 at Sutter's Landing Regional Park site is located in a stand of mature trees within the former City landfill site adjacent to Business 80. The proposed digital billboard at this location would be a single face billboard on a center pole about 45 feet in height, oriented to the west to be seen by eastbound motorists on Business 80. Construction of the digital billboard at this location would require the removal of approximately 20 trees along about 200 feet of freeway frontage. As identified on Figure 4.1-28, this tree removal would eliminate the eastern end of a stand of trees that is approximately 1,000 feet in length near the southwestern end of Sutter's Landing Regional Park. Although there would be a reduction in the size of the stand of landscape trees, the remaining stand of trees would be approximately 800 feet in length and would continue to be a notable landscape feature at this location.

There are three static billboards that are currently on the north side of Business 80, along the edge of Sutter's Landing Regional Park in the vicinity of the project site, thus the addition of an additional billboard would not alter the visual character in these areas. Because the visual character on and around the project site would not be materially altered, a future digital billboard would not substantially degrade the visual character of the Business 80 at Sutter's Landing Park site or its surrounding properties.

The proposed McKinley Village project to the south, across Business 80, currently being evaluated by the City, has proposed courtyard homes that would back up to the Business 80 freeway and would block views from the proposed homes and parks in the proposed development to the potential digital billboard site. The courtyard homes would be oriented with front doors and most of their windows into inward courtyards that would face away from the freeway. Views to the project site would be limited by the lack of windows and by screening plantings between the homes and the freeway.

Business 80 at Del Paso Regional Park/Haggin Oaks

The Business 80 at Del Paso Regional Park/Haggin Oaks site is immediately south of the golf course, in the approximately 15-foot-wide area between the Haggin Oaks Trail and the Business 80 right-of-way. The proposed digital billboard site is surrounded by the Haggin Oaks Trail to the west and east, the Alister MacKenzie Golf Course to the north, and to the south Business 80, high power transmission lines, and various commercial and industrial uses. At this location the

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SOURCE: David Nybo, 2013

Figure 4.1-28
Proposed Tree Removal or Trimming at Business 80 at
Sutter's Landing Regional Park Billboard Site

construction of a digital billboard would require the removal of 50 or more mature trees that line Business 80 and create a portion of the visual screen between the Alister MacKenzie Golf Course and the highway to the south.

As is identified on Figure 4.1-29, removal of these trees would eliminate a portion of the visual backdrop that is experienced by golfers using holes 3, 4, 8 and 9 of the Alister MacKenzie course.

Tree removal would decrease the vegetated views from this location and would make the high-power transmission lines, traffic on Business 80, and commercial buildings on Auburn Boulevard more visible than currently exists. Replacing the removed trees would be a double face, open V billboard on a center pole approximately 45 feet high. The billboard pole and the un-lit, back of the billboard would be highly visible from the golf course. However, in order to be viewed from motorists on east- and west-bound Business 80, the billboard faces would be oriented so that views to the billboard faces from the golf course would be at angles that would be highly oblique, substantially reducing or eliminating visibility of the animated billboard face.

The removal of trees and the erection and operation of a digital billboard at this location would increase the visibility of adjacent urban uses to golfers using the Alister MacKenzie Golf Course. However, the change in the visual character of the holes near the project site would be similar to many other locations along the south side of the golf course where there are numerous views to Business 80, power lines, and commercial uses along Auburn Boulevard. The digital billboard at this location would be consistent with the existing visual character of the existing area with the adjacent freeway and the existing business along the opposite side of the freeway. Because the visual character on and around the project site would not be materially altered, a future digital billboard would not substantially degrade the visual character of the site or substantially and adversely affect the golfers playing the Alister MacKenzie Golf Course.

Business 80 at Sutter's Landing Regional Park/American River

The visual character of the Business 80 at Sutter's Landing Regional Park/American River site is a grassy depressed field, dominated by Business 80 with its attached soundwall, immediately to the east, the American River levee and Parkway to the north, and the Union Pacific Railroad tracks, with the grassy slopes of Sutter's Landing Regional Park to the west. A static illuminated billboard is currently situated at the southeast corner of the triangular parcel that includes the project site, near where the UP Railroad tracks cross Business 80. At night, the areas to the north and west of the site are predominantly dark, but the relatively constant light from passing vehicles on Business 80 eastern and southern edges of this site is a key element of its visual character.

The Proposed Project would add to the affected parcel an additional billboard with a single face oriented to be viewed by motorists on westbound Business 80. While the current billboard is situated immediately adjacent to and within the site lines of the elevated railroad tracks, the proposed digital billboard would be 45-feet in height and would visually stand out more than the existing billboard, approximately 700 feet to the southwest. Importantly, depending on the exact location of the billboard, the billboard structure and face would be visible to people recreating in the American River Parkway which would be inconsistent with American River Parkway

SOURCE: ESA, 2013

Figure 4.1-29
Trees Proposed for Removal –
View from Alister MacKenzie Golf Course, 4th Tee

Policy 7.24. The billboard would be clearly visible to people hiking along the south levee of the American River which runs through Sutter's Landing Regional Park, although it is unlikely that the billboard face would be highly visible due to the oblique angle at which it could be viewed from the trail. The Sutter's Landing Park Master Plan calls for the project site to be a natural area and the levee top to be improved as a hiking trail and observations decks to be added. The billboard structure would be visible from the future trail and potentially from future viewing or observation platforms. In addition, it would be present in views from portions of the Sutter's Landing Regional Park to the American River, potentially inconsistent with 2030 General Plan Policies ER 7.1.1 and 7.1.2.

Because the billboard face would be designed to be viewed by motorists crossing the American River Bridge, it the angle of viewing also would be oblique to users of other parts of the Parkway, including people fishing from the shore or boats on the river, or bicyclists, walkers, or runners on the Jedediah Smith Memorial Trail. As a result of the meander in the river, the billboard face may be more or less visible from different locations in the Parkway. Light from the billboard face would be relatively limited (as noted previously, 0.3 lumens at 250 feet from the billboard face), and given the presence of significant light sources from vehicles travelling on Business 80 and nearby brightly lit static billboards, it is unlikely that the proposed digital billboard would materially change the nighttime light character of the site. The billboard structure and face would not be visible to residents in the River Park neighborhood, south of Business 80, because of the presence of the soundwall and the elevation of residential properties below the grade of the freeway.

Although views of the billboard face would be diminished by oblique viewing angles to users of the American River Parkway, because the billboard structure could be visible from the Parkway and could intrude into views from Sutter's Landing Regional Park to the American River, the potential exists that construction and operation of a digital billboard at this site could substantially degrade the visual character or quality of this site adjacent to the American River Parkway.

I-80 at Roseville Road

The visual character of the I-80 at Roseville Road site is a developed portion of the region with surrounding roads, highways, elevated power lines, low-scale metal industrial buildings, and parking lots. The digital billboard structure would be consistent with the visual character of the area and from the ground level would be barely noticeable as it would blend in with other vertical structures including telephone and power poles and concrete freeway supports. Because the billboard would be elevated approximately 45 feet above the elevated freeway roadbed, the billboard's single face, designed to be visible to westbound motorists on I-80, would be barely noticeable from ground level. Therefore, the proposed digital billboard would not substantially degrade the existing visual character or quality of the I-80 at Roseville Road site and its surroundings.

SR 99 at Calvine Road

The SR 99 at Calvine Road site is located in the southeastern corner of a parcel adjacent to the SR 99 southbound onramp from eastbound Calvine Road. The digital billboard at this location would be a double face V designed to be visible to motorists on north- and southbound SR 99. For the most part, the sign would be largely visible from nearby roads, highways, and commercial

properties. The existing environment already includes a substantial number of commercial and industrial structures, power poles and associated above-ground power lines, a tall, illuminated monument sign that advertises nearby businesses. While the proposed digital billboard would be taller than existing signs, it would not be visually distinctive in the current environment.

The billboard face may be visible from the north facing windows in units in the Copperstone Village multi-family housing development, approximately 600 feet south on West Stockton Boulevard. However, views from the windows of these units currently look out on southbound vehicles travelling on SR 99, including at night when each evening thousands of vehicles pass with numerous moving lights. These Copperstone Village residences are located in an area that is surrounded by intense commercial, institutional, and industrial uses. While the animated face of the digital billboard may be an addition of new, colorful, and animated light in the viewscape, it would not be a new introduction of moving light.

There are no uses on the project site that would be visually incompatible with the presence of a digital billboard. The addition of a digital billboard in this location would not substantially degrade the visual character or quality of the SR 99 at Calvine Road site or its surroundings.

I-5 at Bayou Road

The proposed digital billboard at the I-5 at Bayou Road site would be constructed on a vacant parcel currently covered in ruderal grasslands south of Bayou Road. The digital billboard at this location would have a single face, directed to the west, designed to be viewed by motorists on southbound I-5. The closest residences are located approximately 400 feet south of the digital billboard site, on Gresham Lane and Lanfranco Circle, and would have very limited, oblique views toward the proposed digital billboard. The site would be largely screened from these residences by the North Natomas Self Storage facility. To the extent that the billboard would be visible at all to these homes, the views would be to the pole and the back (unlit) side of the sign. Because of the disturbed nature of the site, proximity to the freeway, and distance from residences, the addition of a digital billboard in this location would not substantially degrade the visual character or quality of the I-5 at Bayou Road site or its surrounding properties.

I-5 at San Juan Road

The proposed digital billboard at the I-5 at San Juan Road site would be a double face V designed to be viewed by motorists on north- and southbound I-5. Because I-5 is elevated approximately 20 feet over surrounding grade, the billboard face would be approximately 65 feet above the street level on San Juan Road.

The homes near this project site are two-story multi-family structures. It is possible that the billboard would be visible from north-facing windows and front yards at homes located on the south side of San Juan Road, from the front yards of homes located on the north side and east end of Almonetti Avenue, and from east-facing windows in homes at the east end of Almonetti Avenue and Tice Creek Way. From these homes, depending on the precise location and height of the sign, the size and shape of the billboard may be seen. Although the height and location of the

sign would create oblique angles to the illuminated billboard face, the animated advertisements may be visible from the noted locations.

The locations from which the billboard face may be visible, noted above, also currently have oblique views to the westernmost lane of southbound I-5, approximately 150-feet to the east of the existing residences. The vacant parcel immediately to the west of this site is designated Employment Center Mid Rise in the 2030 General Plan, and is reasonably anticipated to be developed with commercial uses in the future. While the digital billboard would be placed in a context where there is a freeway adjacent to the existing homes and the expectation is that future non-residential uses would have urban levels of light and activity, the presence of a digital billboard at this location could create a continually changing, illuminated feature that would affect views from outside and, potentially, inside nearby homes. Due to the potential visibility of the billboard face from front yards and through windows to indoor areas, it is possible that nighttime operation of a billboard in this location could result in a substantial degradation of the visual environment for sensitive receptors at the I-5 at San Juan Road site.

I-5 at Sacramento Railyards

The I-5 at Sacramento Railyards site is located in the downtown Sacramento Railyards adjacent to the I Street onramp to northbound I-5. The digital billboard at this site would be a double face V, designed to be viewed by motorists on north- and southbound I-5. At this site, I-5 and the northbound I Street onramp are both elevated approximately 40 feet over the grade of the Sacramento Valley Station parking lot. Thus, the digital billboard would be elevated approximately 85 feet over the street grade to provide direct straight-on views from drivers on northbound I-5, and thus any views from the ground level would be oblique, resulting in limited visibility. The only locations where the billboard face potentially would be highly visible would be from north- and west-facing windows in upper floor units in the Wong Center residential building, approximately 600 feet to the southeast. Those same windows currently would also have views to the travel lanes of I-5, particularly lights from southbound vehicles at night. The animated face of the digital billboard at this location would be an addition to, but not a material change in, the views from these units. Therefore, the construction and operation of a digital billboard at the I-5 at Sacramento Railyards site would not substantially degrade the visual character or quality of the site or its surrounding properties.

Elimination of Relocation Agreements

The Proposed Project includes an amendment to the City Sign Ordinance that would eliminate the requirement for approval of relocation agreements in connection with each digital billboard site. Under existing regulations (City Code Section 15.148.815), relocation agreements identify existing non-conforming billboards that would be removed as part of the construction and operation of a digital billboard.

The elimination of the requirement for approval of a relocation agreement for each new digital billboard would mean that the billboard constructed as part of the Proposed Project would result in a net increase in the number and square footage of billboards in Sacramento. According to City Code Section 15.148.100, the purpose of the City Sign Ordinance is “to eliminate potential hazards to

motorists and pedestrians; to encourage signs which, by their good design, are integrated with and harmonious to the buildings and sites which they occupy, and which eliminate excessive and confusing sign displays; to preserve and improve the appearance of the city as a place in which to live and to work and as an attraction to nonresidents who come to visit or trade; to safeguard and enhance property values; to protect public and private investment in buildings and open spaces; to supplement and be a part of the regulations imposed and the plan set forth under the comprehensive zoning ordinance of the city; and to promote the public health, safety and general welfare." The proposed digital billboards would be required to comply with all other requirements of the City Sign Ordinance, including avoidance of interference with nearby uses and avoidance of hazards to motorists on nearby roads (see City Code Section 15.148.815(G)). Thus, the elimination of the requirement for a relocation agreement, and the resulting increase in the total number and square footage of billboards in Sacramento, would not be contrary to the purposes of the City Sign Ordinance.

Although the elimination of the relocation requirement for new digital billboards in Sacramento could be applicable to other future digital billboard proposals, the City anticipates that there would be relatively few of such proposals based on several factors. Existing code requirements establish that new offsite digital billboards may only be developed on City-owned property, establish minimum distance requirements to other billboards, limit digital billboards to property zoned for commercial or industrial uses, and limit applicable sites to those that would be readily visible from adjacent freeways. Further, City Code requires City Council approval and CEQA compliance for any new digital billboard. Thus, while it is foreseeable that some increase in the number of digital billboards beyond the current six proposed billboards, with more than 50 miles of freeway traversing the City of Sacramento, it is not currently foreseeable where, when, or under what conditions such digital billboards would be proposed. Thus, a more specific assessment and conclusion about the significance of visual effects of future digital billboards that may be allowed without relocation agreements would be speculative. Pursuant to Section 15145 of the State CEQA Guidelines, which prohibits the consideration in an EIR of effects that are speculative, no further analysis of this change to the City's Sign Ordinance is included in this EIR.

Summary

As noted above, the construction and operation of digital billboards at most of the proposed sites would not cause a substantial degradation of the visual character or quality, including effects on sensitive visual receptors. However, the analysis concludes that construction and operation of digital billboards at the I-5 at Water Tower, I-5 at San Juan Road, and Business 80 at Sutter's Landing Regional Park/American River sites could cause substantial degradation of the visual environment. Therefore, the visual effects of the development of digital billboards at these locations would be considered ***potentially significant*** impacts.

Mitigation Measures

4.1-1(a) (DB – I-5 at Water Tank; I-5 at San Juan Road)

At the I-5 at Water Tank and I-5 at San Juan Road sites, the digital billboard shall be oriented and designed, including the addition of screening and shielding features, to

minimize the visibility of the lighted northern billboard face to homes on El Morro Court and El Rito Way, and to minimize the visibility of the lighted southern billboard face to homes on San Juan Road, Almoneti Avenue, and Tice Creek Way. Once the precise location and design of the digital billboard at this location has been proposed, the visibility of the LED face from windows and backyards of nearby homes shall be assessed and screening of the billboard face from view at nearby homes and yards shall be confirmed through a visibility study prepared by the applicant to the satisfaction of the Planning Director.

4.1-1(b) (DB – Business 80 at Sutter's Landing Regional Park/American River)

At the Business 80 at Sutter's Landing Regional Park/American River site, the digital billboard pole shall be located to eliminate the visibility of the billboard from the Jedediah Smith Memorial Trail and from the level of the river. Once the precise location and design of the digital billboard at this location has been proposed, the visibility of the billboard shall be assessed and compliance with the requirements of Policy 7.24 of the American River Parkway Plan shall be confirmed through a visibility study prepared by the applicant to the satisfaction of the Planning Director.

Impact Significance After Mitigation: By locating and designing the digital billboards at the I-5 at Water Tank and I-5 at San Juan Road sites as directed in Mitigation Measure 4.1-1(a), the visibility of the billboard face from nearby homes and yards would be eliminated. However, it is currently not possible to determine with certainty that this measure could fully screen the illuminated billboard face at these sites. Thus, the impacts at these sites may remain significant. At the Business 80 at Sutter's Landing Regional Park/American River site the implementation of Mitigation Measure 4.1-1(b) may not be able to eliminate the visibility of the billboard from the Jedediah Smith Memorial Trail and from the river level. Further, the billboard would remain visible from Sutter's Landing Regional Park, from the American River Parkway, and could be visually inconsistent with the planned natural area designated in the Sutter Landing Park Master Plan. Thus, the impact at this site would remain significant. Therefore, with the implementation of **Mitigation Measure 4.1-1(a) and/or Mitigation Measure 4.1-1(b)** listed above, this impact would be remain ***significant and unavoidable***.

Impact 4.1-2: The Proposed Project could create substantial new sources of light.

Downtown Project Site

ESC Site

Construction

Nighttime construction activities would add to the existing ambient light levels that are currently characteristic of the Downtown project site and immediate project vicinity. Because the existing light levels are typically low and oriented inward to the Downtown Plaza development, project construction lighting could represent a substantial change in artificial light conditions. Nighttime lighting sources during construction would, however, consist of floodlights that would be focused

on the work area to minimize light trespass. Views of light sources emanating from the ESC site from the Hotel Marshall and Jade Apartments residential buildings to the east would be initially unobstructed, but after erection of the practice facility they would be largely obscured. Views of the ESC site construction lights from the Wong Center and Ping Yuen residential buildings to the northwest are would be buffered by the existing Downtown Plaza buildings and the Traveler's Hotel building west of 5th Street. These intervening buildings would limit views of light sources.

For the most part, project construction lighting would not be directly visible to nearby sensitive receptors residing in nearby housing units. However, for approximately one year, between summer 2014 when demolition would begin and summer 2015 when the building frames would be erected, high-brightness lights and illuminated surfaces could be directly visible from residential uses or other affected light-sensitive uses and could result in substantial changes to existing artificial light conditions or interfere with off-site activities. Therefore, impacts related to construction lighting could be ***significant***.

Operations

The proposed ESC would include a variety of lighting and illuminated signage that would create a high degree of visibility during and between events. As was previously described in Chapter 2, Project Description, a variety of different lighting techniques would be employed depending on the location.

Exterior lighting for the ESC would be provided to illuminate different areas of the ESC and surrounding plazas, and would include street lighting, sidewalk lighting, building perimeter lighting, emergency lighting, and outdoor security lighting along walkways, driveways, and plaza areas. Vertical walls of the ESC building would be visibly lit in most directions, both from the outside as well as from the inside where transparent surfaces would permit light from inside to be visible to outside observers. This lighting would be to accentuate and create visibility of the ESC structure as well as lighting for signage and advertising purposes. Vertical wall lighting may include use of LED lights or video screens that are on or are constructed as part of the building façade. Some of these elements would be signage opportunities as well, and so there would be some overlap between signage and lighting in these instances. In addition, horizontal surfaces, such as the ESC roof, would be lit to create visibility from above. Unique large events may occasionally include additional temporary lighting, such as searchlights, intended to be viewed from long distances and identify the location of a major event.

Increased lighting and reflective materials on the site could directly or indirectly create light spillover onto adjacent residential buildings that could disturb building occupants (e.g., those living in the Ping Yuen Apartments, the Wong Center, Hotel Marshall, and the Jade Apartments). In particular, residents of the Jade Apartments and Hotel Marshall with windows that have views to the west in the direction of the ESC could have light spillover from the ESC into the windows of their units, lighting otherwise darkened rooms and potentially interfering with sleep or other activities. These direct light spillover effects would be most likely with searchlights or other lighting of the ESC roof. These same residents could also experience indirect spillover lighting created by light reflected from the vertical surfaces of the ESC or entry plaza lighting.

The intent of the lighting, including animated, changing, colorful lights, would be to increase the visibility of the ESC compared to other buildings in the vicinity. Thus, in addition to light spillover on adjacent properties, lighting from all of the project's features including building lights, signs, the potential use of LED skins around the circumference of the building and/or the use of high speed laser light projection technology would make the ESC substantially brighter and more visible at night than the existing development on the project site and other existing buildings in downtown Sacramento. Many views of the ESC would be limited by intervening development. Views of animated signage, which could be adhered to the building façade or on signs in the surrounding plazas, would become increasingly intermittent as the elevation of the signage decreases and as the signage becomes more internal to the site, because of the effects of intervening structures. Nevertheless, project lighting and signage could result in brightly illuminated surfaces that could be directly visible from residential uses or other affected light-sensitive uses and could result in substantial changes to existing artificial light conditions or interfere with off-site activities. This increased visibility could disturb or distract individuals observing the area from homes, offices, automobiles, or while walking as pedestrians on downtown streets.

For the reasons discussed above, lighting associated with the project could significantly affect the ambient nighttime light in the downtown area, including light spillover to nearby residential uses. This impact is considered ***potentially significant***.

SPD Area

Construction

Nighttime construction activities within the SPD area would add to the existing ambient light levels that are currently characteristic of the Downtown project site and immediate project vicinity. Because the existing light levels are typically low and oriented inward to the Downtown Plaza development, project construction lighting could represent a substantial change in artificial light conditions. To the extent that construction in the SPD area would occur after the opening of the ESC, the change in artificial lighting conditions at the site would be less because, as discussed above, lighting in and around the ESC would be expected to be brighter than under existing conditions.

Nighttime lighting sources during construction in the SPD area would, however, consist of floodlights that would be focused on the work area, minimizing potential spillover light. Views of light sources emanating from the SPD area from the Hotel Marshall and Jade Apartments residential buildings to the east would be initially unobstructed, but after erection of the practice facility they would be largely obscured by that building and the existing 630 K Street building. Views of the SPD area construction lights from the Wong Center and Ping Yuen residential buildings to the northwest are would be buffered by the Traveler's Hotel and Ramona Hotel buildings on J Street, but views from the Wong Center to the portion of the SPD area south of J Street between 4th Street and the Traveler's Hotel building would be close and unobstructed.

To varying degrees, project construction lighting would be directly visible to nearby sensitive receptors residing in nearby housing units. Over time, intervening structures would incrementally

buffer or obscure views of construction sites in the SPD area from nearby residences. However, high-brightness lights and illuminated surfaces in portions of the SPD area would be directly visible from residential uses or other affected light-sensitive uses and could result in substantial changes to existing artificial light conditions or interfere with off-site activities. Therefore, impacts related to construction lighting could be ***significant***.

Operations

The Sacramento 2030 General Plan includes Policy ER 7.1.5 related to lighting, which requires the City to minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary. Further, the Central City Urban Design Guidelines for development in the public and private realms establish standards for lighting of streets, plazas, and buildings. CCUDG Public Realm Guidelines, section 3.d.2.A states "Illumination generally should be focused down toward the ground, avoiding all unnecessary lighting of the night sky. In addition to standard street light poles, light sources that are mounted closer to and focus illumination directly onto the ground plane, such as bollard-mounted lighting, stair lighting, and wall- and bench-mounted down lighting, are desirable. Light fixtures should include internal reflector caps, refractors, or shields that provide an efficient and focused distribution of light and avoid glare or reflection into upper stories of adjacent buildings." Similarly, CCUDG Private Realm Guidelines, section 4.j.3.B states "[l]ight fixtures should include internal reflector caps, refractors, or shields that provide an efficient and focused distribution of light and avoid glare or reflection across property edges or onto adjacent buildings. Illumination design should avoid lighting of the night sky."

Compliance with these Guidelines would ensure that development within the SPD area would not result in light being cast onto oncoming traffic or nearby sensitive receptors. In addition, it is anticipated that additional light sources in the SPD area would not significantly affect the ambient nighttime light in the project vicinity due to the amount of night lighting that already exists in the area. Therefore, this would be *a **less-than-significant*** impact.

Offsite Digital Billboards

The Proposed Project would allow the construction and operation of six (6) digital billboard structures on sites located near freeways in the City of Sacramento. As described in Chapter 2, Project Description, digital billboards rely on LED technology to display messages on a display screen. Some of the proposed digital billboards would have two screens, facing in opposite directions and oriented to vehicle traffic on the adjacent freeway segment, while others would have a single face oriented to be viewed by motorists from one direction on the freeway. The brightness of the LED display is subject to adjustment based on ambient conditions. For example, in order to create the optimal visibility during varying conditions, the displays would respond to changes in the ambient light conditions, and would typically be adjusted to be brighter in the daytime than in darkness.

As is described in Chapter 2, the light emitting diodes (LEDs) that make up the lit portion of the offsite digital billboard face are designed to be viewed from straight on. They create their own source of light and do not require any other ambient lighting of the sign. The construction of the LED boards is such that visibility of the LEDs are diminished as the view angle to the billboard

becomes increasingly oblique. For example, the level of brightness is cut in half by moving the viewing position to a 35° angle from dead center, and at a sufficient angle the LED lights are not visible and do not spillover to adjacent portions of the billboard structure or off the billboard site.

Illuminated signs could be considered a traffic safety hazard given the potential of light and glare to distract drivers. The California Vehicle Code addresses illumination by stating that "no person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway." The California Vehicle Code regulates illumination by placing limits on maximum light output. Based on Section 21466.5 of the California Vehicle Code, a light source is impairing when the light source exceeds 1,000 times the minimum measured brightness in a driver's field of view, within 10 degrees of that field of view. Light levels emitted from the billboard would adjust to respond to ambient conditions and thereby avoid excessive brightness.

Caltrans addresses illumination generated by advertising displays by stating that displays may not "interfere with the effectiveness of, or obscure any official traffic sign, device, or signal… nor shall any advertising display cause beams or rays of light to be directed at the traveled ways if the light is of an intensity or brilliance as to cause glare or to impair the vision of any driver, or to interfere with any driver's operation of a motor vehicle [Business and Professions Code, Section 5408 (b)]." City Code Section 15.148.815 requires that digital billboards be found to not create a traffic or safety hazard. While both the City and Caltrans stress the importance of limiting light and glare for the safety of drivers, neither agency defines formal requirements regarding brightness or light intensity of advertising signs. Additionally, as mentioned above, the light levels emitted from the billboard would be set to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime).

Caltrans stipulates in Section 5405(d)(1) of the Outdoor Advertising Act that no message center display may include any illumination or message change that is in motion or appears to be in motion or that changes in intensity or exposes its message for less than four seconds. City of Sacramento Code Section 15.148.815 (F)(6)(f) restricts digital billboards to displays of series of still images, each of which must be displayed for at least eight seconds. In compliance with City Code and California Business and Professions Code Section 5403(h), the still images may not move or present the appearance of motion and may not use flashing, scintillating, blinking, or traveling lights or any other means not providing constant illumination. Transition or blank screen time between one still image and the next may not exceed one second.

The Proposed Project would comply with the requirements of City of Sacramento Code Section 15.148.815, the Caltrans Outdoor Advertising Act, and Section 21466.5 of the California Vehicle Code. These regulations set forth design standards for billboards with the primary purpose of minimizing traffic safety hazards. With compliance to these regulations, the project would not create a new source of substantial light which would adversely affect day or nighttime views in the area, at any of the proposed digital billboard sites, with the exception of the I-5 at Water Tank and I-5 at San Juan Road sites, discussed further below.

I-5 at Water Tank

It is possible that billboard light could spillover into the backyards of homes located on the south side of El Morro Court, and that light from the billboard could be seen from the front yards of homes located on the north side of El Morro Court, and from the backyards of homes located on the east side of El Rito Way between El Morro Court and Los Rancho Way. Depending on the exact location of the pole, it is possible that the billboard face could be less than 50 linear feet from the backyard, and less than 100 feet to the closest window of the home at 18 Morro Court, and approximately 175 feet to the front windows of the home at 11 Morro Court. From these homes, depending on the precise location and height of the sign, light from the billboard's LEDs could spillover to these homes, brightening backyards or spilling into indoor spaces through windows. As is described above, the height and angle of the billboard would be designed to be seen from straight on by drivers in cars on the elevated I-5. The height, alone, would ensure that no residents on ground level in backyards or in homes would see the signs from straight on. However, depending on the orientation angle of the billboard faces, the light emitted from the LED lights could spillover and affect indoor and outdoor activities. Mitigation Measure 4.1-2(i) would ensure that the light from the billboard at this location would be sufficiently reduced to avoid spillover into the homes and yards of nearby residences.

I-5 at San Juan Road

It is possible that light from the billboard could spillover into front- and backyards, and into interior spaces through windows, of homes located on the south side of San Juan Road, from the front yards of homes located on the north side and east end of Almonetti Avenue. Depending on the precise location of the pole and height of the sign, it is possible that the billboard face could be less than 150 feet to the closest window of the home on San Juan Road. As noted previously, the height and angle of the billboard would be designed to be seen from straight on by drivers on the elevated I-5. Given that I-5 is elevated by approximately 15 feet at this location, the height, alone, would ensure that spillover light would be diminished at ground level in homes, on walkways or sidewalks. Depending on the orientation angle of the billboard faces, the LED lights could spillover into second floor windows at units closest to the billboard. Mitigation Measure 4.1-2(i) would ensure that the light from the billboard at this location would be sufficiently reduced to avoid spillover and disturbance of activities in homes and yards of nearby residences.

This impact is considered ***potentially significant*** as nighttime lighting from digital billboards could spillover onto adjacent residential land uses.

Mitigation Measures

4.1-2(a) (ESC/SPD)

The project applicant shall require construction contractors to ensure that all lighting related to construction activities shall be shielded or directed to restrict any direct illumination onto property located outside of the Downtown project site boundaries that is improved with light-sensitive uses.

4.1-2(b) (ESC/SPD)

Exterior lighting included within the ESC or SPD area shall incorporate fixtures and light sources that focus light on-site to minimize spillover light.

4.1-2(c) (ESC/SPD)

The project applicant shall submit a conceptual signage and lighting design plan for the ESC to the Department of City Planning to establish lighting design standards and guidelines.

4.1-2(d) (ESC/SPD)

Prior to issuance of a building permit for the ESC signage displays, the project applicant shall retain a lighting design expert who shall develop plans and specifications for the proposed lighting displays, establish maximum luminance levels for the displays, and review and monitor the installation and testing of the displays, in order to insure compliance with all City lighting regulations and these mitigation measures.

4.1-2(e) (ESC/SPD)

Project lighting shall not cause more than two foot-candles of lighting intensity or direct glare from the light source at any residential property. This would preclude substantial spillover light from bright lighting sources.

4.1-2(f) (ESC/SPD)

The project applicant shall comply with City Code Section 8.072.010, which establishes regulations regarding the use of searchlights.

4.1-2(g) (ESC/SPD)

At the Downtown project site, all light emitting diodes used within the integral electronic display shall have a horizontal beam spread of maximum 165 degrees wide and 65 degrees vertically, and shall be oriented downwards to the plaza/street, rather than upwards.

4.1-2(h) (DB – I-5 at Water Tank and I-5 at San Juan Road)

The maximum ambient light output level for any digital billboard shall be two (2) foot-candles at the closest residential property line from the billboard.

Impact Significance After Mitigation: Mitigation Measures 4.1-2(a) through 4.1-2(h) would ensure that new nighttime light from elements of the Proposed Project would be sufficiently reduced to avoid disturbance of sensitive receptors or activities in homes and yards of nearby residences. With the implementation of **Mitigation Measure 4.1-2(a) through (h)** listed above, this impact would be reduced to a ***less-than-significant*** level.

Impact 4.1-3: The Proposed Project could create new sources of glare.

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. At night, artificial lighting can cause glare from reflective surfaces. Glare can create hazards to motorists and nuisances for pedestrians and other viewers. The effects of additional nighttime lighting have been previously considered under Impact 4.1-2.

Downtown Project Site

ESC Site

Because of the multi-faceted design of the ESC façade, the movement of the sun would create the potential for glare from reflected sunlight in a multitude of directions, but would tend to make glare from any particular facet on the building façade a short-term instance, lasting only a short time from any particular orientation. From L Street and 5th Street, the portions of the ESC facility most visible to passing motorists, and facing the southern sun, would be the southern L Street frontage of the ESC and practice facility. These building faces would be primarily clad in multi-faceted, non-reflective surfaces, largely metal and/or perforated metal, precast concrete with stone aggregate, and similar façade materials. The façade of the rounded, multi-faceted ESC structure could include some panels made of reflective materials, primarily glass with tinting. Glass curtain walls would be limited to entries on the northwest and northeast, and which would be focused on the entry plaza and other open spaces, and which would not have extensive direct visibility from adjacent streets.

From the adjacent streets, individual facets or panels on the building façade could create glare under certain sun angles. These potentially glare-producing facets would be most visible to motorists traveling west on L Street. The design of the façade of the Lower Mezzanine at the street level on L Street would not be multi-faceted and would be comprised of a combination of opaque surfaces with glazing for windows associated with building entries, ticket or box office booths, and the team retail store. The multi-faceted face of the ESC would be only visible at higher elevations, above the cornice of the Lower Mezzanine level at a height sufficient to be largely outside of the street views of passing drivers. Thus, the reflective portions of the structure would not create hazards to motorists on adjacent roads and streets.

During periods of the day when the sun is low on the horizon, on its north and east sides the reflective façade of the ESC facility would potentially create new glare that would be visible from the entry plaza, as well as 5th, J and K Streets through view openings between existing and future buildings. Similarly, these reflective surfaces would potentially create glare that would be visible from a variety of angles on city streets and from offices, housing units, and other spaces around the project vicinity. Other than in the entry plaza area, the ground level angles to the project site (viewed by motorists and pedestrians) would be limited and quickly passed; thus, it is unlikely that the glare that might be created by the project would be of insufficient duration to be highly distracting or create hazards.

In the entry plaza area immediately surrounding the ESC structure, it is possible that morning and afternoon light could create reflective glare that could exacerbate the heat in these pedestrian

open spaces during summer days. The presence of landscape trees in the plaza area, as well as the cantilever of the ESC over portions of the southern edge of the plaza, would tend to decrease any potential heat effects that could be created by glare from reflective surfaces of the ESC in the vicinity of the entry plaza.

Due to the site design and orientation of the ESC structure as well as the design of and material used in the ESC façade, new glare that may be created would be of limited visibility and/or duration. Thus, the glare that may be created by the ESC would not disturb nearby residents, workers, or pedestrians, and would not create a public hazard. This impact would be ***less than significant***.

SPD Area

As is described in Chapter 2, Project Description, the buildings constructed in the SPD area would range in height up to 30 or more stories (over 350 feet, or more). Because detailed site and building design proposals are not available at this time, it is presently unknown what materials would be used to construct individual structures. The Sacramento 2030 General Plan includes Policy ER 7.1.6, which requires that new development avoid the creation of incompatible glare through development design features. These structures would be designed to comply with the City's Central City Urban Design Guidelines which address the reflectivity of façade materials of future buildings by stating that "[t]he uses of reflective glass, mirrored glass and dark colored glass should be avoided."

As previously described, the Downtown project site is in the central core of downtown Sacramento and is surrounded by a variety of buildings including senior living apartments (Ping Yuen and Wong Center), numerous office buildings, and general retail/commercial businesses. Because the project would be constructed to be consistent with the requirements of the Central City Urban Design Guidelines, it is unlikely that the project would create glare that could result in a public hazard or a substantial annoyance to nearby land uses. While the multi-story buildings along J Street could be designed to include a large amount of glass, they would have facades that would include non-reflective surfaces and would be highly articulated as required in the CCUDG. Further, because the sun is located in the southern sky, sunlight would not be reflected onto the closest buildings on the north side of J Street.

Although the CCUDG generally discourage the use of reflective surfaces in building facades, if buildings along J Street or 7th Street are clad in reflective facade materials, glare could be created when the sun is low in the sky. These glare effects could obscure the vision of drivers travelling along these routes, causing safety concerns. Further, intense glare during the summer could adversely create heat islands, which could limit the usefulness of open spaces or cause substantial increases in energy use of building air conditioning. Because the details of construction materials to be used are unknown, it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project vicinity if the surfaces of structures area highly reflective. This is a ***potentially significant impact***.

Offsite Digital Billboards

Digital billboards, including the LED billboard face and the pole structure, are not constructed of reflective surfaces. Restrictions on digital billboards, imposed and enforced by Caltrans, preclude lighting that would be directed at motorists that is so directed or intense that it could blind or confuse drivers, or create conditions that make recognition of the roadway or official signage difficult. These controls effectively regulate and the potential for the creation of glare to ensure that the operation of any digital billboard does not create a substantial new source of light or glare. Therefore, this impact would be ***less than significant*** for all potential digital billboard locations.

Summary

The ESC would be situated so as to avoid the creation of glare that could create public hazards. Depending on the final design of buildings in the SPD area, it is possible that an increase of reflective materials would increase the level of glare in the area. Compliance with the Central City Urban Design Guidelines would reduce the potential of this effect; however, the effect would be considered a ***significant*** glare impact.

Mitigation Measures

4.1-3 (SPD)

In the SPD area, highly reflective mirrored glass walls shall not be used as a primary building material (no more than 35 percent) for building facades adjacent to J Street and 7th Street. Instead, low emission (Low-E) glass shall be used in order to reduce the reflective qualities of the buildings, while maintaining energy efficiency.

Impact Significance After Mitigation: Mitigation Measure 4.1-3 would ensure that new building facades would be designed to avoid the creation of substantial reflective surfaces at street level that could create public hazards. With the implementation of **Mitigation Measure 4.1-3**, listed above, this impact would be reduced to a ***less-than-significant*** level.

Cumulative Impacts

Impact 4.1-4: The Proposed Project could contribute to cumulative impacts related to changes in the visual character of the project vicinity.

Downtown Project Site

The geographic context for changes in the visual character of the project vicinity is the CBD of downtown Sacramento. The CBD is characterized by a mix of retail/commercial, office, and residential uses housed in buildings of various heights. In addition to the Proposed Project, the only other active cumulative project in the vicinity is the proposed development on the 700 Block of K Street. This development would renovate the existing buildings that face K Street, and behind the existing buildings would add new multi-story residential buildings ranging in height from 60-70 feet for the entire length of the 700 block between 7th and 8th Streets.

Although there have been other projects proposed in the Capitol Mall corridor, including the Aura Condominiums at 6th Street and Capitol Mall (adjacent to the US Bank Tower) and the Towers on Capitol Mall project at 3rd Street and Capitol Mall, both of which were proposals for high-rise residential buildings that would have contributed new structures to Sacramento's skyline, these proposals are currently not active and the City is not aware of new proposals for projects on these sites.

The Railyards project, two blocks north on 5th and 6th Streets, would add numerous additional medium- and high-rise structures. The developer of the Railyards has been incrementally constructing infrastructure to serve the site over recent years, and is currently completing the extension of 5th and 6th Streets north over the UP railroad tracks into the area around the Central Shops. Development in the new city blocks created by this development is anticipated to take place over the coming 20-30 years. There are no projects that area currently proposed or under review by the City of Sacramento.

The Proposed project would replace one existing developed urban use for another. The addition of the ESC project and mixed-used development, in conjunction with the redevelopment projects proposed on K Street, potential future high-rise developments on Capitol Mall, and the development of the Railyards, would intensify the existing urban visual character of the west end of Sacramento's CBD. The addition of cumulative development, including the Proposed Project, would not degrade visual character of the project site and surrounding area.

Offsite Digital Billboards

Each of the proposed digital billboard sites would be located along a freeway within the City limits. With the exception of three of the potential sites (I-5 at San Juan Road, Business 80 at Sutter's Landing Regional Park, I-5 at Railyards), none of the other potential digital billboard sites are near properties that are known to be subject to other proposed future actions that could contribute to changes in visual character described for the Proposed Project.

At the I-5 at San Juan Road site, the property immediately west of the proposed digital billboard would be developed for commercial purposes. This would be part of the larger development of North Natomas that has been under way for nearly 20 years. The development in this area is consistent with and called for in the City's 2030 General Plan. While the visual character of Natomas would change in conjunction with urbanization, including the proposed digital billboard, it is consistent with the City's intent for the area and would not contribute to an adverse effect on visual quality or character.

At the Business 80 at Sutter's Landing Regional Park site, the property on the south side of Business 80 is currently proposed for development in the McKinley Village project. If approved, this property would be transformed from a vacant field with several billboards to an urban community with housing and other built environment. The proposed digital billboard, in conjunction with the proposed McKinley Village project, could alter the visual character of the landscape along Business 80 between the American River and East Sacramento. The proposed digital billboard in this location would not materially change the existing visual character of this

area and its incremental contribution to cumulative impacts would not be significant in combination with or in relation to the McKinley Village proposal, if approved.

At the I-5 at Railyards site, the project site is at the southwest corner of the 240-acre Railyards Specific Plan area, adjacent to a portion of the plan area that is dedicated to the development of civic uses, primarily an intermodal transportation facility that would take advantage of the opportunity to bring together multiple modes of travel at one location adjacent to downtown. The proposed digital billboard would be situated immediately adjacent to the elevated section of I-5 and would not visually change the character of the area beyond the changes that were addressed in the City's Railyard Specific Plan EIR and in the 2030 General Plan EIR.

Summary

Based on the discussion above, the contribution of the Proposed Project to cumulative changes in the visual character of Sacramento, including the various geographic areas considered above, would be less than considerable and this impact is considered a ***less-than-significant*** cumulative impact.

Mitigation Measure

None required.

Impact 4.1-5: The Proposed Project, in conjunction with other cumulative development in the City, could create substantial new sources of light.

Cumulative impacts related to light under buildout of the City's General Plan are analyzed in the Sacramento 2030 General Plan Master Environmental Impact Report (MEIR). Under General Plan buildout, the geographic context for the analysis of cumulative Urban Design and Visual Resources impacts is the Policy Area, which includes all cumulative growth within Sacramento County as well as the city of West Sacramento due to its close proximity. This cumulative impact analysis considers implementation of the proposed 2030 General Plan.

As previously discussed, Sacramento is an urbanized city and contains numerous existing sources of nighttime lighting. Existing development within the Policy Area as well as the City of West Sacramento and the remainder of Sacramento County outside of the city limits have resulted in a cumulative increase in nighttime lighting. The cumulative effect of this past development has resulted in a cumulative loss of available nighttime views resulting in a potentially significant cumulative effect. Future development would occur within the Policy Area within existing urban uses, which would already be subject to lighting from existing development and vehicle headlights. General Plan Policy ER 7.1.5 would reduce light impacts within the Policy Area, the major contributor to the cumulative amount of artificial light; therefore, reducing the project's contribution to the cumulative increase to less than considerable. Therefore, the Proposed Project's cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.1-6: The Proposed Project, in conjunction with other cumulative development in the project vicinity, could create new sources of glare.

Cumulative impacts related to glare are analyzed in the Sacramento 2030 General Plan Master Environmental Impact Report (MEIR). The geographic context for the analysis of cumulative Urban Design and Visual Resources impacts includes all cumulative growth within Sacramento County as well as the City of West Sacramento due to its close proximity. This cumulative impact analysis considers implementation of the proposed 2030 General Plan.

Sacramento is an urbanized area with skyscrapers in the downtown area along with multi-story office buildings located along major roadways that generate the primary source of glare in the Policy Area. Glare from sunlight reflecting off of a glass surface could cause a public hazard or annoyance to motorists. At certain times of the day buildings with glass dominated facades can impact drivers within sight of them. Development along the riverfront in the City of West Sacramento also contributes to the cumulative glare in the area. The majority of glare comes from tall buildings located in downtown or along major roadways. Cumulative development within the Policy Area as well as in Sacramento County and neighboring West Sacramento could increase daytime glare primarily through intensified infill development. However, projects of substantial size that could contribute to added glare in the City would be required to go through the City's Design Review process and future projects would, in many cases, also be subject to CEQA review and may require further mitigation for glare impacts. Also, General Plan Policy ER 7.1.6 requires that new development avoid the creation of incompatible glare through development design features. However, it is uncertain if glare would be an issue with future development. Therefore, the MEIR includes Mitigation Measure 6.13-1, which would require building features that would reduce glare impacts within the Policy Area, the major contributor to the cumulative amount of glare, and therefore reducing the Proposed Project's contribution to the cumulative increase to less than considerable. Therefore, the cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

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4.2 Air Quality

Introduction

This section assesses the potential air quality impacts associated with construction and operation of the Proposed Project and identifies feasible mitigation measures where appropriate. The analysis included herein was developed based on project-specific construction and operational features, and data provided in the *City of Sacramento 2030 General Plan*[1], *City of Sacramento 2030 General Master Environmental Impact Report*[2], the Sacramento Metropolitan Air Quality Management District (SMAQMD) *Guide to Air Quality Assessment*[3], and traffic information provided by Fehr and Peers Associates.

Comments on the NOP (see Appendix A) included a letter from the SMAQMD requesting air quality impacts be assessed for construction and operation of the Proposed Project. SMAQMD's letter also requested that mitigation measures be implemented, including off-site construction mitigation fees and development of an Air Quality Management Plan (AQMP). In addition, the SMAQMD recommended including site design features that support alternative transportation, such as bikeways and pedestrian pathways. Finally, the SMAQMD indicated that all projects within their jurisdiction are subject to the District rules and regulations in effect at the time of construction. Several other comments received pertained to air quality emissions associated with on-road vehicles, potential air quality benefits associated with additional transportation options from locating the sports and entertainment center in downtown Sacramento rather than North Natomas, and transit availability for the majority of ESC patrons. All of these issues are addressed in this section.

4.2.1 Environmental Setting

SMAQMD is the primary local agency with respect to air quality for all of Sacramento County, in which the Proposed Project is located. The City of Sacramento is within the Sacramento Valley Air Basin (SVAB), which also includes all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties, the western portion of Placer County, and the eastern portion of Solano County.

Physical Setting

Climate and Meteorology

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions

1 City of Sacramento, 2009a. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009.
2 City of Sacramento, 2009b. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009.
3 Sacramento Metropolitan Air Quality Management District, 2009a. *Guide to Air Quality Assessment*. Adopted December 2009 and last updated October 2013.

(for example, wind speed, wind direction, and air temperature) in combination with local surface topography (for example, geographic features such as mountains and valleys), determine how air pollutant emissions affect local air quality.

The climate of the SVAB is Mediterranean in character, with mild, rainy winter weather from November through March and warm to hot, dry weather from May through September. Sacramento Valley temperatures range from 20 to 115 degrees Fahrenheit and the average annual rainfall is 20 inches. The topographic features giving shape to the SVAB are the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These mountain ranges channel winds through the SVAB, but also inhibit the dispersion of pollutant emissions.

The predominant annual and summer wind pattern in the Sacramento Valley is the full sea breeze, commonly referred to as Delta breezes. These cool winds originate from the Pacific Ocean and flow through a sea-level gap in the Coast Range called the Carquinez Strait. In the winter (December to February), northerly winds predominate. Wind directions in the Sacramento Valley are influenced by the predominant wind flow pattern associated with each season. During about half the days from July through September, however, a phenomenon called the "Schultz Eddy", which is a large isotropic vertical-axis eddy on the north side of the Carquinez Strait that prevents the Delta breezes from transporting pollutants north and out of the Sacramento Valley and causes the wind pattern to circle back south, which keeps air pollutants in the Sacramento Valley. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violating state or federal standards.

The vertical and horizontal movement of air is an important atmospheric component involved in the dispersion and subsequent dilution of air pollutants. Without movement, air pollutants can collect and concentrate in a single area, increasing the associated health hazards. For instance, in the winter, the SVAB typically experiences calm atmospheric conditions that result in stagnant air and increased air pollution. As a result, persistent inversions occur frequently in the SVAB, especially during autumn and early winter, and restrict the vertical dispersion of pollutants released near ground level.

Existing Air Quality

Criteria Air Pollutants

As required by the Federal Clean Air Act (FCAA) passed in 1970, the U.S. EPA has identified six criteria air pollutants that are pervasive in urban environments, and for which state and national health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead are the six criteria air pollutants. Notably, particulate matter is measured in two size ranges: PM10 for particles less than 10 microns in diameter, and PM2.5 for particles less than 2.5 microns in diameter.

The California Air Resources Board (CARB) regional air quality monitoring network provides information on ambient concentrations of non-attainment criteria air pollutants. The monitoring stations that include data representative of the Proposed Project site are located on T Street (monitors ozone, PM10, and PM2.5) approximately 0.8 miles southeast of the project and at El Camino and Watt (station at busy intersection that monitors CO) approximately 6.7 miles northeast of the project. Table 4.2-1 presents a five-year summary of air pollutant (concentration) data collected at these monitoring stations for ozone, PM10, PM2.5 and CO.

TABLE 4.2-1
SUMMARY OF AIR QUALITY MONITORING DATA (2008–2012)

Pollutant	Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2008	2009	2010	2011	2012
Ozone – T Street Station						
Days 1-hour State Std. Exceeded	>0.09 ppm[b]	7	3	0	1	1
Max. 1-hour Conc. (ppm)		**0.107**	**0.102**	0.092	**0.100**	**0.104**
Days 8-hour National Std. Exceeded	>0.075 ppm[c]	9	4	0	1	4
Days 8-hour State Std. Exceeded	>0.07 ppm[b]	18	13	1	5	9
Max. 8-hour Conc. (ppm)		**0.092**	**0.089**	**0.074**	**0.087**	**0.093**
Suspended Particulates (PM10) – T Street Station						
Estimated Days Over 24-hour National Std.[d]	>150 µg/m^3 [c]	0	0	0	0	0
Estimated Days Over 24-hour State Std.[d]	>50 µg/m^3 [b]	17.8	6.0	6.1	0	0
Max. 24-hour Conc. National/State (µg/m^3)		73.7/**70.9**	47.8/**50.7**	53.5/**53.9**	38.8/42.2	36.2/36.7
State Annual Average (µg/m^3)	>20 µg/m^3 [b]	**25.1**	19.9	17.6	19.2	17.8
Suspended Particulates (PM2.5) – T Street Station						
Estimated Days Over 24-hour National Std.[d]	>35 µg/m^3 [c]	15.4	3.0	0	18.4	0
Max. 24-hour Conc. National (µg/m^3)		**66.1**	**37.7**	30.6	**50.5**	27.1
Annual Average (µg/m^3)	>12 µg/m^3 [b]	10.9	9.5	8.0	10.1	8.3
Carbon Monoxide (CO) – El Camino & Watt Station						
Days 8-hour Std. Exceeded	>9 ppm[b]	0	0	0	0	0
Max. 8-hour Conc. (ppm)		2.8	2.8	1.9	2.8	2.1
Days 1-hour Std. Exceeded	>20 ppm[b]	0	0	0	0	0
Max. 1-hour Conc. (ppm)		3.3	3.3	2.3	3.0	2.7

NOTES:

Bold values are in excess of applicable standard. "NA" indicates that data is not available.

conc. = concentration; ppm = parts per million; ppb=parts per billion;

µg/m3 = micrograms per cubic meter

ND = No data or insufficient data.

a. Number of days exceeded is for all days in a given year, except for particulate matter. PM10 and PM2.5 are monitored every six days.

b. State standard, not to be exceeded.

c. National standard, not to be exceeded.

d. Particulate matter sampling schedule of one out of every six days, for a total of approximately 60 samples per year. Estimated days exceeded mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

SOURCE: California Air Resources Board, 2013a. *Summaries of Air Quality Data, 2008-2012*. www.arb.ca.gov/adam/cgi-bin/db2www/polltrendsb.d2w/start. Accessed September 4, 2013.

While the data gathered at these monitoring stations may not necessarily reflect the unique meteorological environment of the project site nor the proximity of site-specific stationary and street sources, they do present the nearest available benchmark and provide the reader with a reference point to what the pollutants of greatest concern are in the region and the degree to which the area is out of attainment with specific air quality standards.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds or VOC by some regulating agencies) and nitrogen oxides (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicle engines; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Particulate Matter (PM10 and PM2.5)

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.

Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, and

acute and chronic respiratory symptoms, such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health.[4]

Nitrogen Dioxide (NO_2)

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels.

Sulfur Dioxide (SO_2)

SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of particulate matter, atmospheric sulfate, and atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the project area are well below federal and state standards. Accordingly, the region is in attainment status with both federal and state SO_2 standards.

Lead

Leaded gasoline (phased out in the United States beginning in 1973), lead based paint (on older houses and cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which puts children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

Non-Criteria Air Pollutants

Toxic Air Contaminants (TACs)

Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may

[4] Dockery, D. W. and C.A. Pope, III, 2006. *Health Effects of Fine Particulate Air Pollution: Lines that Connect*. Journal Air & Waste Management Association. pp. 709–742.

be emitted from a variety of common sources including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs are regulated differently than criteria air pollutants at both federal and state levels. At the federal level these airborne substances are referred to as Hazardous Air Pollutants (HAPs). The state list of TACs identifies 243 substances and the federal list of HAPs identified 189 substances.

The CARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations. The risk from diesel particulate matter as determined by the CARB declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, the CARB estimated the average statewide cancer risk from DPM at 540 in one million.[5] This calculated cancer risk values from ambient air exposure can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is more than 40 percent (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million, according to the National Cancer Institute.[6]

Asbestos is also a TAC of concern due to the demolition of buildings and structures as part of the project. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its use as a building material.

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors,

5 California Air Resources, Board, 2009a. *California Almanac of Emissions and Air Quality - 2009 Edition.* Table 5-44 and Figure 5-12.

6 National Cancer Institute, 2012. *Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity, Both Sexes: 18 SEER Areas, 2007-2009 (Table 1.14).* http://seer.cancer.gov/csr/1975_2009_pops09/results_merged/topic_lifetime_risk_diagnosis.pdf. Accessed on June 27, 2013.

as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts.

Sensitive Receptors

Air quality does not affect every individual or group in the population in the same way, and some groups are more sensitive to adverse health effects caused by exposure to air pollutants than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces overall exposure to pollutants. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions.[7] Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.

Downtown Project Site

The nearest sensitive receptors to the Downtown project site would be residents located at the Hotel Marshall (adjacent to project site), at the Jade Apartments (adjacent to project site), at the Wong Center across J Street (approximately 115 feet north of the project site), and at the Riverview Plaza building at 6th and I Street (approximately 270 feet north of the project site). In addition, the Proposed Project would include construction of up to 550 multi-family residential units, likely in two or more towers on the project site. Finally, the users of St. Rose of Lima Park located at 7th and K Streets (approximately 60 feet east of the project site) would be considered moderately sensitive receptors.

Offsite Digital Billboards

The Proposed Project would include the construction and operation of up to six offsite digital billboards at 10 potential locations on City-owned property near freeways around Sacramento. Sensitive receptors at each of these potential locations are described below.

[7] The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, poorer residents may be more likely to live in crowded substandard housing and be more likely to live near industrial or roadway sources of air pollution.

- **I-5 at Water Tank.** Sensitive receptors in the vicinity of this site are residents on El Morro Court and El Rito Way, the nearest of which is approximately 85 feet northwest of the potential site.

- **US 50 at Pioneer Reservoir.** The nearest sensitive receptors to this site are Leiva Park (approximately 600 feet northeast) and residential uses on 3rd Street (approximately 1,750 feet northeast).

- **Business 80 at Sutter's Landing Regional Park.** The nearest sensitive receptors in the vicinity of this site are local users of Sutter's Landing Regional Park (adjacent) and residents of homes on B Street in East Sacramento (approximately 1,350 feet south).

- **Business 80 at Del Paso Regional Park/Haggin Oaks.** The nearest sensitive receptors in the vicinity of this site are the golfers who play the Alister MacKenzie Golf Course (adjacent), the Quest Diagnostics Medical Laboratory (approximately 275 feet south), and residents of the Ladi Senior Apartments (approximately 325 feet south).

- **Business 80 at Sutter's Landing Regional Park/American River.** The nearest sensitive receptors to this site are residents of homes off Erlewine Circle in the River Park neighborhood, the nearest of which is approximately 250 feet southeast of the potential site.

- **I-80 at Roseville Road.** The nearest sensitive receptors to this site are residential uses off Winters Street, approximately 1,850 feet to the west, and the golfers playing the Arcade Creek and Alister MacKenzie golf courses, approximately 750 feet south of the potential site.

- **SR 99 at Calvine Road.** The nearest sensitive receptors to this site are residents of the Coppertown Village residential development, off West Stockton Blvd, the nearest of which is approximately 550 feet south of the potential site.

- **I-5 at Bayou Road.** The nearest sensitive receptors to this site are residents of nearby homes south of Bayou Road (including Gresham Lane, Lanfranco Circle, Hebron Circle, and Rynders Way), the nearest of which is approximately 550 feet south of the potential site.

- **I-5 at San Juan Road.** Sensitive receptors in the vicinity of this site are residents in homes across San Juan Road, the nearest of which is approximately 100 feet southwest of the potential site.

- **I-5 at Sacramento Railyards.** The nearest sensitive receptors to this site are residents of the Wong Center, approximately 530 feet south of the potential site, and the Ping Yuen Apartments, approximately 650 feet east of the potential site.

4.2.2 Regulatory Setting

Federal

Criteria Pollutants

The 1970 FCAA (last amended in 1990) required that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all national ambient standards by the deadlines specified in the FCAA. These ambient air quality standards are intended to protect public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

Table 4.2-2 presents current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant. Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the U.S. EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the National Ambient Air Quality Standards (NAAQS) had been achieved. "Unclassified" is defined by the FCAAA as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. Table 4.2-3 shows the current attainment status of the project area. In summary, Sacramento County is nonattainment for the 8-hour ozone (Severe) and PM2.5 NAAQS and is either attainment or unclassified for the remaining criteria pollutants.

The FCAA required each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The U.S. EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the U.S. EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Toxic Air Contaminants

TACs are regulated under both state and federal laws. Federal laws use the term "Hazardous Air Pollutants" (HAPs) to refer to the same types of compounds that are referred to as TACs under State law. Both terms encompass essentially the same compounds. The 1977 FCAAA required the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 FCAAA, 189 substances are regulated as HAPs.

State

Criteria Pollutants

Although the FCAA established the NAAQS, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already adopted its own air quality standards when federal standards were established, and because of the unique meteorology in California, there is considerable diversity between the state standards and NAAQS, as shown in Table 4.2-2. California ambient standards tend to be at least as protective as NAAQS and are often more stringent.

In 1988, California passed the California Clean Air Act (CCAA) (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 4.2-3, Sacramento County is nonattainment for the 1-hour ozone (Serious), 8-hour ozone, PM10, and PM2.5 California ambient air quality standards and is either attainment or unclassified for the remaining criteria pollutants. The CCAA requires each air district in which state air quality standards are exceeded to prepare a plan that documents reasonable progress towards attainment. A 3-year update is required.

Toxic Air Contaminants

The California Health and Safety Code defines TACs as air pollutants which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

TABLE 4.2-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.030 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 ug/m^3	150 ug/m^3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 ug/m^3	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 ug/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 ug/m^3	12 ug/m^3		
Lead	Monthly Ave.	1.5 ug/m^3	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 ug/m^3		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 ug/m^3	No National Standard	Breathing difficulties, aggravates asthma, reduced visibility	Produced by the reaction in the air of SO2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, discourages tourism.	See PM2.5.

ppm = parts per million; ug/m^3 = micrograms per cubic meter.

SOURCE: California Air Resources Board, 2013b. *Ambient Air Quality Standards.* http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Standards last updated June 4, 2013; California Air Resources Board, 2009b. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*. http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm. Page last reviewed by ARB December 2009.

TABLE 4.2-3
SACRAMENTO COUNTY ATTAINMENT STATUS

	Designation/Classification	
Pollutant	**Federal Standards**	**State Standards**
Ozone – one hour	No Federal Standard[1]	Nonattainment/Serious
Ozone – eight hour	Nonattainment/Severe	Nonattainment
PM10	Attainment[2]	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

1 Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications.
2 Effective October 28, 2013, the EPA formally re-designated Sacramento County as attainment for the federal PM10 standard.

SOURCE: California Air Resources Board, 2013c. *Area Designation Maps*. http://www.arb.ca.gov/desig/adm/adm.htm. Accessed September 5, 2013; U.S. Environmental Protection Agency, 2013. *U.S. EPA Fact Sheet – EPA Redesignates Sacramento County to Attainment for the Coarse Particulate Matter National Ambient Air Quality Standard.* September 12, 2013. p. 1.

In 2000, the CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel. Subsequent regulations of diesel emission by the CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Offroad Diesel Vehicle Regulation, and the New Offroad Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment.

Despite these reduction efforts, the CARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. In April 2005, the CARB published *Air Quality and Land Use Handbook: a Community Health Perspective*. This handbook is intended to give guidance to local governments in the siting of sensitive land uses near sources of air pollution. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities such as ports, rail yards and distribution centers. Specifically, the document focuses on risks from emissions of DPM, a known carcinogen, and establishes recommended siting distances of sensitive receptors. With respect to freeways, the recommendations of the report are: “Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with more than 100,000 vehicles per day or rural roads

with 50,000 vehicles/day."[8] The CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary the CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.

Local

The SMAQMD is the regional agency responsible for air quality regulation within the SVAB. The SMAQMD regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The SMAQMD regulates new or expanding stationary sources of TACs.

For state air quality planning purposes, Sacramento County is classified as a severe non-attainment area for ozone. The "severe" classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the SMAQMD update the Clean Air Plan every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The SMAQMD's record of progress in implementing previous measures must also be reviewed. The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*[9], which addresses attainment of the federal 8-hour ozone standard, as well as the *2009 Triennial Report and Plan Revision*[10], which addresses attainment of the state ozone standard, are the latest plans issued by the SMAQMD.

These attainment plans depend heavily on the SMAQMD's permit authority, which is exercised through the SMAQMD's *Rules and Regulations.* With respect to the construction phase of the Proposed Project, applicable the SMAQMD regulations would relate to construction and stationary equipment, particulate matter generation, architectural coatings, and paving materials. Equipment used during Proposed Project construction would be subject to the requirements of SMAQMD Regulation 2 (Permits), Rule 201 (General Permit Requirements); Regulation 4 (Prohibitory Rules), Rule 401 (Ringelmann Chart/Opacity), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 405 (Dust and Condensed Fumes), Rule 411 (Boiler NOx), Rule 420 (Sulfur Content of Fuels), Rule 442 (Architectural Coatings), and Rule 453 (Cutback and Emulsified Asphalt Paving Materials).

8 California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April 2005. p. 4.

9 Sacramento Metropolitan Air Quality Management District, 2013a. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*. September 26, 2013.

10 Sacramento Metropolitan Air Quality Management District, 2009b. *2009 Triennial Report and Plan Revision.* December 2009.

City of Sacramento 2030 General Plan

The following goals and policies from the *2030 General Plan*[11] are relevant to air quality.

Goal ER 6.1 Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that contribute to climate change.

Policies

- **ER 6.1.1 Maintain Ambient Air Quality Standards.** The City shall work with the CARB and the SMAQMD to meet State and Federal ambient air quality standards.

- **ER 6.1.2 New Development.** The City shall review proposed development projects to ensure projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases, nitrogen oxides and particulate matter (PM10 and PM2.5) through project design.

- **ER 6.1.3 Emissions Reduction.** The City shall require development projects that exceed SMAQMD ROG and NOx operational thresholds to incorporate design or operational features that reduce emissions equal to 15 percent from the level that would be produced by an unmitigated project.

- **ER 6.1.5 Development Near TAC Sources.** The City shall ensure that new development with sensitive uses located adjacent to TAC sources, as identified by the CARB, minimizes potential health risks. In its review of these new development projects, the City shall consider current guidance provided by and consult with CARB and SMAQMD.

- **ER 6.1.6 Sensitive Uses.** The City shall require new development with sensitive uses located adjacent to mobile and stationary TAC be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology for improved air quality (i.e., ventilation and filtration) to lessen any potential health risks. In addition, the City shall require preparation of a health risk assessment, if recommended by SMAQMD, to identify health issues, reduce exposure to sensitive receptors, and/or to implement alternative approached to development that reduces exposure to TAC sources.

- **ER 6.1.11 Coordination with SMAQMD.** The City shall coordinate with SMAQMD to ensure projects incorporate feasible mitigation measures if not already provided for through project design.

- **ER 6.1.14 Zero-Emission and Low-Emission Vehicle Use.** The City shall encourage the use of zero-emission vehicles, low-emission vehicles, bicycles and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure

[11] City of Sacramento, 2009a. *City of Sacramento 2030 General Plan*. Adopted March 3, 2009. pp. 2-321 - 2-323.

and parking facilities in residential developments and employment centers to accommodate these vehicles.

- **ER 6.1.18 Employer Education Programs.** The City shall encourage employers to participate in SMAQMD public education programs.

The Proposed Project would be consistent with policies ER 6.1.1, ER 6.1.2, and ER 6.1.3 because it would result in less than significant long-term operational emissions and would comply with the SMAQMD-recommended mitigation measures to reduce construction NOx emissions to below the SMAQMD thresholds. By shuttering Sleep Train Arena and replacing it with the proposed ESC, the length of trips to and from the ESC would be reduced compared to Sleep Train Arena, and many automobile trips would be replaced with pedestrian, bicycle, and transit trips. Also, the Proposed Project would include residential units and other mixed-use development that would have access to transit and would not need to rely solely on automobile travel. The Proposed Project would be energy efficient and would be a mixed-use project with an improved jobs-housing balance.

As discussed in Impact 4.2-7, the Proposed Project would not result in significant TAC emissions, nor would it locate sensitive uses in close proximity to sources of substantial TAC emissions (policies ER 6.1.5 and ER 6.1.6).

The Proposed Project is being closely coordinated with SMAQMD (Policy ER 6.1.11) to ensure that appropriate mitigation is selected and that the emission estimates are accurate.

The Proposed Project would encourage the use of zero-emission and low-emission vehicle use (Policy ER 6.1.14). Due to its location and proximity to other complementary uses, the Proposed Project would encourage pedestrian and bicycle access.

Finally, the Proposed Project would be encouraged to participate in SMAQMD public education programs (Policy ER 6.1.18).

4.2.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR, impacts related to air quality may be considered significant if the Proposed Project would result in the following:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Result in short-term (construction) emissions of NOx above 85 pounds per day;
- Result in long-term (operational) emissions of NOx or ROG above 65 pounds per day;
- Result in PM10 concentrations equal to or greater than five percent of the state ambient air quality standard (i.e., 50 micrograms/cubic meter for 24 hours) in areas where there is evidence of existing or projected violations of this standard. Further, the SMAQMD holds

that if project emissions of NOx and ROG are below the emission thresholds given above, then the project would not threaten violations of the PM10 ambient air quality standards;

- Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm);
- Create objectionable odors affecting a substantial number of people;
- TAC exposures create a lifetime cancer risk exceeding 10 in 1 million for stationary sources, or substantially increase the lifetime cancer risk as a result of increased exposure to TACs from mobile sources.

Methodology and Assumptions

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. First, during project construction (short-term), the project would affect local particulate concentrations primarily due to fugitive dust sources and diesel exhaust. Under operations (long-term), the project would result in an increase in emissions primarily due to motor vehicle trips and on-site stationary sources such as boilers. Other sources include minor area sources such as landscaping and use of consumer products.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. The Proposed Project would include demolition of 857,943-square feet of retail/commercial and office space and 2,380 below-grade parking spaces, and the subsequent construction of a 697,000-square foot, 17,500 seat entertainment and sports center, 82,000-square foot practice court, 1.5 million-square feet of mixed use development, including retail/commercial, office, hotel, and residential space, and below-and-above grade parking spaces and associated public and private open spaces. In addition, the existing 442,000-square foot Sleep Train Arena and the adjacent 38,000-square foot practice facility, located approximately six (6) miles north of the project site in Natomas, would be closed and would cease operations concurrent with the opening of the proposed Sacramento ESC. Construction of the ESC is expected to begin in 2014 and would occur over an approximately two-year period. Construction of the mixed use development is assumed to occur between 2014 and 2019, although could occur over a longer period of time. Operational emissions for project buildout were also estimated using CalEEMod based on the proposed land uses (for area and stationary source emissions) and also incorporate the trip generation figures developed by Fehr and Peers for the Proposed Project.

CO impacts were evaluated using the methodology included in SMAQMD's CEQA *Guide to Air Quality Assessment*. Analysis was conducted using the Caline-4 model for baseline conditions, existing plus project, and cumulative plus project scenarios.

Additional information and model results for each of the analyses described above are presented in Appendix B.

Impact and Mitigation Measures

Impact 4.2-1: The Proposed Project could conflict with or obstruct implementation of an applicable air quality plan.

Downtown Project Site

The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*[12], which addresses attainment of the federal 8-hour ozone standard, as well as the *2009 Triennial Report and Plan Revision*[13], are the latest plans issued by the SMAQMD, which incorporate land use assumptions and travel demand modeling from the Sacramento Area Council of Governments (SACOG). In order to determine compliance with the applicable air quality plan, the SMAQMD recommends comparing the project to the SACOG growth projections included in the *Metropolitan Transportation Plan/Sustainable Communities Strategy* (MTP/SCS)[14], a comparison of the project's projected vehicle-miles travelled (VMT) and population growth rate. SACOG estimates that development of the downtown Sacramento area between 2008 and 2035 would result in 20,800 dwelling units and 52,300 jobs for development.[15] Development of the Proposed Project would result in up to 550 multi-family residential dwelling units, an increase of up to approximately 2,084 jobs as a result of the mixed-use development, 265 permanent jobs for the ESC, and about 580 up to 1,200 temporary jobs for various events at the ESC.[16] Thus, the Proposed Project would be within the growth projections provided by SACOG and thereby consistent with the MTP/SCS.

In regards to VMT, although the mixed use development included in the Proposed Project would result in an incremental increase of 114,931 daily VMT, the relocation of the Sacramento Kings arena to Downtown Sacramento would result in an estimated reduction of 35,808 VMT for NBA games. Locating the mixed use development as urban infill, in the core of Downtown, would facilitate usage of substantial alternative transportation (i.e., walking, biking, and transit), assumptions which were included in the traffic analysis. Since the Proposed Project would reduce VMT associated with the arena and would result in urban infill, the minimal increase in daily VMT would be considered consistent with growth assumptions in the MTP/SCS.

Overall, the Proposed Project would not conflict with or obstruct implementation of applicable air quality plans and this impact is considered ***less than significant***.

12 Sacramento Metropolitan Air Quality Management District, 2013a. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*. September 26, 2013.
13 Sacramento Metropolitan Air Quality Management District, 2009b. *2009 Triennial Report and Plan Revision.* December 2009.
14 Sacramento Area Council of Governments, 2012. *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted April 19, 2012.
15 Lizon, Kacey, 2013. Personal communication via e-mail between Matt Morales of ESA and Kacey Lizon of the Sacramento Area Council of Governments. September 20, 2013.
16 Notably, the majority of jobs at the ESC are already included in the SACOG model for the Sleep Train Arena.

Offsite Digital Billboards

Offsite digital billboards would not generate any air pollutants during operations. Digital billboard development would not result in new dwelling units, permanent jobs, or VMT. This impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.2-2: Construction of the Proposed Project would result in short-term emissions of NOx.

Downtown Project Site

Construction-related emissions arise from a variety of activities, including: (1) grading, excavation, road building, and other earth moving activities; (2) travel by construction equipment and employee vehicles, especially on unpaved surfaces; (3) exhaust from construction equipment; (4) architectural coatings; and (5) asphalt paving.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM10 concentrations may be adversely affected on a temporary and intermittent basis. In addition, fugitive dust generated by construction would include not only PM10, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

The Proposed Project would include demolition of approximately 858,043 square feet of existing retail/commercial and office space and approximately 2,380 below-grade parking spaces, and the subsequent construction of a 697,000-square foot ESC, 83,000-square foot practice court facility, and mixed use development with up to 1.5 million square feet of retail/commercial, office, hotel, and residential space, along with below-and-above grade parking spaces. The first stage of project development would occur between May 2014 and August 2016 and would include demolition of a portion of existing buildings and parking (as described in Chapter 2, Project Description) and construction of the ESC, practice court, and new below-grade parking facilities. Although plans and timing for the mixed use development will be market driven and are unknown at this time, for the purposes of study in this EIR it was conservatively assumed that the remainder of the mixed use development would be constructed between October 2014 and December 2019 and would include demolition of all of the remaining existing buildings to be removed on the Downtown project site and subsequent construction of 550 high-rise dwelling units, a 250-room hotel, 475,000-square feet of office space, and 350,000-square feet of retail/commercial uses. Construction emissions were estimated for the Proposed Project using the methods contained

in SMAQMD's *Guide to Air Quality Assessment in Sacramento County*.[17] The CalEEMod model was used to quantify construction NOx emissions from off-road equipment, haul trucks associated with demolition and soils export, on-road worker vehicle emissions, and vendor delivery trips. Predicted unmitigated construction emissions for the worst-case day for each of the construction years are presented in Table 4.2-4 and compared to the SMAQMD threshold.

TABLE 4.2-4
UNMITIGATED MAXIMUM DAILY CONSTRUCTION NOX EMISSIONS (POUNDS PER DAY)

	Unmitigated Maximum Daily Construction NOx Emissions (lbs/day)[1,2]					
Development Scenario	**Year 2014**	**Year 2015**	**Year 2016**	**Year 2017**	**Year 2018**	**Year 2019**
ESC Construction	**909**	**491**	**228**	--	--	--
Mixed Use Construction	58	57	51	46	41	37
Total NOx Emissions	**967**	**548**	**279**	46	41	37
Mitigated NOx Emissions[3]	**850**	**451**	**236**	41	36	33
SMAQMD NOx Threshold (lbs/day)	85	85	85	85	85	85
Significant (Yes or No)?	Yes	Yes	Yes	No	No	No

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. Specific equipment, phase durations, workers and trucks were provided by the construction contractor for the first stage of development (arena and associated facilities) whereas model defaults were used for the majority of assumptions for the second stage of development (the Mixed Use Development). See Appendix AQ for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. Factors in a 20% NOx reduction in off-road equipment emissions per the SMAQMD Enhanced Exhaust Control Practices, included in Mitigation Measure 4.2-2(b).

SOURCE: ESA, 2013

As shown in Table 4.2-4, it is estimated that during years 2014 through 2016 the maximum daily construction NOx emissions would exceed the SMAQMD significance threshold. For NOx, the predominant construction activity associated with the emissions would be off-road diesel equipment and on-road haul trucks during construction of the ESC, the practice facility, and associated parking. Construction of the mixed-use development would contribute much less daily NOx. Overall, the Proposed Project would have a ***significant impact*** related to construction emissions.

Offsite Digital Billboards

Offsite digital billboards would result in very brief construction duration (approximately five days per billboard) and minimal ground disturbance (less than 0.15 acres per billboard). Although the timing of construction of the offsite digital billboards is unknown at this time, it was assumed that construction would occur sequentially (i.e., only one billboard would be constructed at a time) concurrent with the construction of the proposed ESC (between 2014 and 2016). The CalEEMod

[17] Sacramento Metropolitan Air Quality Management District, 2009a. *Guide to Air Quality Assessment*. Adopted December 2009 and last updated October 2013. pp. 3-1 - 3-11.

software was used to estimate the maximum daily NOx emissions associated with digital billboard construction and model output data and assumptions are included in Appendix B.

Construction of each digital billboard would result in up to approximately 26 pounds of NOx per day. Assuming that billboard construction overlaps with ESC construction activities (years 2014 through 2016), the offsite digital billboards would add to a significant impact and these emissions would be factored into the SMAQMD's offsite NOx mitigation fees (described above under Mitigation Measure 4.2-2(c)). If construction were to occur after completion of the ESC, it is unlikely that the concurrent construction of the mixed use development and offsite digital billboards would result in significant impacts. As a conservative assessment, it is assumed that offsite digital billboards would be constructed in the same time frame as the ESC, which would exacerbate the exceedance of the SMAQMD significance threshold of 85 pounds per day. If developed concurrently with the construction of the ESC, the construction of the proposed offsite digital billboards would have a ***significant impact*** related to construction emissions.

Mitigation Measures

4.2-2(a) (ESC/SPD/DB)

City approval of any grading or improvement plans shall include the following SMAQMD Basic Construction Emission Control Practices, including:

- *All exposed surfaces shall be watered two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.*
- *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways shall be covered.*
- *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.*
- *Limit vehicle speeds on unpaved roads to 15 miles per hour.*
- *All roadways, driveways, sidewalks, parking lots shall be paved as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.*
- *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment shall be checked by a certified mechanic and determine to be running in proper condition before it is operated.*

4.2-2(b) (ESC/SPD/DB)

City approval of any grading or improvement plans shall include the following SMAQMD Enhanced Exhaust Control Practices, including:

- *Provide 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 Proposed Project to the City and the SMAQMD. The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The construction contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. The inventory shall be updated and submitted monthly throughout the duration of the Proposed Project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.*
- *Provide a plan in conjunction with the equipment inventory, approved by the SMAQMD, demonstrating that the heavy-duty (50 horsepower or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOx reduction and 45% particulate reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.*
- *Emissions from all off-road diesel powered equipment used on the project site shall not exceed 40% 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 the City and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this measure shall supercede other SMAQMD or state rules or regulations.*
- *If at the time of granting of each building permit, the SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction will be necessary to make this determination.*

4.2-2c (ESC/SPD/DB)

The project applicant shall coordinate with SMAQMD to determine and ensure payment of off-site mitigation fees to offset the significant NOx emissions associated with the Proposed Project.

Impact Significance After Mitigation: With implementation of the above mitigation measures, fugitive dust would be controlled, exhaust emissions would be reduced on-site, and mitigation

fees would be provided to SMAQMD for project NOx emissions that exceed the SMAQMD significance threshold. SMAQMD uses the fees to fund off-site projects and programs that would offset the project's NOx emissions. These measures would reduce project-related construction emissions to ***less than significant***.

Impact 4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx or ROG.

Downtown Project Site

Over the long-term, the project would result in an increase in emissions of ozone precursors, ROG and NOx, primarily due to project related motor vehicle trips and onsite area and energy sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products). Because the significance threshold for ozone precursors is a daily measure, and because events would occur at the ESC on only approximately half of the days each year, the evaluation below includes an analysis of ozone precursor emissions on event days and non-event days.

Operational emissions of ROG and NOx for build out of the Proposed Project (conservatively assumed year 2016 for worst case emissions) have been determined using CalEEMod 2013.2.2 for an event day (assuming a full capacity NBA game) (Table 4.2-5) and for a non-event day (Table 4.2-6). These two scenarios were developed to show the daily incremental increase of the Proposed Project, including ESC, for the greatest attendance events, as well as the daily incremental increase of the Proposed Project mixed-use development only.

Event Day Analysis

Table 4.2-5 below shows operational emissions for an event day.

TABLE 4.2-5
PROJECT OPERATIONAL EMISSIONS (POUNDS PER DAY) – NBA GAME DAY

		Unmitigated NBA Game Day Operational Emissions (lbs/day)[1,2]				
Pollutant	**SMAQMD Thresholds (lbs/day)**	**Proposed Project**	**Existing Downtown Plaza**	**Existing Sleep Train Arena**	**Unmitigated Net Emissions**	**Significant (Yes or No)?**
ROG	65	**245**	**77**	**141**	27	No
NOx	65	**480**	**173**	**352**	(45)	No

1. Project operational emissions estimates were made using CalEEMod 2013.2.2. As a worst case, wintertime ROG and NOx emissions are shown. Traffic trip and VMT data were extrapolated with information provided by Fehr and Peers for the Proposed Project (i.e., ESC and non-ESC uses), the existing Downtown Plaza, and the Existing Sleep Train Arena. The Macy's West building is not included in this analysis since it would not change under the Project. Net daily emissions represent the Proposed Project (on a max attendance NBA game day) minus the Existing Downtown Plaza and Existing Sleep Train Arena (on a max attendance NBA game day). Additional assumptions and model outputs are included in Appendix AQ.
2. Values in **bold** are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2013

Based on the estimates shown above in Table 4.2-5, for NBA game days, the Proposed Project's incremental ROG and NOx contribution to regional air quality would be below the significance thresholds specified by the SMAQMD. The reduction in emissions of the Proposed Project compared to the Existing scenario is primarily associated with on-road vehicles, accounting for the substantially reduced VMT for event attendees (approximately 18.8 percent less VMT per attendee with the Proposed Project) and cleaner engines in future years. Thus, the impact of the full Proposed Project, including a major event at the proposed ESC combined with full operation of the proposed mixed use development, would be ***less than significant***.

Non-Event Day Analysis

Table 4.2-6 below shows operational emissions for a non-event day in order to separate the benefits attributed to relocating the arena from the impacts of the mixed use development.

TABLE 4.2-6
PROJECT OPERATIONAL EMISSIONS (POUNDS PER DAY) – NON-EVENT DAY

		Unmitigated Non-Event Day Operational Emissions (lbs/day)[1,2]			
Pollutant	**SMAQMD Thresholds (lbs/day)**	**Proposed Mixed Use Development**	**Existing Downtown Plaza**	**Unmitigated Net Emissions**	**Significant (Yes or No)?**
ROG	65	**147**	**77**	**70**	Yes
NOx	65	**269**	**173**	**96**	Yes

1. Project operational emissions estimates were made using CalEEMod 2013.2.2. As a worst case, wintertime ROG and NOx emissions are shown. Traffic trip and VMT data were extrapolated with information provided by Fehr and Peers for the Proposed Mixed Use Development (i.e., non-ESC uses) and the existing Downtown Plaza. The Existing and Proposed Project scenarios do not include the Macy's West building, since it would not change under the Project. It is assumed that for non-event days, neither the existing Sleep Train Arena nor the ESC would result in pollutant emissions. Additional assumptions and model outputs are included in Appendix AQ.
2. Values in **bold** are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2013

Based on the estimates shown above in Table 4.2-6, for non-event days, the incremental ROG and NOx emissions attributable to the full operation of the Proposed Project mixed use development would exceed the significance thresholds specified by the SMAQMD. This impact would be ***significant.***

Offsite Digital Billboards

Offsite digital billboards would not generate any air pollutants during operations. This impact would be ***less than significant***.

Mitigation Measures

When operational emissions exceed significance thresholds, the SMAQMD recommends the development of an Air Quality Mitigation Plan (AQMP) to minimize impacts, with guidance and suggested measures included in the *Recommended Guidance for Land Use Emission Reductions*

Version 3.0 (for Operational Emissions).[18] The SMAQMD notes that an AQMP is focused on feasible mitigation, provided that the AQMP reduces ozone precursors below an unmitigated project by 15 percent. Many key emission reduction measures suggested by the SMAQMD for inclusion in an AQMP are already included in the Proposed Project based on the proposed project design and location of the project site. According to Fehr & Peers Associates, the EIR transportation consultant, beneficial variables such as density, diversity of uses, and accessibility to multiple modes of transportation (transit, bicycle, pedestrian) were already incorporated into the transportation modeling and analysis. In order to determine the level of benefit of these variables, an unadjusted scenario was developed that does not reflect the trip generation and daily VMT reductions associated with these variables. This unadjusted scenario was compared to the Proposed Project. This comparison, which is based on ROG and NOx (together, Equivalent Oxides of Nitrogen (NOxe))[19], is depicted in Table 4.2-7 below.

TABLE 4.2-7
PROPOSED PROJECT VS UNADJUSTED PROJECT – NON-EVENT DAY

Pollutant	Proposed Project (lbs/day)[1]	Unadjusted Project (lbs/day)[1]	% Reduction (Unadjusted vs Proposed)
ROG	147	168	12.5%
NOx	269	364	26.1%
Total NOxe [2]	318	420	24.3%

1. Project operational emissions estimates were made using CalEEMod 2013.2.2. As a worst case, wintertime ROG and NOx emissions are shown. Traffic trip and VMT data were extrapolated with information provided by Fehr and Peers for the Proposed Mixed Use Development with ("Proposed Project") and without ("Unadjusted Project") the beneficial traffic reducing variables, including density, diversity, transit access, and walkability factors. The scenarios do not include the Macy's West building, since it would not change under the Project. It is assumed that for non-event days, neither the existing Sleep Train Arena nor the ESC would result in pollutant emissions. Additional assumptions and model outputs are included in Appendix AQ.
2. For AQMP purposes, SMAQMD recommends normalizing ozone precursors based on their ozone creation potential in units of Equivalent Oxides of Nitrogen (NOxe), with 1 NOx = 1 NOxe and 1 ROG = 1/3 NOxe.

SOURCE: ESA, 2013

As shown in Table 4.2-7 above, the traffic reduction variables built into the Proposed Project design and locality result in an approximate 24% NOxe reduction. Thus, ozone precursor reductions as required by the recommended AQMP (15% reduction) would be met by the beneficial variables associated with the Proposed Project mixed use development. However, since the Proposed Project would result in significant operational emissions on non-event days (per Table 4.2-6) an additional mitigation measure recommended by the SMAQMD would be implemented, as noted below.

18 Sacramento Metropolitan Air Quality Management District, 2013b. *Recommended Guidance for Land Use Emission Reductions Version 3.0 (for Operational Emissions)*. July 2013. pp. 3-9.

19 For purposes of determining the effectiveness of an AQMP, SMAQMD recommends normalizing ozone precursors based on their ozone creation potential in units of NOxe.

4.2-3 (ESC/SPD)

The Proposed Project shall join and maintain membership in the Sacramento Transportation Management Association (TMA).

Impact Significance After Mitigation: The trip and daily VMT reduction beneficial variables that are built into the design and location of the Proposed Project would result in substantial emission reductions that would meet the requirements of an AQMP. Implementation of Mitigation Measure 4.2-3 would further reduce air emissions by providing support to the Sacramento TMA programs that enhance non-single occupant vehicle use in downtown Sacramento. Nevertheless, on non-event days, if fully developed, the Proposed Project mixed use development would result in significant ozone precursor emissions, even with implementation of TMA membership mitigation. Thus, operational emissions of ozone precursors would be ***significant and unavoidable***.

Impact 4.2-4: The Proposed Project would generate construction emissions of PM10.

The SMAQMD *CEQA Guide to Air Quality Assessment*[20] recommends that particulate concentrations can be screened out from quantitative analysis for project construction if two conditions are met:

- The project would implement all Basic Construction Emission Control Practices, and
- The maximum daily disturbed area (i.e., grading, excavation, cut and fill) would not exceed 15 acres.

According to the SMAQMD, if these two conditions would be met, the project in question would be considered by the District to not have the potential to exceed or contribute to the SMAQMD's concentration-based threshold of significance for PM10.

Downtown Project Site

As described in Chapter 2, Project Description, construction of the ESC, practice facility, and parking would be expected to involve excavation of an area of approximately 5.5 acres. In the event that it is necessary to excavate additional portions of the site, the entire ESC site of about 8.4 acres and the entire portion of the site that could be subject to excavation (ESC site and SPD area) is approximately 14.2 acres. In the most conservative situation, with potential concurrent construction on two of the mixed use development parcels in the SPD area and excavation of the entire ESC site, as many as 11.25 acres could be disturbed, which would not exceed 15 acres disturbed per day. However, because the Proposed Project, as currently described, does not include implementation of all Basic Construction Emission Control Practices, SMAQMD's first

[20] Sacramento Metropolitan Air Quality Management District, 2009. *Guide to Air Quality Assessment.* Adopted December 2009 and last updated October 2013. pp. 3-7.

screening condition described above would not be met and the impact would be considered ***potentially significant***.

Offsite Digital Billboards

Offsite digital billboards would result in very brief construction duration and minimal ground disturbance (less than 0.15 acres per billboard). Construction of a digital billboard would not exceed 15 acres disturbed per day. If digital billboard construction were to overlap with ESC site construction, the combined acreage would also be less than 15 acres. However, because the Proposed Project, as currently described, does not include implementation of all Basic Construction Emission Control Practices, SMAQMD's first screening condition described above would not be met and the impact would be considered ***potentially significant***.

Mitigation Measures

4.2-4 (ESC/SPD/DB)

Implement Mitigation Measure 4.2-2(a).

Impact Significance After Mitigation: Implementation of the Basic Construction Emission Control Practices would ensure that the Proposed Project would result in ***less than significant*** PM10 concentrations during construction.

Impact 4.2-5: The Proposed Project would increase CO concentrations.

Downtown Project Site

Carbon monoxide (CO) is a localized pollutant of concern. Due to the temporary operation of equipment in any one area, construction would not emit CO in quantities that could pose health concerns. In regards to operations, traffic was analyzed to determine its potential to affect CO concentrations along surface streets and at sensitive receptors in the area. A review of the traffic data shows that one intersection, the J St/3rd St/I-5 ramps would result in an LOS E during the peak hour and LOS F during the pre-event peak hour. Consequently, CO modeling was conducted for this intersection using CALINE4, results of which are detailed in Table 4.2-8. Conservative assumptions were included in this analysis to ensure that the results represent worst case CO concentrations. Those assumptions include the use of worst case meteorology, the inclusion of the highest 1-hour and 8-hour background CO concentrations recorded in Sacramento during the past five years, the use of cumulative plus project (2035) traffic volumes, and the use of 2017 CO emission rates.

As shown in Table 4.2-8, the analysis finds that no exceedances of the CO 1- hour or 8-hour standard would occur at any of the receptor locations. Thus, the Proposed Project would have a ***less-than-significant*** impact on local CO concentrations.

TABLE 4.2-8
CARBON MONOXIDE CONCENTRATIONS AT SENSITIVE RECEPTORS NEAR THE J ST/3RD ST/I-5 OFF RAMP INTERSECTION

	CO Concentrations	
Receptor	**1-hour (ppm)**	**8-hour (ppm)**
Bldg SW of 5th and J St.	4.1	3.4
Bldg SW of 4th and J St.	4.0	3.4
NE Corner of Bldg NW of 4th and J	3.9	3.3
NW Corner of Bldg NW of 4th and J	3.8	3.2
SE Corner of Bldg NW of 4th and J	4.1	3.4
SW Corner of Bldg NW of 4th and J	3.8	3.2
Parking lot NE of 3rd and J St.	4.5	3.8
Parking lot SE of 3rd and J St.	4.4	3.7
Threshold	20	9
Exceed Threshold?	No	No

NOTES: CO concentrations include a worst case 1-hour CO background concentration of 3.3 ppm and a worst case 8-hour background concentration of 2.8 ppm. The modeled 1-hour concentrations were converted to 8-hour concentrations using a persistence factor of 0.80. CALINE4 modeling results and additional assumptions are included in Appendix AQ.

SOURCE: ESA, 2013

Offsite Digital Billboards

Construction of the offsite digital billboards would result in very brief construction periods over no more than five days, and would not generate any air pollutants (including CO) during operations. This impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.2-6: Implementation of the Proposed Project could create objectionable odors.

Downtown Project Site

The SMAQMD has identified typical odor sources in the SMAQMD *CEQA Guide to Air Quality Assessment;* a few examples of these sources include wastewater treatment plants, sanitary landfills, composting and green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting and coating operations, rendering plants, and food packaging plants.[21] The Proposed Project would not include uses that have been identified by SMAQMD as potential sources of objectionable odors. The Proposed Project would include an entertainment and sports center, related uses, and mixed use development. Restaurants and other

[21] Sacramento Metropolitan Air Quality Management District, 2009. *Guide to Air Quality Assessment.* Adopted December 2009 and last updated October 2013. pp. 7-2.

food and drinking places could produce some odors, but these types of uses already exist in the project vicinity and are not generally considered sources of objectionable odors. Diesel equipment used during construction can produce odorous exhaust, but equipment use in any one area of the project site would be temporary and potential odors would not affect a substantial number of people. Finally, the project would not locate new sensitive receptors in close proximity to substantial odor generating sources. This impact would be ***less than significant***.

Offsite Digital Billboards

Offsite digital billboards would result in a very brief period of construction and would not generate any odorous emissions during operations. This impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.2-7: Implementation of the Proposed Project could result in short-term and long-term exposure to Toxic Air Contaminants (TACs).

Downtown Project Site

Construction

Project construction activities would produce diesel particulate matter (DPM) emissions due to combustion equipment such as loaders, backhoes, and cranes, as well as haul trucks. DPM represents the primary TAC of concern from construction activities. Exposure of sensitive receptors - both existing residences near the ESC site and future new residences on the project site - is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure. A longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time.

According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 70-year exposure period. Construction of ESC and non-ESC land uses would require approximately six years, which represents 9 percent of the 70 year construction period. Due to this relatively short period of exposure, TACs generated during construction would not be expected to result in concentrations causing significant health risks. Construction of the Proposed Project would result in less than significant construction-related health risks. In addition, DPM exhaust emissions from construction equipment will be reduced by 45% as compared to the state fleetwide average, based on Mitigation Measure 4.2-2(b). Therefore, this mitigation measure, if implemented, would further reduce exposure to the TACs that would be emitted during the construction period.

In addition, unmitigated demolition activities could result in airborne entrainment of asbestos, a TAC, particularly where structures built prior to 1980 would be demolished. However, these materials would be removed in accordance with regulatory requirements prior to demolition per SMAQMD Rule 902 (Asbestos). Therefore, asbestos would not be emitted to any substantial degree during demolition.

Operations

Potential TAC exposure from operations of the ESC and related facilities would be associated with backup diesel generators, loading dock operations, and occupancy of new multi-family residential dwellings in proximity to Interstate 5. Any stationary source generators of TACs would go through the SMAQMD permitting process to ensure that receptor exposure would result in less than significant impacts. The Proposed Project is not anticipated to substantially increase TACs from delivery truck and loading dock operations since the project would replace existing uses that also require loading docks and delivery trucks and CARB regulations [13 CCR Section 2485 (c) (1)] limit diesel truck idling to no more than five minutes.[22] Since truck emissions would be intermittent and would be limited by CARB's truck idling regulation, they would not be expected to contribute to health risks at sensitive receptors.

According to the SMAQMD *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways*,[23] since the Proposed Project would locate new residential uses more than 500 feet from the closest travel lane on Interstate 5, the nearest high traffic volume roadway (defined as a freeway or urban roadway with greater than 100,000 vehicles per day), the project would meet the CARB guidance distance and no further roadway-related air quality evaluations are recommended. This impact would be ***less than significant***.

Offsite Digital Billboards

As described above, a longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. The very short (about five days) construction duration of each digital billboard would result in minimal exposure of nearby receptors to construction-related TACs. This impact would be ***less than significant***.

Mitigation Measure

None required.

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[22] This restriction applies to both the vehicle's primary engine and any auxiliary power system used to power heat, air conditioner, or any ancillary equipment on that vehicle.

[23] Sacramento Metropolitan Air Quality Management District, 2011. *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways*. March 2011. p. 7.

Cumulative Impacts

The geographic context for changes in the air quality environment due to development of the Proposed Project would be both regional and local. Ozone would be the primary pollutant of regional concern, which means that the cumulative context would be comprised of the SVAB.

Particulates (fugitive dust and DPM) and TACs would result in localized impacts in close proximity to pollutant sources. In addition to the Proposed Project, the only other active cumulative project in the immediate vicinity is the proposed development on the 700 block of K Street. This development would renovate the existing buildings that face K Street, and behind the existing buildings would add new multi-story residential buildings ranging in height from 60-70 feet for the entire length of the 700 block between 7th and 8th Streets.

There have been other projects proposed in the Capitol Mall corridor, including the Aura Condominiums at 6th Street and Capitol Mall (adjacent to the US Bank Tower) and the Towers on Capitol Mall project at 3rd Street and Capitol Mall. Both projects were proposals for high-rise residential buildings that would have contributed new structures to Sacramento's skyline. However, these proposals are currently not active and the City is not aware of new proposals for projects on these sites.

The Railyards project, two blocks north on 5th and 6th Streets, would add numerous additional medium- and high-rise structures. The developer of the Railyards has been incrementally constructing infrastructure to serve the site over recent years, and is currently completing the extension of 5th and 6th Streets north over the UP railroad tracks into the area around the Central Shops. Development in the new city blocks created by this development is anticipated to take place over the coming 20-30 years. There are no projects in that area that are currently proposed or under review by the City of Sacramento.

As described above in Impact 4.2-1, the Proposed Project would not conflict with or obstruct implementation of applicable air quality plans based on SACOG's future growth projections for the region, and thus, this impact represents a cumulative analysis. In addition, the CO hotspot analysis detailed in Impact 4.2-5 incorporated cumulative traffic assumptions into the model in order to determine the worst case pollutant concentrations. Finally, as described above in Impact 4.2-6, the project would not include uses that have been identified by SMAQMD as potential sources of objectionable odors, nor would the Proposed Project locate odor sensitive-receptors in close proximity to substantial sources of odor. This impact would not be affected by cumulative development.

Impact 4.2-8: The Proposed Project would contribute to cumulative increases in short-term (construction) emissions.

Since NOx is an ozone precursor and as such is primarily of regional concern, all other concurrent construction activities in the SVAB would contribute to cumulative construction-related NOx emissions. The Proposed Project would result in substantial emissions of NOx, which would combine with emissions generated by other existing and future development within the SVAB to contribute to an air quality violation in the region. Also, the Proposed Project's

exceedance of the thresholds by itself indicates that its contribution to such a violation would be considerable when compared to other projects in the region. Consequently, without mitigation, the Proposed Project's contribution to NOx emissions would be cumulatively considerable, resulting in a ***significant cumulative impact***.

Mitigation Measures

4.2-8 (ESC/SPD/DB)

Implement Mitigation Measures 4.2-2(a) through 4.2-2(c).

Impact Significance After Mitigation: With implementation of the above mitigation measures for the Proposed Project, exhaust emissions would be reduced on-site and mitigation fees would be provided to SMAQMD for project NOx emissions that exceed the SMAQMD significance threshold. SMAQMD uses the fees to fund off-site projects that would offset the project's NOx emissions. Although cumulative NOx emissions in the SVAB would be significant due to existing violations in the region, with implementation of Mitigation Measure 4.2-2(a) through 4.2-2(c), the Proposed Project would result in a less than considerable contribution to the significant cumulative impact. Thus, this impact would be mitigated to a ***less than significant*** level.

Impact 4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.

ROG and NOx are ozone precursors and are primarily of regional concern. Thus, all other mobile, area, and energy sources in the SVAB that would operate concurrently with the Proposed Project would contribute to cumulative operational-related ROG and NOx emissions. As described in Impact 4.2-3, under non-event day conditions, the Proposed Project would result in substantial emissions of ROG and NOx, which would combine with emissions generated by other existing and future development within the SVAB to contribute to an air quality violation in the region. Also, the Proposed Project's exceedance of the thresholds during non-event day conditions indicates that its contribution to such a violation would be considerable. Consequently, without mitigation, the Proposed Project's contribution to ozone precursor emissions would be cumulatively considerable, resulting in a ***significant cumulative impact***.

Mitigation Measures

As is described under mitigation measures for Impact 4.2-3, above, the traffic reduction variables built into the Proposed Project design and locality result in an approximate 24% NOxe reduction compared to development of the project with a less sustainable design and project location. This level of reduction is greater than the 15% reduction that is recommended by the SMAQMD for AQMPs addressing projects that would exceed ozone precursor significance thresholds. Since the Proposed Project would result in a considerable contribution to significant cumulative operational

emissions on non-event days, an additional mitigation measure recommended by the SMAQMD would be implemented, as noted below.

4.2-9 (ESC/SPD)

Implement Mitigation Measures 4.2-3.

Impact Significance After Mitigation: Implementation of the above mitigation measure for the Proposed Project would result in additional traffic trip and associated ozone precursor reductions, but the Proposed Project would continue to exceed the SMAQMD thresholds on non-event days. Cumulative ozone emissions in the SVAB would be significant and the Proposed Project would result in a considerable contribution to the significant cumulative impact. Thus, this impact would be ***significant and unavoidable***.

Impact 4.2-10: The Proposed Project would contribute to cumulative increases in PM10 concentrations.

In regards to localized PM10 concentrations, construction of the ESC site and digital billboards would result in an approximate peak ground disturbance area of about 8 acres. With the proposed development on the 700 block of K Street in the vicinity of the ESC site, the combined acreage would not exceed 15 acres disturbed per day. Thus, localized construction under the cumulative scenario would not exceed the screening acreage identified by the SMAQMD. However, without mitigation, SMAQMD's Basic Construction Emission Control Practices condition would not be met and the impact would be considered ***potentially significant***.

Mitigation Measures

4.2-10 (ESC/SPD/DB)

Implement Mitigation Measure 4.2-2(a).

Impact Significance After Mitigation: Localized PM10 concentrations generated by the Proposed Project and cumulative development in the vicinity would not be cumulatively considerable or significant with implementation of the SMAQMD Basic Construction Emission Control Practices.

Impact 4.2-11: The Proposed Project would contribute to cumulative increases in short- and long-term exposures to Toxic Air Contaminants.

Construction

As is discussed above in Impact 4.2-7, exposure to TACs is generally a local phenomenon. The only known active project in the project vicinity that could contribute to cumulative construction

and operational TAC emissions would be the proposed development on the 700 block of K Street. Project and cumulative construction activities would produce DPM emissions due to off-road combustion equipment and haul trucks. Exposure of sensitive receptors would be temporary as development shifts to different areas across the site. Development of the 700 block of K Street could result in cumulative TAC exposure at sensitive receptors, primarily along 7th Street, on the east side of the ESC site. However, development of these projects would constitute a small percentage of the total 70-year exposure period recommended by OEHHA for health risk assessments. Construction of ESC and non-ESC land uses would require approximately six years, which represents 9 percent of the 70 year construction period. Due to this relatively short period of potential cumulative exposure, TACs generated during construction would not be expected to result in concentrations causing significant health risks. DPM from construction activities is not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards. Therefore, cumulative development would result in a less than significant short-term exposure to TACs.

Furthermore, the Proposed Project would also result in an approximate 45% reduction in DPM exhaust as compared to the state fleetwide, based on Mitigation Measure 4.2-2(b). Therefore, this mitigation measure, if implemented, would further reduce exposure to the TACs that would be emitted during the construction period. This impact is ***less than significant***.

Operations

Project operation is not expected to result in significant releases of TACs that would cause cumulative health risks to sensitive receptors located off site. The Project also includes new on-site residences that could be exposed to sources of TACs. The three primary sources of TAC emissions exposure for new residences are stationary sources from on-site backup diesel engines, vehicle emissions from Interstate 5, and emissions from trucks using the Project's loading docks. As mentioned above, the Project's on-site emissions sources would not cause health risks to new residents. In addition, operation of the 700 K Street site is not expected to generate significant sources of TACs. Consequently, the Project's residences would not be exposed to cumulatively significant health risks. This impact is ***less than significant***.

Mitigation Measure

None required.

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4.3 Biological Resources

This section examines the potential impacts of the Proposed Project on biological resources and identifies mitigation measures to avoid or reduce those impacts where appropriate. The analysis was based upon a review of potentially occurring special-status species,[1] wildlife habitats, vegetation communities, and jurisdictional waters of the U.S. The results of this assessment are based upon field reconnaissance, literature searches, and database queries of the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) list of federal endangered and threatened species, and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants. Site reconnaissance was conducted in late summer and early fall, 2013. While a formal wetland delineation was not conducted at each of the project sites, potential wetlands and other waters of the U.S. were noted and informally mapped. Sources of reference data reviewed for this evaluation included the following:

- City of Sacramento 2030 General Plan Master EIR;[2]
- Sacramento East and Sacramento West, California 7.5-minute topographic quadrangles;[3]
- Federal Endangered and Threatened Species that may be Affected by Projects in the Sacramento East and Sacramento West, California 7.5-Minute Topographic Quadrangles;[4]
- California Natural Diversity Database (CNDDB);[5]
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants;[6]
- Special Vascular Plants, Bryophytes, and Lichens List;[7] and
- Special Animals List.[8]

No comments related to biological resources were received in response to the NOP circulated for the Proposed Project (Appendix A).

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1 Species that are protected pursuant to Federal or State endangered species laws, or have been designated as Species of Special Concern by the CDFW, or species that are not included on any agency listing but meet the definition of rare, endangered or threatened species of the CEQA Guidelines section 15380(b), are collectively referred to as "special-status species."

2 City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report.* Certified March 3, 2009.

3 U.S. Department of the Interior, Geological Survey (USGS), 1978-1980.

4 U.S. Fish and Wildlife Service, 2013. *Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Sacramento East, Sacramento West, Clarksburg, Florin, Rio Linda, and Taylor Monument USGS quads.* www.fws.gov/sacramento/es/spp_list.htm. Accessed September 5 and 11, 2013.

5 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database (CNDDB) RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

6 California Native Plant Society, 2013. *Inventory of Rare and Endangered Plants (online edition, v7-13).* http://www.rareplants.cnps.org/. Accessed September 5 and 11, 2013.

7 California Department of Fish and Wildlife. 2013b. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. July 2013.

8 California Department of Fish and Wildlife. 2013c. *State and Federally Listed Endangered and Threatened Animals of California.* October 2013.

The following terms are used to refer to the project area:

- *Downtown project site*: The entire project area, including the ESC site and project mixed use sites, but exclusive of the digital billboard sites.
- *ESC site*: The area in which the ESC Arena and practice facilities/office building would be located.
- *SPD area*: The portion of the project site where the mixed use development would be located. Does not include the ESC site.
- *Project vicinity*: The area surrounding and near the project site.
- *Offsite Digital billboards*: The ten potential sites where digital billboards could be located.

4.3.1 Environmental Setting

Regional Setting

The study area for biological resources is comprised of the Downtown project site, which encompasses approximately 19 acres, and ten potential Offsite Digital Billboard (DB) sites. The sites are located in the City of Sacramento, within the Sacramento Valley floristic province of the Great Central Valley[9] (see Figure 2-1 in Chapter 2, Project Description). Historically, this region supported extensive marshes, riparian woodland intermixed with oak woodland, vernal pool complexes, and native grasslands. Intensive agricultural and urban development has resulted in substantial changes and conversions of these habitats. The remaining native vegetative communities exist now as isolated remnant patches within urban and agricultural landscapes. Table 4.3-1 provides a summary of existing biological resources for each of the sites associated with the Proposed Project.

Downtown Project Site

The Downtown project site consists of approximately 19 acres of developed land in the City of Sacramento that is generally bounded by 3rd Street to the west, 7th Street to the east, J Street to the north, and L Street to the south (see Figure 2-3 in Chapter 2, Project Description), in the central portion of the Sacramento East and Sacramento West 7.5-minute USGS Quadrangles. The site is currently designated Central Business District (CBD) on the City of Sacramento 2030 General Plan Land Use and Urban Form Diagram. The CBD is Sacramento's most intensely developed area and includes a mixture of retail, office, governmental, entertainment, and visitor-serving uses. The Downtown project site currently contains approximately 1.19 million square feet of space that is occupied by the shopping mall and associated uses known as Downtown Plaza. The site is generally flat with elevations averaging between 21 to 28 feet above mean sea level.

9 Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors, 2012. *The Jepson manual: vascular plants of California, second edition.* University of California Press, Berkeley. p. 41.

TABLE 4.3-1
SUMMARY OF BIOLOGICAL RESOURCES AT THE DOWNTOWN PROJECT SITE AND OFFSITE DIGITAL BILLBOARD SITES

Project Site Name	Existing Habitat Types	Potentially Jurisdictional Wetlands and other Waters of the U.S.	Potential to Support Special-Status Species	Protected Trees
Downtown project site	Urban	No potentially jurisdictional wetlands or other waters of the U.S. at this site.	Low. Trees at site provide limited and low quality nesting habitat for birds.	City-protected trees include three heritage trees and approximately 136 street trees.
Digital Billboard Sites				
I-5 at Water Tank	Barren	No potentially jurisdictional wetlands or other waters of the U.S. at this site.	Low. Trees directly adjacent to site may provide limited and low quality nesting habitat for birds. Swainson's hawk is known to nest within 0.5 miles of this site.	No City protected trees occur at this site.
US 50 at Pioneer Reservoir	Barren Urban	No potentially jurisdictional wetlands or other waters of the U.S. at this site.	Low. Trees at site provide limited and low quality nesting habitat for birds. Swainson's hawk is known to nest within 0.5 miles of this site.	No City protected trees occur at this site.
Business 80 at Sutter's Landing Regional Park	Annual Grassland Eucalyptus	No potentially jurisdictional wetlands or other waters of the U.S. at this site	High. Two elderberry shrubs occur at this site. One shrub contains exit holes. Trees at site provide limited and low quality nesting habitat for birds. Swainson's hawk is known to nest within 0.5 miles of this site.	No City protected trees occur at this site.
Business 80 at Del Paso Regional Park/Haggin Oaks	Annual Grassland Barren Urban	No potentially jurisdictional wetlands or other waters of the U.S. at this site	Low. Trees at site provide limited and low quality habitat for nesting birds and roosting bats. Annual grassland provides limited and low quality habitat for burrowing owl.	No City protected trees occur at this site.
Business 80 at Sutter's Landing Regional Park/American River	Ruderal Grassland Barren	No potentially jurisdictional wetlands or other waters of the U.S. at this site	Unlikely. Swainson's hawk is known to nest within 0.5 miles of this site; however the site does not support nesting habitat for Swainson's hawk.	No City protected trees occur at this site.
I-80 at Roseville Road	Urban Barren	No potentially jurisdictional wetlands or other waters of the U.S. at this site	Unlikely. Purple martin known to occur within 500 feet and was recorded at the I-80 and Roseville Road area in 2003 (breeding colony). Only one adult female purple martin was observed at this location in 2007.	No City protected trees occur at this site.
SR 99 at Calvine Road	Annual Grassland	The detention basin at this site may contain shallow swales or seasonal wetlands.	Unlikely. Swainson's hawk is known to nest within 0.5 miles of this site; however the site does not support nesting habitat for Swainson's hawk.	No City protected trees occur at this site.
I-5 at Bayou Road	Ruderal Grassland Urban Barren	No potentially jurisdictional wetlands or other waters of the U.S. at this site.	Unlikely. Swainson's hawk is known to nest within 0.5 miles of this site. However, trees at this site are immature and would not provide suitable nesting habitat for birds.	No City protected trees occur at this site.
I-5 at San Juan Road	Freshwater Emergent Wetland Annual Grassland Barren	0.06 acres of potentially jurisdictional freshwater emergent wetland occurs at this site.	Low. Wetlands at site provide limited and low quality foraging habitat for birds and giant garter snake. Swainson's hawk is known to nest within 0.5 miles of this site. However, the site does not support nesting habitat for Swainson's hawk; foraging habitat for Swainson's hawk is very limited and fragmented.	No City protected trees occur at this site.
I-5 at Sacramento Railyards	Urban Barren	No potentially jurisdictional wetlands or other waters of the U.S. at this site.	Unlikely	No City protected trees occur at this site.

Habitat at the Downtown project site is predominantly urban with limited areas supporting mature ornamental trees as part of landscaping (see Figure 4.3-1). Urban vegetation associated with the Downtown project site consists of lawns, ornamental shrubs, shade trees within the plaza and along street sidewalks, and small groves of mature redwood trees (*Sequoiadendron giganteum*). Adjacent land uses consist of office and hotel buildings, as well as retail space. One currently undeveloped but disturbed property containing ruderal vegetation is located southwest of the site, at the intersection of 4th Street and L Street. There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

Offsite Digital Billboards

I-5 at Water Tank. This site is located along Interstate 5, west of Freeport Boulevard. The entire project site is barren ground and is located adjacent to the Freeport Reservoir. Surrounding habitats include annual grassland, riverine (a drainage channel), and urban residential with associated ornamental trees (see Figure 4.3-2). Ornamental trees in the vicinity have the potential to support raptor and migratory bird nests; however, no bird nests were observed during site reconnaissance. Cliff swallow (*Petrochelidon pyrrhonota*) nests were observed under the access path surrounding the water tank. These nests are located high above the ground (approximately100 feet). Additionally, an active Swainson's hawk nest was recorded in 2007 within 0.5 miles of the project site along the Sacramento River (River Mile 47.5-47.2, in the vicinity of Freeport Bend).[10] There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

US 50 at Pioneer Reservoir. This site is located west of Front Street along Highway 50. The site is flat and is comprised of barren and urban habitats. The Pioneer Memorial Bridge is located adjacent to the site. While the majority of the site is gravel, ornamental shrubs and trees, including oak (*Quercus* sp.), pyracantha (*Pyracantha*), Chinese pistache (*Pistacia chinensis*), and privet (*Ligustrum* sp.), occur in sparse amounts near the west corner of the site. Although the project site does not have the potential to support nesting raptors, one active Swainson's nest was recorded in 1994 within 0.5 miles of the project site along the Sacramento River (River Mile 57.6, approximately 0.3 miles west of Jefferson Boulevard at 19th Street, just north of the Barge Canal).[11] Surrounding habitats include annual grassland, urban, and riverine (Sacramento River) (see Figure 4.3-3). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

[10] California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

[11] California Department of Fish and Wildlife. 2013a. *California Natural Diversity DatabaseRareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

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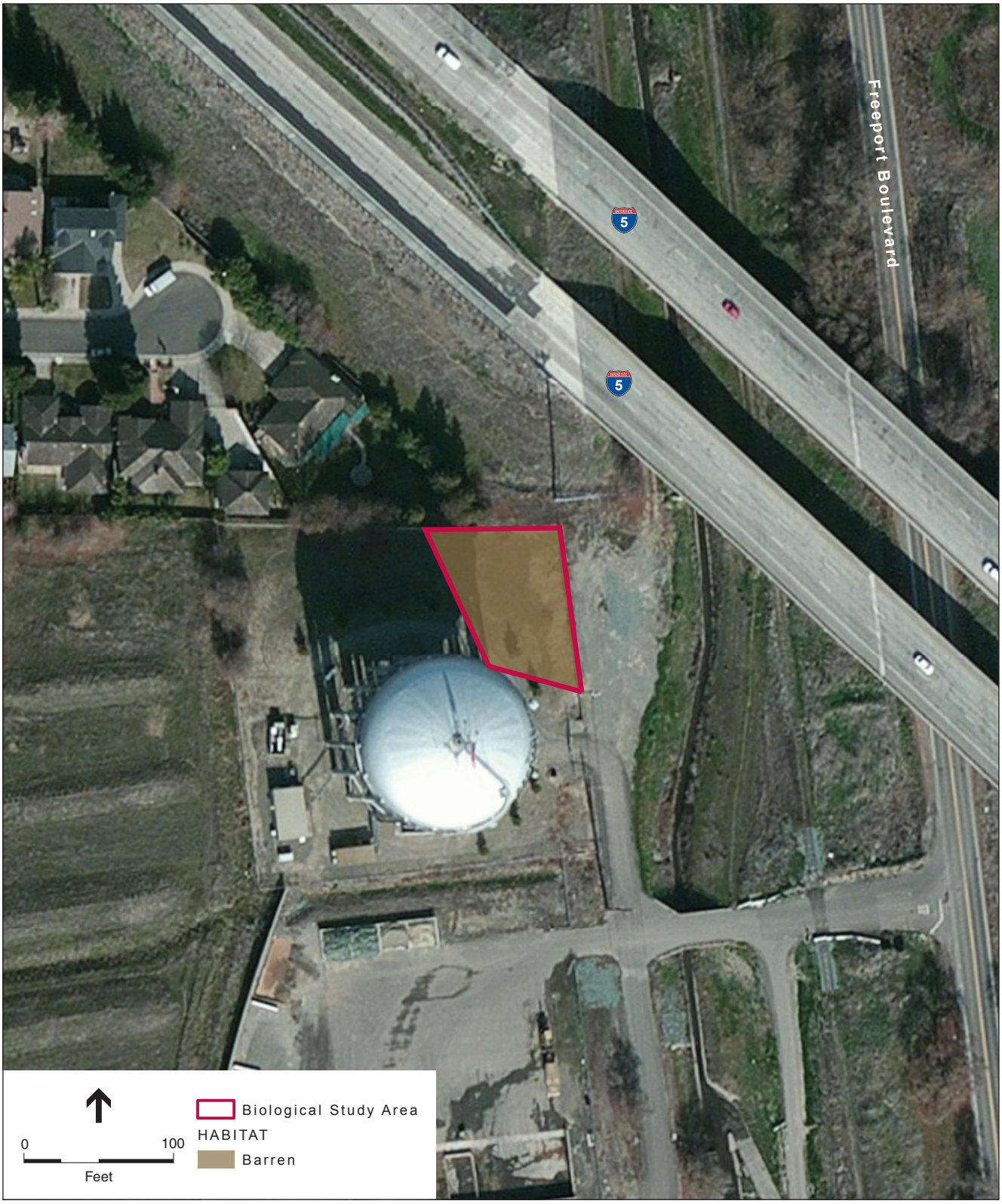
SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-1
Downtown Project Site Habitat Map



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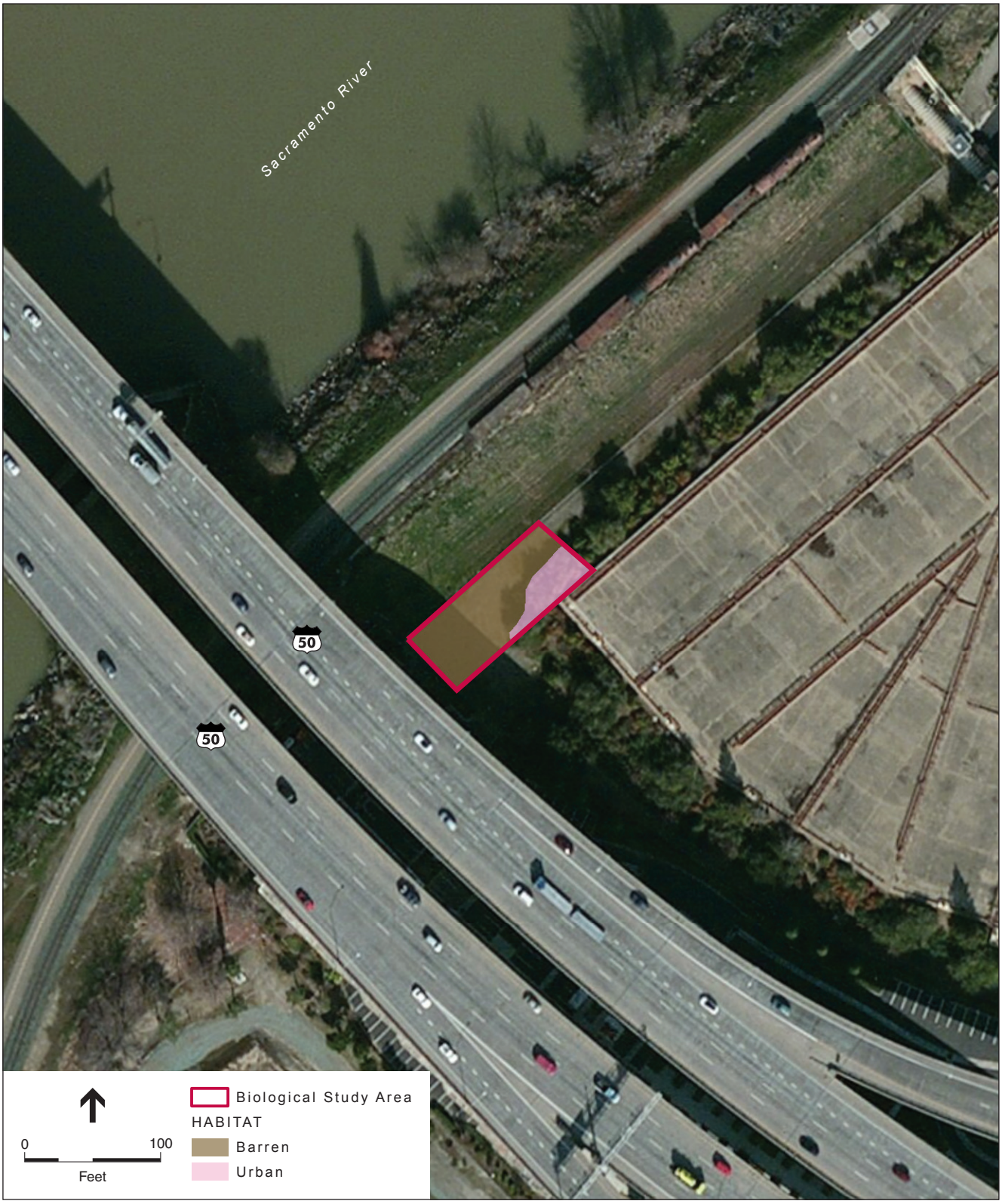
SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-2

Interstate 5 at Water Tank Billboard Site Habitat Map



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SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-3

US 50 at Pioneer Reservoir Billboard Site Habitat Map

Business 80 at Sutter's Landing Regional Park. This site is located along the Capital City Freeway (Business 80), approximately 500 feet from the northerly existing CBS billboard. Habitat on the site includes annual grassland with ornamental eucalyptus (*Eucalyptus* sp.) trees that vary from sapling to mature. Approximately 20 trees occur within this project site. These trees have the potential to support raptor nests; however, no bird nests were observed during site reconnaissance. One active Swainson's hawk nest was recorded in 2012 at Sutter's Landing Regional Park, on the south side of the American River and at the north end of 28th Street;[12] this location is within 0.5 miles of the project site. Two elderberry shrubs (*Sambucus nigra* ssp. *caerulea*) were observed within the project boundaries; each shrub contained multiple stems that range from one to four inches in diameter. Exit holes were observed on one shrub. Adjacent habitats include annual grassland, urban, riverine (the American River) and associated riparian woodland and riparian scrub (see Figure 4.3-4). There are no potentially jurisdictional wetlands or other waters of the U.S.at this site.

Business 80 at Del Paso Regional Park/Haggin Oaks. This site is located along the Capital City Freeway (Business 80) west of Fulton Avenue, behind a Caltrans fence. The site supports annual grassland, barren, and urban habitats. Annual grassland occurs in limited amounts along the perimeter of the Haggin Oaks Golf Course, where it is adjacent to a paved bicycle trail. Urban habitat in the form of ornamental landscaping, including mature ornamental Casuarina trees (*Casuarina* sp.), make up the rest of the site. A total of 52 ornamental trees occur within this project site. Adjacent land uses include urban (residential, commercial, and the Alister MacKenzie Golf Course) (see Figure 4.3-5). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

Business 80 at Sutter's Landing Regional Park/American River. This site is located north of the Capital City Freeway (Business 80) and approximately 220 feet west of the American River. The site supports annual/ruderal grassland and barren (gravel) habitats. Additionally, the site is located in close proximity to mature eucalyptus trees across the Capital City Freeway and valley foothill riparian habitat along the American River. One active Swainson's hawk nest was recorded in 2012 at Sutter's Landing Regional Park, on the south side of the American River and at the north end of 28th Street.[13] This location is within 0.5 miles of the project site. Elderberry shrubs (*Sambucus nigra* ssp. *caerulea*) occur approximately 150 feet north of and 400 feet west of the proposed site. Adjacent land uses include urban (residential) and industrial (see Figure 4.3-6). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

12 California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

13 California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

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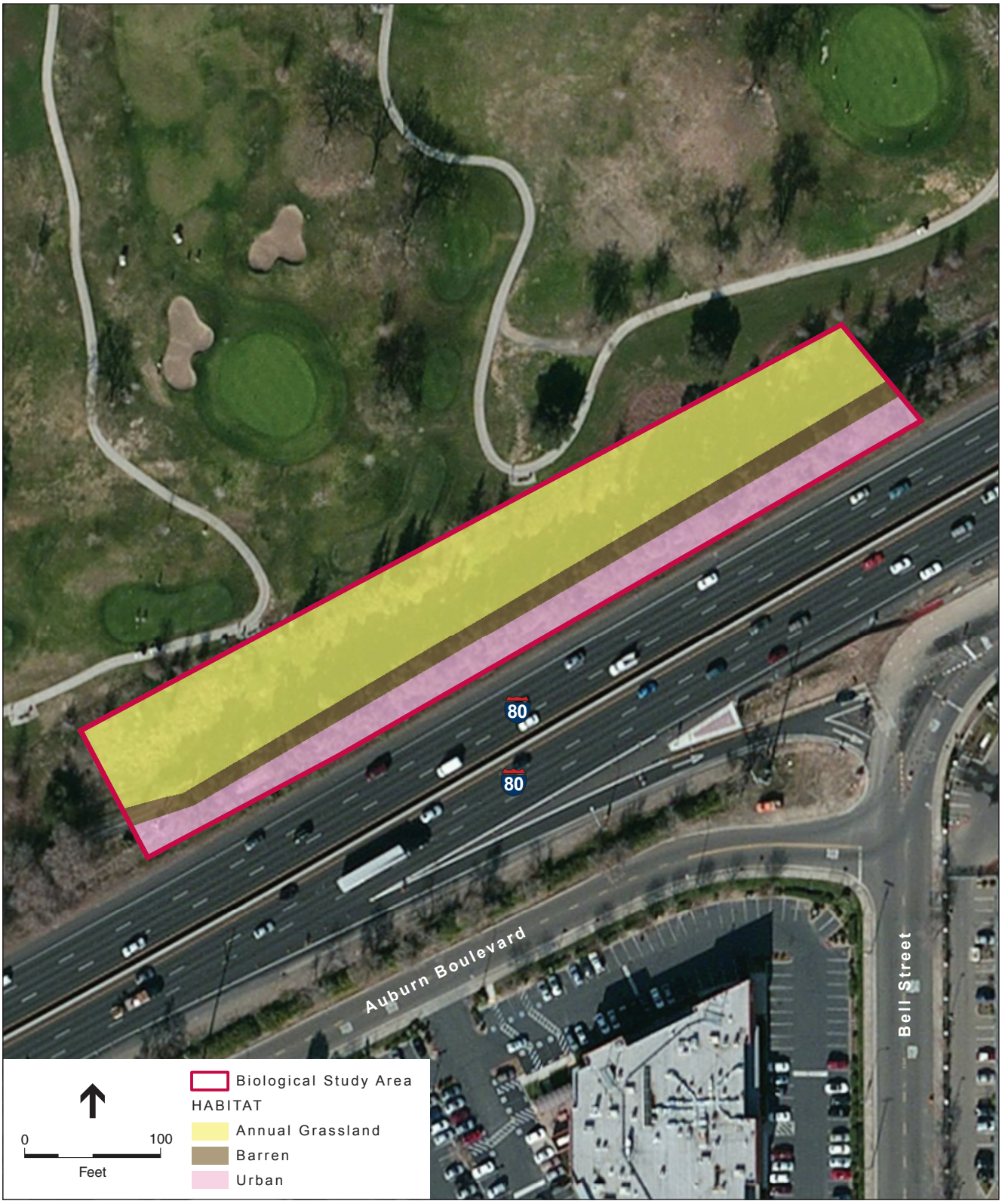
SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-4
Business 80 at Sutter's Landing Regional Park
Billboard Site Habitat Map



SOURCE: Microsoft, 2012; ESA, 2013

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Figure 4.3-5
Business 80 at Del Paso Regional Park/Haggin Oaks
Billboard Site Habitat Map

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-6
Business 80 at Sutter's Landing Regional Park/American River
Billboard Site Habitat Map

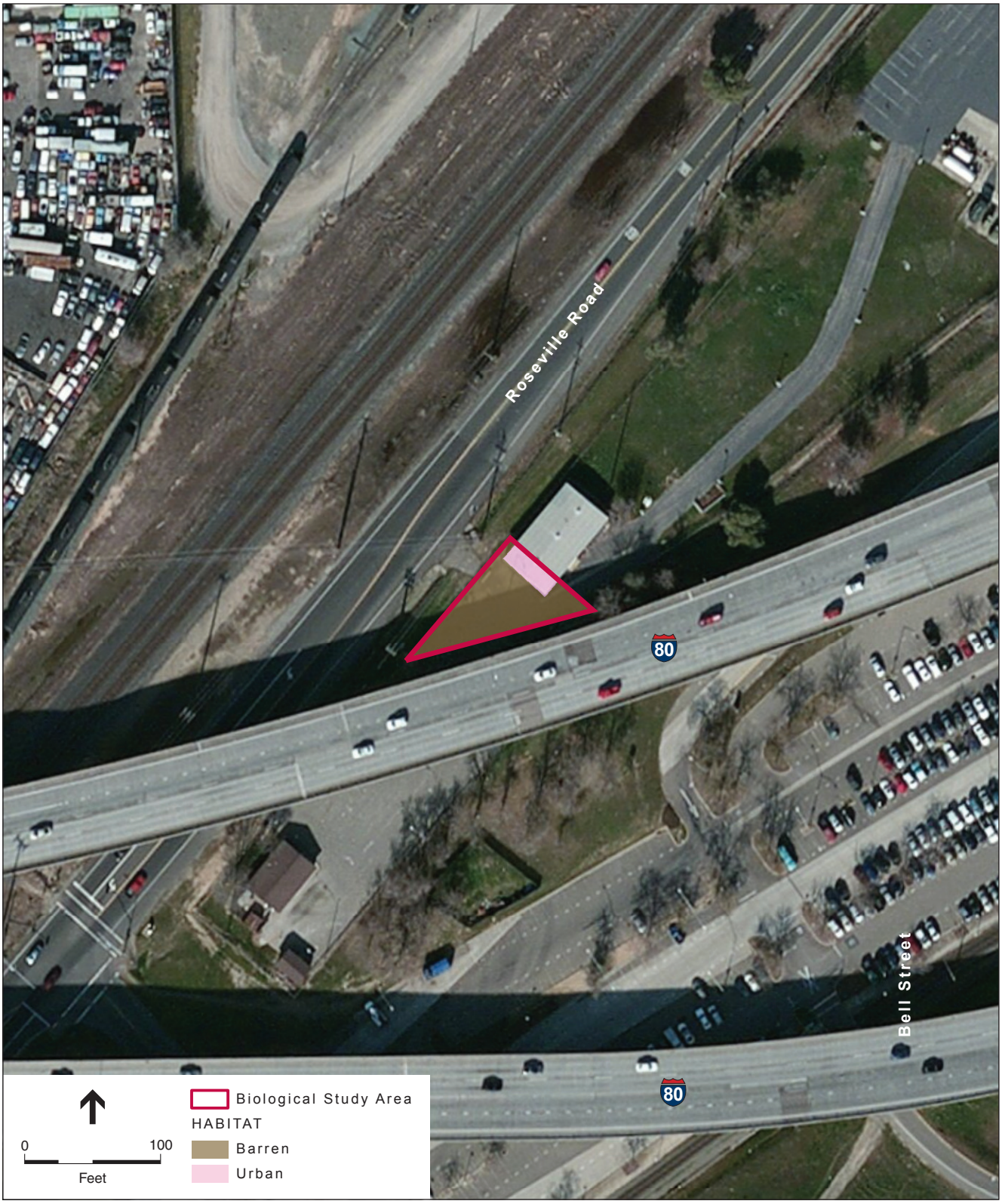
I-80 at Roseville Road. This site is located along Interstate 80 in the vicinity of Roseville Road and consists of a paved parking lot used by the US Air Force for parking. The site is surrounded by urban habitat with strips of annual grassland between the site and adjacent roadways. A few ornamental trees occur in the vicinity of the site, including eucalyptus. No raptor nests were observed within these trees. Adjacent land uses include urban (residential, Haggin Oaks Golf Course, and McClellan Park) and annual grassland associated with the former Air Force Base (see Figure 4.3-7). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

SR 99 at Calvine Road. This site is located along Highway 99 and north of West Stockton Boulevard. The project site contains upland habitat and a portion of a detention basin. However, the digital billboard would be constructed outside of the basin. The dominant habitat for this site is annual grassland. Areas within the detention basin contain slight depressions and may support swales or seasonal wetlands. Several species, known to occur in seasonal wetlands and other mesic (wet) habitats were observed on-site, including coyote thistle (*Eryngium vaseyi*) and silver hairgrass (*Aira caryophyllea*). However, upland species also occur throughout the site, including wild oat (*Avena fatua*), slender oat (*Avena barbata*), softchess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and yellow starthistle (*Centaurea solstitialis*), among others. Although the site and adjacent areas do not have the potential to support raptor nests, one active Swainson's hawk nest was recorded in 2004 within 0.5 miles of the project site on the north side of Shasta Avenue, approximately 0.2 miles east of Bruceville Road and 0.3 miles west of West Stockton Boulevard.[14] Adjacent land uses include urban (residential, commercial), agriculture, and open space. Strawberry Creek is located within 1,000 feet north of the site and Calvine Road (see Figure 4.3-8).

I-5 at Bayou Road. This site is located along Bayou Road, west of Tarboro Lane and within a parkway strip adjacent to Interstate 5. Barren and urban (landscaping) are the dominant habitats. Sapling ornamental red maple (*Acer rubrum*) trees are planted along the roadside planter strip. No bird nests were observed in these trees and these trees do not have the potential to support raptor nests. However, active Swainson's hawk nests were recorded within 0.5 miles west of the project site, at I-5 and South Bayou Road, approximately 0.9 miles east of Power Line Road.[15] Adjacent land uses include open space (tall annual grassland field and disked field), urban (residential), and agriculture (corn) (see Figure 4.3-9). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

[14] California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

[15] California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

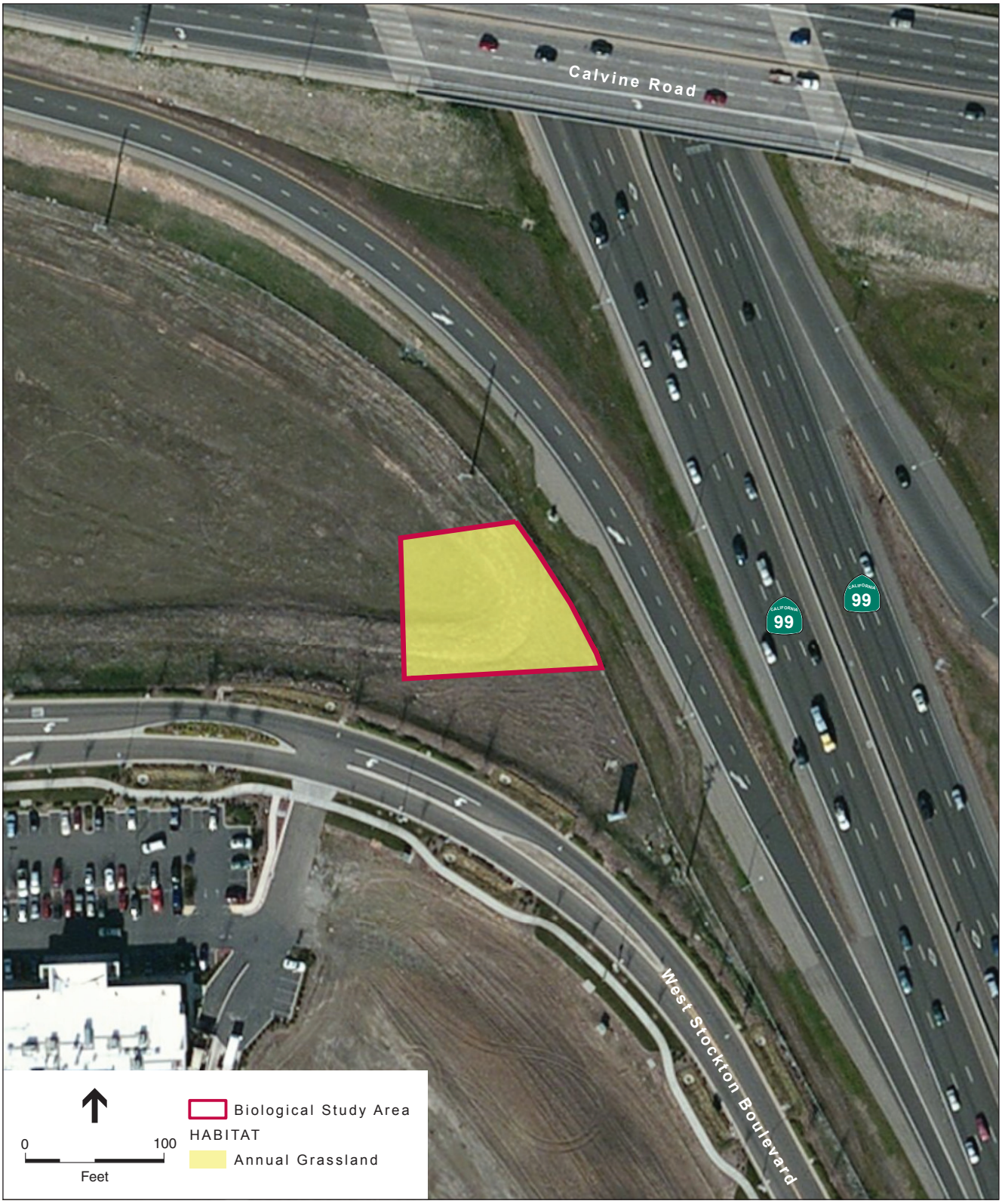


Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-7

Interstate 80 at Roseville Road Billboard Site Habitat Map

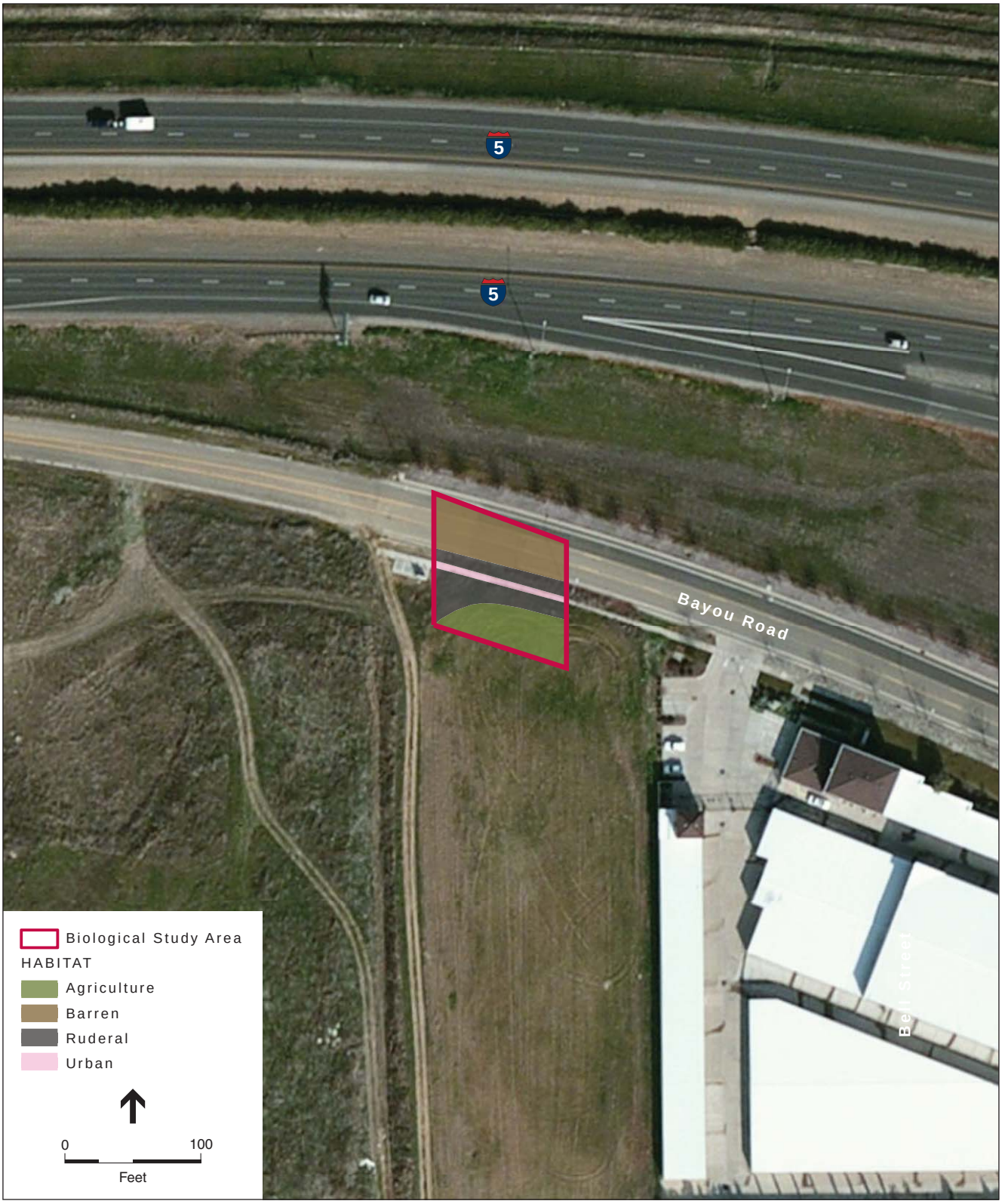


Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-8

SR 99 at Calvine Road Billboard Site Habitat Map



SOURCE: Microsoft, 2012; ESA, 2014

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Figure 4.3-9

Interstate 5 at Bayou Road Billboard Site Habitat Map

I-5 at San Juan Road. This site is located along Interstate 5, north of San Juan Road, and adjacent to the existing city water drainage system. On-site habitats include freshwater emergent wetland, annual grassland, and barren land. Adjacent habitats include urban (landscaping) and annual grassland (disked). The freshwater emergent wetland occurring on-site receives water from a drainage associated with Interstate 5 and flows through a culvert under San Juan Road to the City of Sacramento water drainage system. The drainage system is located south and east of the proposed billboard site (see Figure 4.3-10). These features are considered potentially jurisdictional wetlands and other waters of the U.S. Although the project site does not have the potential to support raptor nests, one active Swainson's hawk nest was recorded in 2003 on the north side of San Juan Road and east of the north-bound I-5 onramp; this location is within 0.5 miles of the project site.[16]

I-5 at Sacramento Railyards. This site is located north of the 3rd Street and I Street intersection, approximately 60 feet west of Interstate 5. The site is used as a parking lot serving the Sacramento Amtrak Station, with heavy construction activities occurring to the north of the lot. This location is approximately 200 feet east of a known colony of purple martin (*Progne subis*), which uses the underside of the I Street Bridge ramp above the California State Rail Museum parking lot for nesting and roosting.[17] Remaining populations of purple martin in the Sacramento area are restricted to weep holes;[18] however, no weep holes were observed on structures within the project site. Adjacent land uses include urban (residential, commercial) and riverine (Sacramento River) (see Figure 4.3-11). There are no potentially jurisdictional wetlands or other waters of the U.S. at this site.

Habitat Types

Plant communities are assemblages of plant species that occur together in a given area and are defined by species composition and relative abundance. The plant communities described in this section were classified according to *A Manual of California Vegetation, 2nd Edition.*[19] Wildlife habitats generally correspond to plant communities. Those described in this document refer to the CDFW's *A Guide to Wildlife Habitats.*[20]

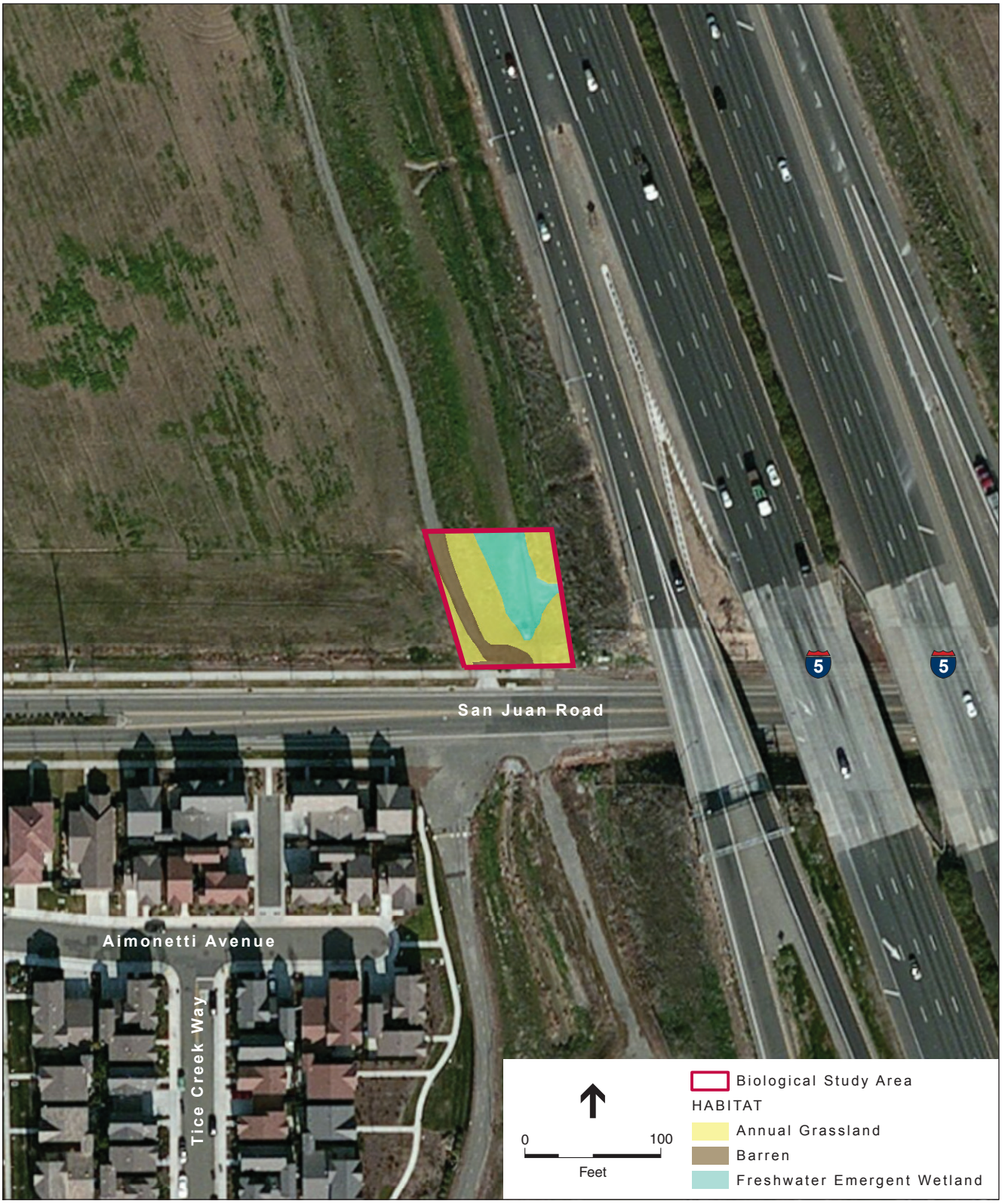
16 California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

17 California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 5 and 11, 2013. Data set expires March 3, 2014.

18 Airola, Daniel A., 2009. *Effects of Construction Activities on a Purple Martin Nesting Colony in Sacramento, California.* CVBC Bulletin, Winter 2009. pp. 8-16.

19 Sawyer, J. O., T. Keeler-Wolf, and J. Evens, 2009. *A Manual of California Vegetation, 2nd Edition.* California Native Plant Society. Sacramento, California. p. 775 and 784.

20 Mayer, Kenneth E., and W.F. Laudenslayer, Jr. 1988. *A Guide to Wildlife Habitats of California.* State of California Resources Agency, Department of Fish and Game. Sacramento, CA. http://www.dfg.ca.gov/whdab/html/wildlife_habitats.html. Accessed October 14, 2013.



Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-10

Interstate 5 at San Juan Road Billboard Site Habitat Map

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: Microsoft, 2012; ESA, 2013

Figure 4.3-11

Interstate 5 at Sacramento Railyards Billboard Site Habitat Map

Annual Grassland

Annual grassland habitat (approximately 1.40 acres) occurs at several proposed digital billboard sites and is primarily dominated by nonnative Mediterranean annual grasses such as wild oats, soft chess and ripgut brome. Native and nonnative forbs noted include California poppy (*Eschscholzia californica*), sky lupine (*Lupinus nanus*), spring vetch (*Vicia sativa*), redstem filaree (*Erodium cicutarium*), longbeak filaree (*E. botrys*), and bur clover (*Medicago polymorpha*). Wildlife such as western fence lizard (*Sceloporus occidentalis*), field mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), and black-tailed jackrabbit (*Lepus californicus*) commonly occur in annual grassland habitat.

Barren

Barren habitat is defined by the absence of vegetation (less than two percent total vegetation cover by herbaceous species and less than 10 percent cover by tree or shrub species). Barren habitats at the proposed digital billboard sites (approximately 0.94 acres) include graveled areas or bare ground in association with annual grassland, ruderal vegetation, and other open spaces adjacent to highways. Barren habitat provides limited opportunities for wildlife; however, certain species are known to use barren (gravelly) habitat, including killdeer (*Charadrius vociferus*).

Eucalyptus

Eucalyptus woodlands are seminatural woodland stands or groves characterized by open to relatively dense stands of eucalyptus trees (*Eucalyptus* sp.). Although eucalyptus woodlands are dominated by nonnative tree species, they often provide suitable nesting habitat for birds, including raptors such as red-tailed hawk and Swainson's hawk (*Buteo swainsoni*). Approximately 0.13 acres of eucalyptus woodland habitat occurs at the proposed Business 80 at Sutter's Landing Regional Park digital billboard site.

Freshwater Emergent Wetland

Freshwater emergent wetland was observed only at the proposed I-5 at San Juan Road digital billboard site, covering approximately 0.06 acres. Freshwater emergent wetland is characterized by erect, rooted, primarily perennial herbaceous hydrophytes (plants adapted for growing in saturated soils). Dominant plant species include tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), and Johnsongrass (*Sorghum halepense*). Wildlife use of freshwater emergent wetlands largely includes wading birds and waterfowl species such as mallard (*Anas platyrhynchos*). Red-winged blackbirds (*Agelaius phoeniceus*) and aquatic reptiles and amphibians also commonly use this habitat.

Ruderal Grassland

Ruderal grassland habitat (approximately 0.35 acres) occurs in areas associated with ground disturbance, including grading, vehicle use, and/or intensive vegetation maintenance. Due to the disturbance regime, these areas remain sparsely vegetated and are dominated by assemblages of introduced weedy species. Ruderal grassland habitat occurs at many of the proposed digital billboard sites in association with urban development, barren, and annual grassland habitats.

Ruderal grasslands contain species similar to annual grassland habitat, but are dominated by non-native grasses and forb species that are adapted to regular disturbance. Ruderal grassland habitat within the digital billboard sites is dominated by ripgut brome, foxtail barley, redstem filaree, and soft chess. Ruderal grassland may provide habitat for common species that also occur in annual grassland habitat, such as rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), and mourning dove (*Zenaida macroura*). Species observed in these habitats during the site visit included western scrub jay (*Aphelocoma californica*), house sparrow, American robin (*Turdus migratorius*), and northern mockingbird (*Mimus polyglottos*). This habitat type is unlikely to support special-status plant species.

Urban/Developed

Urban and developed habitat in the study area occurs at the Downtown project site (approximately 19 acres) and several proposed digital billboard sites (approximately 1.68 acres). This habitat type consists of buildings, roadways, and other built infrastructure. Urban habitats associated with some of the digital billboard sites include residential, commercial, and public buildings and associated roadways and infrastructure. Typically, urban vegetation associated with developed areas consists of landscaping, including lawns, ornamental shrubs, shade trees and hedges. Wildlife use of landscaped areas increases with the distance from urban areas, plant species diversity and varied structure, and proximity to natural habitats. At all project sites, landscaped vegetation provide habitat for common species of wildlife such as house sparrow, house finch, and western scrub jay.

Special-Status Species

Special-status species are legally protected under the State and federal Endangered Species Acts or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are in the following categories:

1. Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]);
2. Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);
3. Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5);
4. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
5. Animal species of special concern to CDFW;
6. Animals fully protected under Fish and Game Code (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);

7. Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (State CEQA Guidelines, Section 15380); and

8. Plants considered under the CNPS to be "rare, threatened or endangered in California" (Rank 1A, 1B, and 2 in CNPS, 2013) as well as CNPS Rank 3 and 4[21] plant species.

A list of special-status species that have the potential to occur within the vicinity of the project study area was compiled based on data in the CNDDB,[22] the USFWS list of Federal Endangered and Threatened Species that Occur in or may be Affected by the Project,[23] and the CNPS Inventory of Rare and Endangered Plants.[24] A list of special-status species, their general habitat requirements, and an assessment of their potential to occur within the project area is provided below in Table 4.3-2 and in Appendix J. Recorded observations of special-status species within five miles of the Downtown project site and all ten digital billboard sites are shown in Figures 4.3-12 through 4.3-15.[25] Table 4.3-2 lists special-status plants and animals with medium to high potential to occur within the study area. The full list of species is presented in Appendix J. The "Potential for Occurrence" category is defined as follows:

- **Unlikely:** The project site and/or surrounding area do not support suitable habitat for a particular species, or the project site is outside of the species known range.
- **Low Potential:** The project site and/or immediate area only provide limited amounts and low quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential:** The project site and/or immediate area provide suitable habitat for a particular species.
- **High Potential:** The project site and/or immediate area provide ideal habitat conditions for a particular species and/or known populations occur in immediate area and/or within the project site.

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21 Rank 3 and 4 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a Rank 3 or 4 plant are significant even if individual project impacts are not. CNPS Rank 3 and 4 may be considered regionally significant if for example, the occurrence is located at the periphery of the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate. For these reasons, CNPS Rank 3 and 4 plants should be included in the special-status species analysis. Rank 3 and 4 plants are also included in the California Natural Diversity Database Special Plants, Bryophytes, and Lichens List. [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.].

22 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

23 U.S. Fish and Wildlife Service, 2013. *Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Sacramento East, Sacramento West, Clarksburg, Florin, Rio Linda, and Taylor Monument USGS quads.* www.fws.gov/sacramento/es/spp_list.htm. Accessed September 5 and 11, 2013.

24 California Native Plant Society, 2013. *Inventory of Rare and Endangered Plants (online edition, v7-13).* http://www.rareplants.cnps.org/. Accessed September 5 and 11, 2013.

25 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

TABLE 4.3-2
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT THE DOWNTOWN PROJECT SITE AND OFFSITE DIGITAL BILLBOARD SITES

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Study Area
Birds				
Accipiter cooperii	Cooper's hawk	--/WL/--	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains. Also nests in live oaks.	**Medium**. Suitable nesting habitat occurs within or in close proximity to the Business 80 at Del Paso Regional Park/Haggin Oaks and Business 80 at Sutter's Landing Regional Park/American River billboard sites. This species was not observed during reconnaissance surveys.
Ardea alba	great egret	--/--/--	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Medium**. Suitable foraging habitat occurs at the San Juan Road billboard site within shallow freshwater emergent wetland and channels located south and east of the site. Suitable nesting habitat occurs in proximity to the Business 80 at Sutter's Landing Regional Park/American River site. This species was not observed during reconnaissance surveys and no CNDDB occurrences are recorded in the vicinity of the project sites.
Ardea herodias	great blue heron	--/--/--	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**Medium**. Suitable foraging habitat occurs at the San Juan Road billboard site within shallow freshwater emergent wetland and water channels located south and east of the site. Suitable nesting habitat occurs in proximity to the Business 80 at Sutter's Landing Regional Park/American River site. This species was not observed during reconnaissance surveys and no CNDDB occurrences are recorded in the vicinity of the project sites.
Athene cunicularia	burrowing owl	--/CSC/--	Forages in open plains, grasslands, and prairies; typically nests in abandoned small mammal burrows.	**Medium**. Suitable habitat occurs in the vicinity of the Haggin Oaks billboard site and one burrowing owl occurrence was recorded within one mile of the site. This species was not observed during reconnaissance surveys.
Buteo swainsoni	Swainson's hawk	--/ST/--	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Medium**. Suitable nesting habitat occurs in the vicinity of Business 80 at Sutter's Landing Regional Park/American River and Haggin Oaks billboard sites. Additionally, species occurrences are recorded in the CNDDB in the vicinity of I-5 at Bayou Road, I-5 at San Juan Road, I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park/American River, and Business 80 at Sutter's Landing Regional Park billboard sites. This species was not observed during reconnaissance surveys.
Elanus leucurus	white-tailed kite	--/FP/--	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Medium**. Suitable nesting habitat occurs in the vicinity of Business 80 at Sutter's Landing Regional Park/American River and Haggin Oaks billboard sites. Additionally, species occurrence is recorded in the CNDDB in the vicinity of Business 80 at Sutter's Landing Regional Park/American River and Business 80 at Sutter's Landing Regional Park

TABLE 4.3-2 (Continued)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT THE DOWNTOWN PROJECT SITE AND OFFSITE DIGITAL BILLBOARD SITES

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Study Area
Birds (cont.)				
Elanus leucurus (cont.)				billboard sites. The Downtown project site provides marginal nesting habitat; however, due to high urban activity, it is unlikely that this species would nest at the Downtown project site. This species was not observed during reconnaissance surveys.
Melospiza melodia	song sparrow ("Modesto" population)	--/ CSC /--	Emergent freshwater marshes dominated by tule (*Scirpus* spp., *Schoenoplectus* spp.) and cattail (*Typha* spp.) as well as riparian willow (*Salix* spp.) thickets. Also nest in riparian forests of valley oak (*Quercus lobata*) with a sufficient understory of blackberry (*Rubus* spp.), along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites.	**Medium**. Suitable nesting habitat occurs in the vicinity of Business 80 at Sutter's Landing Regional Park/American River. However, there are no records of this species from the CNDDB in the vicinity of the project sites. This species was not observed during reconnaissance surveys.
Progne sbis	purple martin	--/ CSC /--	Inhabits woodlands, low elevation coniferous forest of Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), and Monterey pine (*Pinus radiata*). Nests primarily in old woodpecker cavities, also in human-made structures. Nest often located in tall, isolated tree/snag.	**Medium**. Two known occurrences were identified in the CNDDB, including one occurrence located within 200 feet of the Railyards billboard site and one occurrence located within 500 feet of the I-80 at Roseville Road billboard site (under I-80 where it crosses Roseville Road); only one adult female purple martin was observed in 2007 at this location. Local population nest exclusively in weep holes under freeways and bridges, which are absent within the project sites. There is no suitable nesting habitat for this species within the project sites.
Invertebrates				
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT(PD)/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberrries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	**High**. Two elderberry shrubs were observed within a grove of eucalyptus trees at the Business 80 at Sutter's Landing Regional Park billboard site and several elderberry plants were observed within riparian habitat along the American River in the vicinity of the Business 80 at Sutter's Landing Regional Park/American River billboard site. CNDDB records show several occurrences of valley elderberry longhorn beetle along the American River within one mile of the Business 80 at Sutter's Landing Regional Park/American River billboard site. The Business 80 at Sutter's Landing Regional Park/American River billboard site is at least 150 feet from any suitable elderberry shrubs. However, Proposed Project activities at the Business 80 at Sutter's Landing Regional Park billboard site may impact suitable habitat for valley elderberry longhorn beetle.

TABLE 4.3-2 (Continued)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR AT THE DOWNTOWN PROJECT SITE AND OFFSITE DIGITAL BILLBOARD SITES

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Study Area
Mammals				
Lasiurus blossevillii	Western red bat	--/CSC/--	Roosts primarily in trees, 0-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Medium**. Species may roost within riparian habitat along the Sacramento and American Rivers. Additionally, species may use trees at the Haggin Oaks and Business 80 at Sutter's Landing Regional Park billboard sites for roosting. However, it has not been documented in the vicinity of the project sites.
Lasiurus cinereus	hoary bat	--/--/--	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Medium**. Species may roost within riparian habitat along the Sacramento and American Rivers. Additionally, species may use trees at the Haggin Oaks and Business 80 at Sutter's Landing Regional Park billboard sites for roosting. However, it has not been documented in the vicinity of the project sites.
Reptiles				
Thamnophis gigas	giant garter snake	FT/ST/--	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals & and irrigation ditches. This is the most aquatic of the garter snakes in California.	**Medium**. Potential suitable (low quality) habitat occurs in the vicinity of the I-5 at San Juan Road billboard site within shallow freshwater emergent wetland and water channels located south and east of the site. Additionally, giant garter snake has been documented to occur within one mile of the I-5 at San Juan Road site. This species was not observed during reconnaissance surveys.

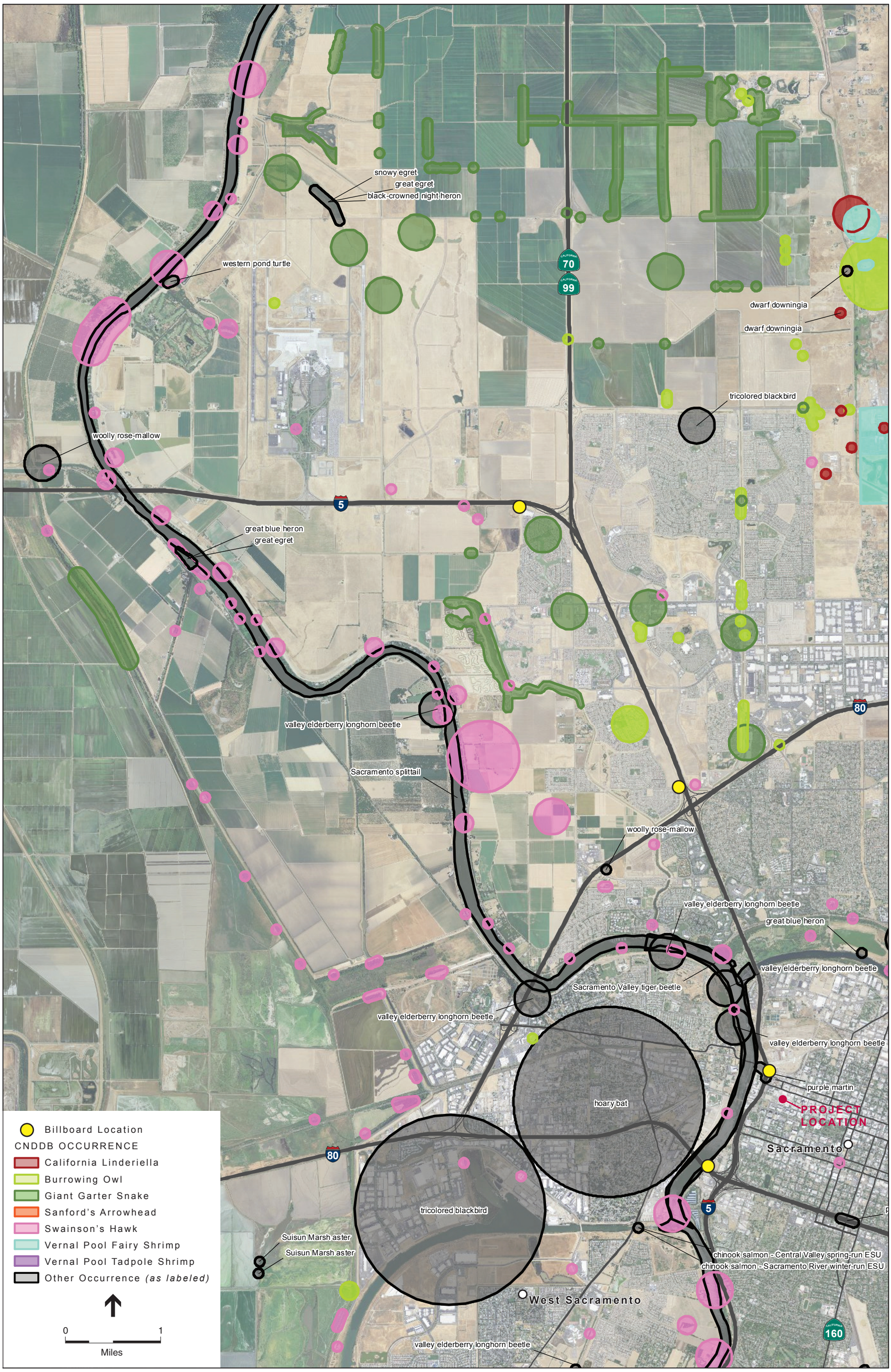
KEY:

Federal: (USFWS)
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FC = Candidate for listing by the Federal Government
(PD) = Proposed for Delisting

State: (CDFW)
SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SR = Listed as Rare by the State of California (plants only)
CSC = California Species of Special Concern
WL = Species on the CDFW Watch List

CNPS: (California Native Plant Society)
Rank 1A = Plants presumed extinct in California
Rank 1B = Plants rare, threatened, or endangered in California and elsewhere
Rank 2 = Plants rare, threatened, or endangered in California but more common elsewhere
Rank 3 = Need more information
Rank 4 = Limited distribution – a watch list
0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
0.3 = Not very endangered in California
– = No Listing

SOURCES: CDFW, 2013a and USFWS, 2013.



SOURCE: USDA, 2012; CNDDB, 2013; ESA, 2013

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Figure 4.3-12
CNDDB Occurrences within 5 Miles of Project Sites – Northwest

SOURCE: USDA, 2012; CNDDB, 2013; ESA, 2013

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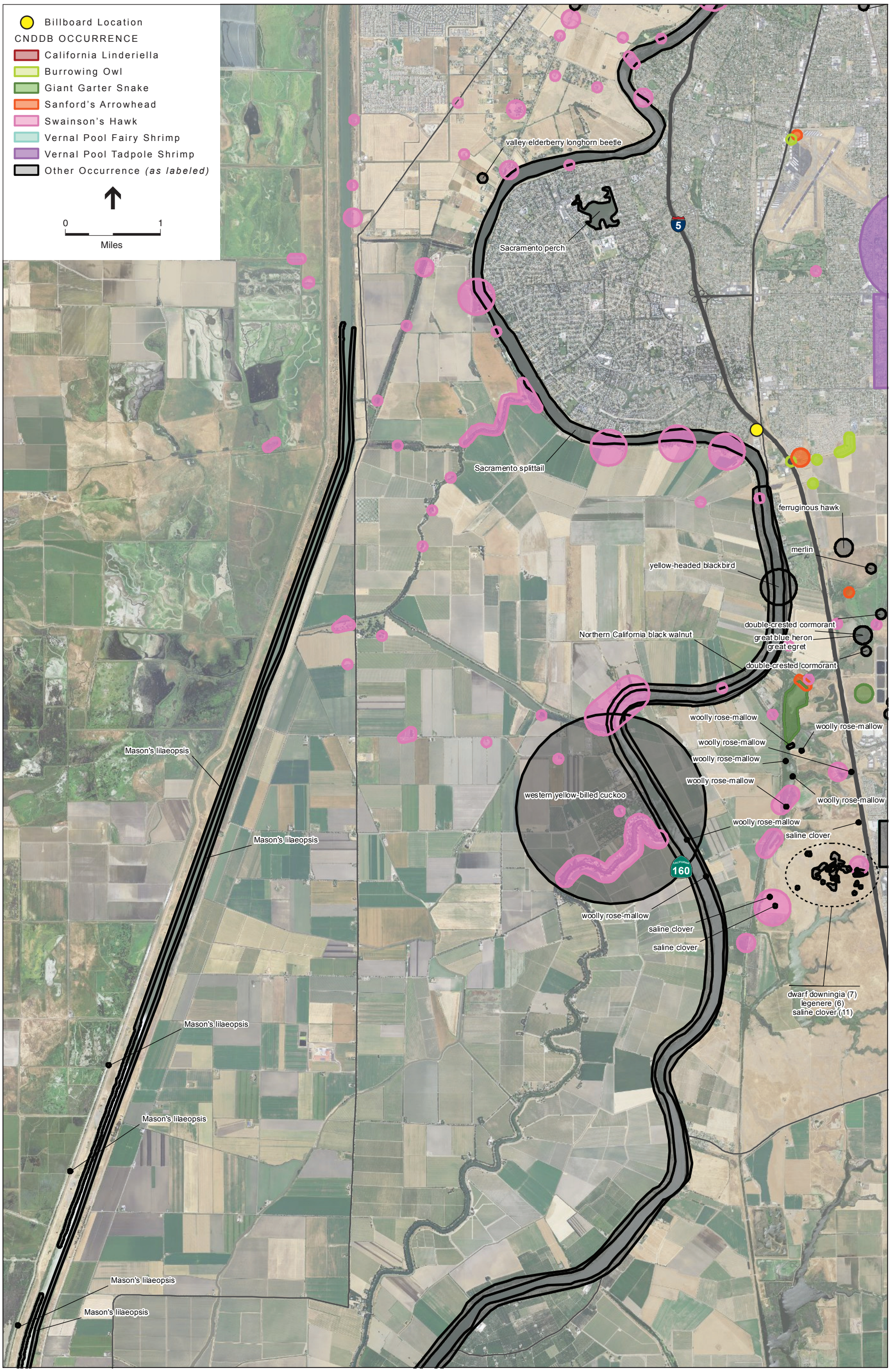
Figure 4.3-13

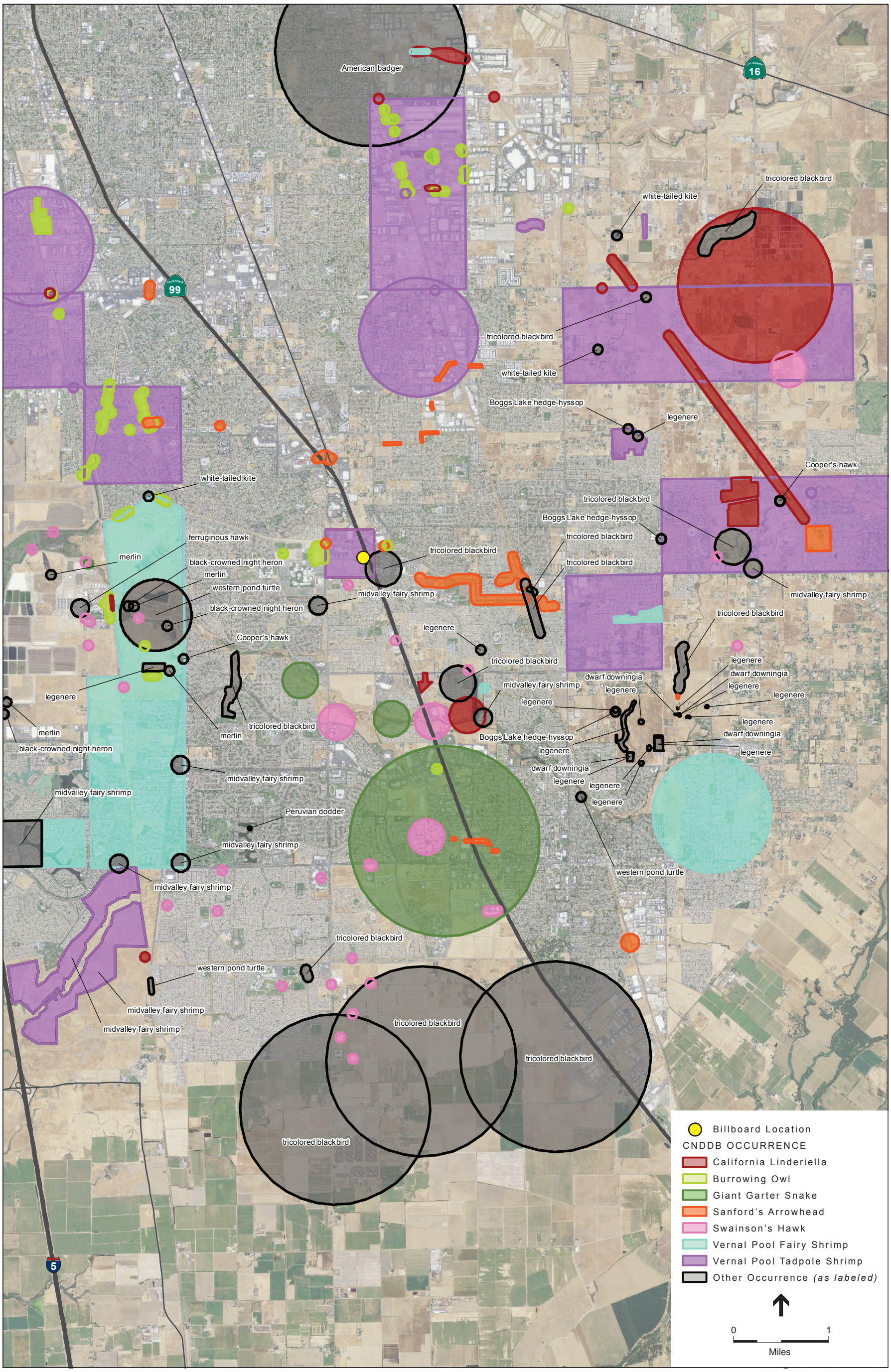
CNDDB Occurrences within 5 Miles of Project Sites – Northeast



Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: USDA, 2012; CNDDB, 2013; ESA, 2013

Figure 4.3-14
CNDDB Occurrences within 5 Miles of Project Sites – Southwest



SOURCE: USDA, 2012; CNDDB, 2013; ESA, 2013

Figure 4.3-15
CNDDB Occurrences within 5 Miles of Project Sites – Southeast

Conclusions regarding habitat suitability and species occurrence are based on the reconnaissance surveys described previously, as well as the analysis of existing literature and databases described previously.

Database queries identify 104 special-status wildlife species records. Of these, 83 species were eliminated from further consideration based upon a lack of suitable habitat in the project area, or the project area being outside of the species' known range. None of the 83 species have been documented in the project area.[26] Twelve special-status wildlife species have medium or high potential to occur in the project area and 9 species have low potential to occur in the project area). Species with a medium or high potential to occur are identified in Table 4.3-2 and are described in detail below. Only species classified as having a medium or high potential for occurrence were considered in the impact analysis. No special-status plant species have the potential to occur in any of the project sites.

Downtown Project Site

A review of CNDDB records[27] (Figure 4.3-12) and the existing habitat features present in the vicinity of the Downtown project site determined that the special-status species most likely to occur in the vicinity of the Downtown project site include purple martin (foraging), peregrine falcon (*Falco peregrinus*), and white-tailed kite (*Elanus leucurus*).[28] However, due to the high level of development and urban activities in the vicinity of the site, the potential for raptor species to use the site is very low. Although an active purple martin colony is known to occur near the Downtown project site (at I-5 near the I Street Bridge above the California State Railroad Museum parking lot),[29] remnant purple martin populations throughout the Sacramento area currently nest exclusively within weep holes located beneath elevated bridges and freeway ramps.[30] Because the project site lacks weep holes, it is unlikely that purple martin would use the site to nest.

Offsite Digital Billboard Locations

A review of CNDDB records[31] (Figures 4.3-12 through 4.3-15) and habitat features in the vicinity of the potential digital billboard sites indicate that the special-status species most likely to occur in their vicinity include raptors, purple martin, valley elderberry longhorn beetle (*Desmocerus*

26 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

27 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

28 eBird, 2012. eBird: *An online database of bird distribution and abundance [web application]*. eBird, Ithaca, New York. http://www.ebird.org. Accessed: October 15, 2013.

29 California Department of Fish and Wildlife. 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

30 Airola, Daniel A., 2009. *Effects of Construction Activities on a Purple Martin Nesting Colony in Sacramento, California.* CVBC Bulletin, Winter 2009. p. 8-16.

31 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

californicus dimorphus), and several bat species. The American River Parkway and Sutter's Landing Regional Park can provide high habitat value for sensitive species. The City has engaged in discussions with interested community groups regarding the habitat value of the American River Parkway and Sutter's Landing Regional Park, as well as the potential for Swainson's hawk nests to be present in these areas.

Birds

Cooper's Hawk: Cooper's hawks nest in dense forested habitats near freshwater and forage mostly on small birds and mammals, although they will take reptiles and amphibians. Peak breeding season is May through July, although it can occur anywhere from March to August.[32] Cooper's hawks use dense wooded stands for breeding and patchy to open woodlands and habitat edges for foraging. They can often be found in live oak and riparian deciduous habitats. Other habitats used frequently include forested habitats near water.[33]

Currently, breeding populations occur in the southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in southern California. However, Cooper's hawk occurs anywhere with dense stands of live oak, riparian deciduous, or other forest habitats near water from sea level to 9,000 feet.[34] After breeding, Cooper's hawks from the north migrate to winter throughout woodlands in California.

Suitable nesting habitat occurs within or in close proximity to the Del Paso Regional Park/Haggin Oaks and Business 80 at Sutter's Landing Regional Park/American River billboard sites. This species was not observed during reconnaissance surveys. Cooper's hawk occurs within one to three miles of the Business 80 at Sutter's Landing Regional Park, Business 80 at Sutter's Landing Regional Park/American River, and SR 99 at Calvine Road billboard sites; however, there are no CNDDB occurrences recorded within the Downtown project site or offsite digital billboard sites.[35]

Great Egret: The great egret is a large egret that preys on fish, aquatic invertebrates, amphibians, reptiles, birds and small mammals. They hunt by wading in shallow water and stabbing prey with their long, pointed bill. Great egrets nest in colonies called rookeries in trees or shrubs over water or on islands.[36] Nests consist of sticks covered with green vegetation. Great egrets utilize a

[32] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

[33] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

[34] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

[35] California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

[36] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

variety of wetlands including marshes, swamps, streams, rivers, ponds, lakes, canals, tide flats and flooded fields for feeding.

The great egret's winter (non-breeding) range extends along the California coast from Baja to the Oregon border excluding the San Francisco Bay. It is a year round resident in the Central Valley of California where rookeries can be found.

Suitable foraging habitat occurs at the I-5 at San Juan Road billboard site within shallow freshwater emergent wetland and water channels located south and east of the site. Potential suitable nesting habitat occurs in proximity to the Business 80 at Sutter's Landing Regional Park/American River billboard site. However, this species was not observed during reconnaissance surveys. Great egret occurs within five miles of the Downtown project site and offsite digital billboard sites; however, there are no CNDDB occurrences recorded within one mile of the project sites.[37]

Great Blue Heron: Great blue herons are large wading birds that prey on fish, aquatic and terrestrial invertebrates, and small mammals. They forage by standing motionless or walking slowly in shallow water, grasping prey in their bills, rather than stabbing it. Great blue herons nest in small to large colonies called rookeries, relatively near foraging areas. They often nest in mixed rookeries with great egrets. Nests are built loosely of sticks in tall trees and snags.[38]

Great blue herons commonly forage in shallow estuaries, fresh and saline emergent wetlands, ponds, or agricultural fields with nearby groves of tall trees.[39] Great blue herons are commonly found throughout California year-round, but rookeries are mainly found in northern California.[40]

Suitable foraging habitat occurs at the San Juan Road billboard site within shallow freshwater emergent wetland and water channels located south and east of the site. Potential suitable nesting habitat occurs in proximity to the Business 80 at Sutter's Landing Regional Park/American River billboard site. However, this species was not observed during reconnaissance surveys. Great blue heron occurs within five miles of the Downtown project site and offsite digital billboard sites; however, there are no CNDDB occurrences recorded within one mile of the project sites.[41]

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37 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

38 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

39 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

40 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

41 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

Burrowing Owl: The burrowing owl is a small diurnal owl that nests underground in the burrows of small mammals, especially those of ground squirrels. Culverts and other human-made structures may also be suitable habitat for the burrowing owl. Often a burrowing owl will occupy several burrows in an area. In the Central Valley, the burrowing owl is a year-round resident of open spaces such as grasslands, agricultural fields, air fields, and levees. Vegetation must be very short or very sparse to be suitable habitat for burrowing owl. Breeding peaks from April to May, but can occur from March to August. The burrowing owl forages on insects and small mammals and will also consume reptiles, birds, and carrion.[42]

Suitable habitat occurs in the vicinity of the Business 80 at Del Paso Regional Park/Haggin Oaks billboard site and one burrowing owl occurrence is recorded within one mile of the site.[43] However, this species was not observed during reconnaissance surveys.

Swainson's Hawk: The Swainson's hawk is a long-distance migrant species. The Central Valley population winters primarily in Mexico and arrives at their breeding grounds in the Central Valley in mid-March to early April. Nests are generally found in scattered trees or along riparian woodlands adjacent to agricultural fields or pastures, but the species will also nest in tall shrubs and trees in proximity to developments near foraging habitat. Prey species mainly include small mammals, reptiles, and insects. Egg-laying generally occurs in April and young hatch in May and June. Most young have fledged the nest by the end of July and are relatively independent of parental protection. However, fledged young remain with their parents until they migrate in the fall. Migration to the wintering grounds generally occurs around September. Some individuals or small groups may winter in California.[44]

Suitable nesting habitat occurs in the vicinity of Business 80 at Sutter's Landing Regional Park/American River and Business 80 at Del Paso Regional Park Haggin Oaks billboard sites. Additionally, a species occurrence is recorded in the CNDDB in the vicinity of I-5 at Bayou Road, San Juan Road, I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park/American River, and Business 80 at Sutter's Landing Regional Park billboard sites.[45] In particular, Swainson's hawk was observed at Sutter's Landing Regional Park, on the south side of the American River and at the north end of 28th Street;[46] this is in close proximity to the Business 80 at Sutter's Landing Regional

[42] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

[43] California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

[44] Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

[45] California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

[46] California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

Park/American River and Business 80 at Sutter's Landing Regional Park billboard sites. However, this species was not observed during reconnaissance surveys.

White-tailed Kite: The white-tailed kite is a year-round resident in central California. It typically nests in oak woodlands or trees, especially along marshes or river margins, and may use any suitable tree or shrub that is of moderate height. Its nesting season may begin as early as February and extends into August. This raptor forages during the day for rodents—especially voles—in wet or dry grasslands and fields.[47] White-tailed kites forage characteristically by hovering over the location of a potential prey item.

Suitable nesting habitat occurs in the vicinity of Business 80 at Sutter's Landing Regional Park/American River and Business 80 at Del Paso Regional Park Haggin Oaks billboard sites. Additionally, a species occurrence is recorded in the CNDDB within one mile of the Business 80 at Sutter's Landing Regional Park and Business 80 at Sutter's Landing Regional Park/American River billboard sites.[48] The Downtown project site provides marginal nesting habitat; however, due to high levels of urban development and activity, it is unlikely that this species would nest at the Downtown project site. This species was not observed during reconnaissance surveys.

Song Sparrow ("Modesto" Population): The Modesto song sparrow is a year-round resident in California and is locally numerous in the Sacramento Valley, Sacramento-San Joaquin River Delta, and northern San Joaquin Valley.[49] The ecological requirements of the Modesto song sparrow are largely undescribed. Throughout the year, Modesto song sparrows prefer riparian and freshwater emergent wetlands and marshes. It requires riparian thickets of willows, other shrubs, vines, tall herbs, and in fresh emergent vegetation for breeding. Nests are built on the ground and in shrubs, thickets, emergent vegetation, and small trees within four feet of the ground. The species is seldom found in densely wooded habitats. Primary diet consists of seeds, but song sparrows also consume insects, spiders, and other small invertebrates.

There are no records of the Modesto song sparrow from the CNDDB in the vicinity of the project.[50] This species was not observed during reconnaissance surveys.

47 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

48 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

49 Shuford, W. D., and Gardali, T., editors. 2008. *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1*. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. p. 400-404.

50 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

Purple Martin: Since the mid-1970s, all known purple martin nests in the Central Valley have occurred within highway bridges such as elevated freeways and long overpasses.[51]

This species is known to nest within 200 feet of the Railyards billboard site boundary, at Interstate 5 and I Street, under the I Street Bridge ramp and above the California State Railroad Museum parking lot.[52] Additionally, a breeding colony was recorded under I-80 where it crosses Roseville Road (within 500 feet of the I-80 at Roseville Road billboard site). However, the project sites do not contain nesting habitat features (such as weep holes) that would support this species. This species was observed in the vicinity of the Railyards billboard site during site reconnaissance.

Common Raptor Species: Common raptor species, such as the red-tailed hawk (*Buteo jamaicensis*), are not considered special-status species, because they are not rare or protected under the federal or State Endangered Species Acts. However, nests of these species are still protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the California Fish and Game Code. Common raptor species may nest in trees located in the vicinity of the Downtown project site as well as at the I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park, Business 80 at Del Paso Regional Park Haggin Oaks, and Business 80 at Sutter's Landing Regional Park/American River billboard sites.

Common Migratory Birds: A large number of common bird species are migratory and are afforded protection under the Migratory Bird Treaty Act (MBTA). Examples of common migratory bird species that may use the project sites include northern mockingbird, mourning dove, cliff swallow (*Petrochelidon pyrrhonota*) and western kingbird (*Tyrannus verticalis)*. Occupied nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest.

Invertebrates

Valley Elderberry Longhorn Beetle: Valley elderberry longhorn beetles are unique insects that spend most of their lives within the stems of an elderberry (*Sambucus* spp.) shrub. Females lay their eggs within the bark, where larvae hatch and bore into the stems. Larvae remain within the stems for one to two years. In March, when the elderberries begin to flower, they pupate and emerge as adults. Mating usually occurs in June. Often, the only indicators of their presence are the distinctive small oval openings that are left after larvae pupate and emerge.[53]

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51 Airola, Daniel A., 2009. *Effects of Construction Activities on a Purple Martin Nesting Colony in Sacramento, California.* CVBC Bullettin, Winter 2009, p. 8-16.

52 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

53 U.S. Fish and Wildlife Service, 2009. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) Species Account*. Sacramento Fish and Wildlife Office, Sacramento, CA. May 20, 2009. http://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/Documents/velb.rtf. Accessed on October 18, 2013.

Valley elderberry longhorn beetles utilize elderberry shrubs with a stem diameter of at least one-inch (at ground level) as a host plant.[54] In the Central Valley, elderberry shrubs are fairly common in remaining riparian forests and adjacent uplands.[55] Elderberry shrubs are typically found growing in association with other riparian species, but they can also occur as isolated shrubs in upland areas.[56]

Historically, Valley elderberry longhorn beetles ranged throughout the Central Valley. Currently, they are locally common in scattered populations from Redding to Bakersfield where historical riparian forests still exist.[57]

Valley elderberry longhorn beetle is listed as Threatened by USFWS, with critical habitat designated in 1980 and a final Recovery Plan issued in 1984. Decline has been primarily due to loss of riparian forests. It has been estimated that over 90% of historical riparian forests in the Central Valley have been lost to development or agriculture.[58] Additional threats include inappropriate grazing, levee construction, stream channelization, bank stabilization, and predation by nonnative ants.[59] Although the USFWS 5-year review of the status of valley elderberry longhorn beetle released in September 2006[60] recommended delisting of this species, the Valley elderberry longhorn beetle currently remains federally-listed as Threatened.

Suitable habitat for the Valley elderberry longhorn beetle occurs at the Business 80 at Sutter's Landing Regional Park billboard site. This site supports two mature elderberry shrubs with multiple stems measuring from one to four inches in diameter at the base. Additionally, exit holes were observed within one shrub at this site. Elderberry plants also occur within riparian habitat in the vicinity of the Business 80 at Sutter's Landing Regional Park/American River billboard site; however, these shrubs are located at least 150 feet away from the proposed digital billboard site.

54 U.S. Fish and Wildlife Service, 2009. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) Species Account*. Sacramento Fish and Wildlife Office, Sacramento, CA. May 20, 2009. http://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/Documents/velb.rtf. Accessed on October 18, 2013.

55 University of California, Berkeley, 2013. *Valley Elderberry Longhorn Beetle (Coleoptera: Cerambycidae) species account. Essig Museum of Entomology*. http://essig.berkeley.edu/endins/desmocer.htm. Accessed October 18, 2013.

56 University of California, Berkeley, 2013. *Valley Elderberry Longhorn Beetle (Coleoptera: Cerambycidae) species account. Essig Museum of Entomology*. http://essig.berkeley.edu/endins/desmocer.htm. Accessed October 18, 2013.

57 U.S. Fish and Wildlife Service, 2009. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) Species Account*. Sacramento Fish and Wildlife Office, Sacramento, CA. May 20, 2009. http://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/Documents/velb.rtf. Accessed on October 18, 2013.

58 University of California, Berkeley, 2013. *Valley Elderberry Longhorn Beetle (Coleoptera: Cerambycidae) species account. Essig Museum of Entomology*. http://essig.berkeley.edu/endins/desmocer.htm. Accessed October 18, 2013.

59 U.S. Fish and Wildlife Service, 2009. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) Species Account*. Sacramento Fish and Wildlife Office, Sacramento, CA. May 20, 2009. http://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/Documents/velb.rtf. Accessed on October 18, 2013.

60 U.S. Fish and Wildlife Service, 2006. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) 5-Year Review: Summary and Evaluation*. Sacramento Fish and Wildlife Office, Sacramento, CA. September 2006. p. 19.

Reptiles

Giant Garter Snake: The giant garter snake is one of the largest garter snakes of the genus Thamnophis, with a total length often exceeding five feet. They are diurnal predators taking fish and amphibian adults and larvae. Giant garter snakes will take introduced gamefish and bullfrogs where native species are absent. Winter retreats utilized by the giant garter snake include small mammal burrows and artificial structures such as piles of large rocks or riprap. Adult and juvenile garter snakes emerge from their winter retreats in mid-March or early April with live young born from late July through early September. They are active from the time of emergence to the end of October, with surface activity concentrated from April to July.[61]

Habitat types utilized by giant garter snakes include freshwater marshes, flooded rice fields, sloughs, and drainage canals. Giant garter snakes are absent from larger rivers. Giant garter snakes are largely aquatic, and are usually found within a few feet of water, often between the water level and the top of adjacent banks.[62]

Historically this species ranged in the Sacramento and San Joaquin Valleys from Butte County to Buena Vista Lake in Kern County, although they were probably absent from the northern portion of the San Joaquin Valley.[63] Many of the natural sloughs and marshes have been decimated reducing the current distribution of this species to encompass the area from Butte County to northern Fresno County.

The giant garter snake was listed as Threatened by USFWS and CDFW in 1993 and 1971, respectively. Threats to this species include loss of habitat, flood control practices, changes in agricultural and land management practices, water pollution, and pesticide use.[64]

The shallow freshwater emergent wetland at the San Juan Road billboard site has direct connectivity to water channels located south and potentially east of the billboard site via culverts under roadways. These water channels have connectivity to Fisherman's Lake and agricultural (rice farmland) habitats in the Natomas Basin, which are known to support giant garter snake. The I-5 at Bayou Road site is in Natomas, but does not contain suitable habitat for giant garter snake.

The nearest CNDDB occurrence is located 0.65 miles east of the San Juan Road billboard site. This occurrence was recorded at the intersection of a small east-west canal west of the East Drainage Canal, 1.5 miles south of Del Paso Road in 1986 and is now possibly extirpated. The next nearest occurrence is located 1.85 miles northwest of the San Juan Road billboard site and is

61 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

62 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

63 U.S. Fish and Wildlife Service, 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle.* July 9, 1999. pp. 1-15.

64 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

presumed extant. The sighting was recorded in 2008 in the vicinity of Fisherman's Lake and the West Drainage Canal, in the vicinity of El Centro Road and Del Paso Road. Surveys consistently found giant garter snake presence in this location from 1970's to 2008.

Mammals

Western Red Bat: The western red bat is found throughout North America, ranging from southern Canada down to Central America and to the northern part of South America. Habitat requirements include open, free water for drinking and foraging, undisturbed foliage roost sites that provide protection from predators, and structurally diverse vegetation that support a diversity of insect prey for foraging habitat. Water features are a vital habitat component because bats often drink immediately after emergence and water is an important source and concentration site for insects. This species roosts in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. Roosting habitat is found in woodland borders, rivers, agricultural areas, and urban areas with mature trees. Roost sites have been found in edge habitats adjacent to riparian habitat or open fields, and in orchards. Roost trees are typically large cottonwoods, sycamores, walnuts, and willows associated with riparian habitats.[65]

The western red bat may roost within riparian habitat along the Sacramento and American Rivers. Additionally, the species may use trees at the Haggin Oaks and Business 80 at Sutter's Landing Regional Park billboard sites for roosting. However, it has not been documented in the vicinity of the project sites.[66]

Hoary Bat: The hoary bat is found throughout California. Maternity sites are found in inland areas, specifically in woodland and forest areas that contain medium to large-sized trees that are densely foliaged. Roosting sites are also found in densely foliaged areas with medium to large trees, but this species prefers areas with habitat mosaics. The hoary bat is typically found in areas with access to trees for cover, but forages in open areas or habitat edges. Hoary bats feed primarily on moths, but will take any flying insect. Foraging flights are typically fast and straight.[67]

The hoary bat may roost within riparian habitat along the Sacramento and American Rivers. Additionally, the species may use trees at the Haggin Oaks and Business 80 at Sutter's Landing Regional Park billboard sites for roosting. However, it has not been documented in the vicinity of the project sites.[68]

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65 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

66 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

67 Zeiner, David C., William F. Laudenslayer Jr., and Kenneth E. Mayer, 1988. *California's Wildlife. Volumes 1, 2, and 3*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed September 24, 2013.

68 California Department of Fish and Wildlife, 2013a. California Natural Diversity Database RareFind 4 personal computer program. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

Sensitive Habitats: Sensitive habitats can be defined as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.

No sensitive habitats have been identified within the project sites. The CNDDB reports no sensitive habitat occurrences for the area containing and surrounding the project sites.[69]

Designated Critical Habitat

The USFWS designates critical habitat for certain species listed by the agency as threatened or endangered. “Critical habitat” is defined in Section 3(5)(A) of the Federal Endangered Species Act (FESA) as those lands within a listed species’ current range that contain the physical or biological features considered essential to the species’ conservation, as well as areas outside the species’ current range that are determined to be essential to its conservation. The project sites are not located within designated critical habitat for any federally listed species.

Wildlife Movement Corridors

Wildlife movement corridors are considered an important ecological resource by various agencies (CDFW and USFWS) and under CEQA. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. Areas of human disturbance or urban development can fragment wildlife habitats and impede wildlife movement between areas of suitable habitat. This fragmentation creates isolated “islands” of vegetation that may not provide sufficient area to accommodate sustainable populations, and can adversely affect genetic and species diversity.

No wildlife movement corridors have been identified within the project sites, as the surrounding areas are highly fragmented by urban uses and the project sites are isolated from areas of suitable habitat.

[69] California Department of Fish and Wildlife, 2013a. California Natural Diversity Database RareFind 4 personal computer program. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

4.3.2 Regulatory Setting

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway, Section 10(a) incidental take permit, applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the FESA. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

Migratory Bird Treaty Act

The MBTA enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs. Most actions that result in a taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA.

Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States (U.S.). The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S. Waters of the U.S. refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands. Applicants must obtain a permit from the U.S. Army Corps of Engineers (Corps) for all discharges of dredged or fill material into waters of the U.S., including wetlands, before proceeding with a proposed activity. Waters of the U.S. are under the jurisdiction of the Corps and the Environmental Protection Agency (EPA).

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The Corps cannot issue an individual permit or verify the use of a general nationwide

permit until the requirements of FESA and the National Historic Preservation Act (NHPA) have been met. In addition, the Corps cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities which may result in the discharge of a pollutant into waters of the U.S. must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect State water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

State

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) (together "Boards") are the principal State agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Water Quality Control Act (Porter-Cologne), the Legislature declared that the "state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation..." (California Water Code section 13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the State. Waters of the State determined to be jurisdictional would require, if impacted, waste discharge permitting and/or a Clean Water Act Section 401 certification (in the case of the required USACE permit). The enforcement of the State's water quality requirements is not solely the purview of the Boards and their staff. Other agencies (e.g., the California Department of Fish and Wildlife) have the ability to enforce certain water quality provisions in State law.

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of endangered and threatened species (Fish and Game Code - FGC 2070). Sections 2050 through 2098 of the FGC outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for State-listed species. CDFW maintains a list of "candidate species" which are species that CDFW formally notices as being under review for addition to the list of endangered or threatened species.

Pursuant to the requirements of CESA, an agency reviewing a Proposed Project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the Proposed Project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any Proposed Project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

California Fish and Game Code

Fully Protected Species

Certain species are considered *fully protected*, meaning that the code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

It is possible for a species to be protected under the California Fish and Game Code, but not fully protected. For instance, mountain lion (*Puma concolor*) is protected under Section 4800 et seq., but is not a fully protected species.

Protection of Birds and Their Nests

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under Section 3800, while other specified birds are protected under Section 3505.

Stream and Lake Protection

CDFW has jurisdictional authority over streams and lakes and the wetland resources associated with these aquatic systems under California Fish and Game Code Sections 1600 et seq. through administration of lake or streambed alteration agreements. Such agreements are not a permit, but rather a mutual accord between CDFW and the project proponent. California Fish and Game Code Section 1600 et seq. was repealed and replaced in October of 2003 with the new Section 1600–1616 that took effect on January 1, 2004 (Senate Bill No. 418 Sher). Under the new code, CDFW has the authority to regulate work that will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river lake or stream." CDFW enters into a streambed alteration agreement with the project proponent and can impose conditions in the agreement to minimize and mitigate impacts to fish and wildlife resources. Because CDFW includes under its jurisdiction streamside habitats that may not qualify as wetlands under the federal CWA definition, CDFW jurisdiction may be broader than Corps jurisdiction.

A project proponent must submit a notification of streambed alteration to CDFW before construction. The notification requires an application fee for streambed alteration agreements, with a specific fee schedule to be determined by CDFW. CDFW can enter into programmatic agreements that

cover recurring operation and maintenance activities and regional plans. These agreements are sometimes referred to as Master Streambed Alteration Agreements (MSAAs).

Under Fish and Game Code Section 1602 (Streambed Alteration Agreements), CDFW takes jurisdiction over the stream zone which is defined top of bank or outside extent of riparian vegetation, whichever is the greatest. Within the stream zone, waters of the State of California are typically delineated to include the streambed to the top of the bank and adjacent areas that would meet any one of the three wetland parameters in the USACE definition (vegetation, hydrology, and/or soils). Whereas federal jurisdiction requires meeting all three parameters, in practice meeting one parameter, or even the presence (rather than dominance) of wetland plants in an area associated with a jurisdictional streambed would qualify an area as waters of the State of California. CDFW jurisdiction is not limited to navigable waters or tributaries to navigable waters, however, isolated wetlands and wetlands not associated with a streambed are not subject to CDFW jurisdiction.

Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFW to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. CESA expanded on the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are employed in California: rare, threatened, and endangered.

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants may receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

Rank 2A: Plants presumed extirpated in California, but more common elsewhere.

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

Rank 3: Plants about which more information is needed - A Review List.

Rank 4: Plants of limited distribution - A Watch List.

Local

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to biological resources. These policies guide the location, design, and quality of development to protect biological resources such as wildlife habitat, open space corridors, and ecosystems.

Goal ER 2.1 Natural and Open Space Protection. Protect and enhance open space, natural areas, and significant wildlife and vegetation in the City as integral parts of a sustainable environment within a larger regional ecosystem.

Policies

- **ER 2.1.4 Retain Habitat Areas.** The City shall retain plant and wildlife habitat areas where there are known sensitive resources (e.g., sensitive habitats, special-status, threatened, endangered, candidate species, and species of concern). Particular attention shall be focused on retaining habitat areas that are contiguous with other existing natural areas and/or wildlife movement corridors.

- **ER 2.1.5 Riparian Habitat Integrity.** The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive nonnative plants. If not feasible, adverse impacts on riparian habitat shall be mitigated by the preservation and/or restoration of this habitat at a 1:1 ratio, in perpetuity.

- **ER 2.1.6 Wetland Protection.** The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands, to the extent feasible. If not feasible, the mitigation of all adverse impacts on wetland resources shall be required in compliance with State and Federal regulations protecting wetland resources, and if applicable, threatened or endangered species. Additionally, the City shall require either on- or off-site permanent preservation of an equivalent amount of wetland habitat to ensure no-net-loss of value and/or function.

- **ER 2.1.7 Annual Grasslands.** The City shall preserve and protect grasslands and vernal pools that provide habitat for rare and endangered species. If not feasible, the mitigation of all adverse impacts on annual grasslands shall comply with State and Federal regulations protecting foraging habitat for those species known to utilize this habitat.

- **ER 2.1.10 Habitat Assessments.** The City shall consider the potential impact on sensitive plants for each project requiring discretionary approval and shall require preconstruction surveys and/or habitat assessments for sensitive plant and wildlife species. If the preconstruction survey and/or habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level or industry-recognized (if no protocol has been established) surveys shall be conducted; or (2) presence of the species shall be assumed to occur in suitable habitat on the project site. Survey

Reports shall be prepared and submitted to the City and the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS) (depending on the species) for further consultation and development of avoidance and/or mitigation measures consistent with State and federal law.

- **ER 2.1.12 Natomas Basin Habitat Conservation Plan.** The City shall continue to participate in and support the policies of the Natomas Basin Habitat Conservation Plan for the protection of biological resources in the Natomas Basin.

Goal ER 3.1 Urban Forest. Manage the city's urban forest as an environmental, economic, and aesthetic resource to improve Sacramento resident's quality of life.

Policies

- **ER 3.1.3 Trees of Significance.** The City shall require the retention of trees of significance (such as heritage trees) by promoting stewardship of such trees and ensuring that the design of development projects provides for the retention of these trees wherever possible. Where tree removal cannot be avoided, the City shall require tree replacement or suitable mitigation.

The Proposed Project would be consistent with each of the 2030 General Plan goals and policies listed above. Consistent with Policy ER 2.1.4 and ER 2.1.5, the Proposed Project would not impact plant and wildlife habitat areas where there are known sensitive resources, nor would it impact riparian habitat. As discussed under Impact 4.3-3, the project would mitigate for any impacts to potentially jurisdictional wetland resources in compliance with State and federal regulations and, therefore, would not result in a conflict with Policy ER 2.1.6. Additionally, consistent with Policy ER 2.1.7 and as discussed under Impact 4.3-2, the project applicant would conduct pre-construction surveys within suitable annual grassland habitat for burrowing owl. Pre-construction surveys for special-status species are discussed under Impact 4.3-1 and Impact 4.3-2, thereby demonstrating consistency with Policy ER 2.1.10. Two of the proposed digital billboard sites are located within the Natomas Basin; however, they are located within land designated for urban use. Therefore, the project would be consistent with Policy ER 2.1.12. Consistent with Policy 3.1.3, and as discussed under Impact 4.3-4, trees of significance shall be protected or replaced.

Natomas Basin Habitat Conservation Plan

The Natomas Basin Habitat Conservation Plan (NBHCP) was adopted in 2003 and covers approximately 53,341 acres within the Natomas Basin (Basin). The purpose of the NBHCP is to promote biological conservation of 22 species (with a focus on habitat of the giant garter snake [GGS] and Swainson's hawk), along with economic development and continuation of agriculture within the Basin.[70] The NBHCP established a multi-species conservation program to mitigate the

[70] City of Sacramento, Sutter County, Natomas Basin Conservancy, Reclamation District No. 1000, and Natomas Central Mutual Water Company, 2003. *Final Natomas Basin Habitat Conservation Plan.* April 2003. p. I-1 to I-42.

expected loss of habitat values and incidental take of State and federally protected species that would result from urban development, operation of irrigation and drainage systems, and rice farming.

The NBHCP assumes that all areas within the Basin, but outside of approved development areas, provide habitat for the 22 covered species. It requires that development within the approved development areas under the jurisdiction of the City of Sacramento (City) or County of Sutter (Sutter) must be mitigated at a ratio of 0.5 to 1 (i.e. every acre of development requires one-half acre of compensatory mitigation). The NBHCP authorizes a maximum of 17,500 acres of development in the Basin within the approved development areas, to be mitigated by obligating 8,750 acres in the Basin for permanent habitat and rice cultivation (using an allocation of 50 percent rice, 25 percent managed marsh, and 25 percent "upland" habitat).

Two potential digital billboard sites are located within the Natomas Basin: I-5 at Bayou Road and I-5 at San Juan Road. Both are located within existing developed areas or areas planned for future development in the NBHCP. The City of Sacramento is currently a participant in the NBHCP and would comply with general guidelines and specific mitigation requirements of the NBHCP. Thus, the Proposed Project would be consistent with the NBHCP.

Street Trees

The City recognizes that the planting and preservation of trees enhances the natural scenic beauty, increases life-giving oxygen, promotes ecological balance, provides natural ventilation, air filtration, and temperature, erosion, and acoustical controls, increases property values, improves the lifestyle of residents, and enhances the identity of the city. City Code Chapter 12.56[71] includes provisions to protect City street trees. All removal, trimming, pruning, cutting, or other maintenance activities on any City street tree requires a permit from the director of the department of transportation pursuant to City Code Section 12.56.070. A City street tree is defined as any tree growing on a public street right-of-way that is maintained by the City. The director may require, where appropriate, the replacement of street trees proposed for removal. In such case, the City is responsible for the full cost of tree removal and replacement.

Heritage Trees

Heritage trees promote scenic beauty, enhance property values, reduce soil erosion, improve air quality, abate noise and provide shade to reduce energy consumption. City Code Chapter 12.64[72] sets forth provisions to protect significant specimen trees existing in the city known as "heritage trees." The City Code defines "heritage trees" as follows:

71 City of Sacramento. *Municipal Code Chapters 12.56 and 12.64, Trees Generally* and *Heritage Trees*. www.qcode.us/codes/sacramento. Accessed August 28, 2013.

72 City of Sacramento. *Municipal Code Chapters 12.56 and 12.64, Trees Generally* and *Heritage Trees*. www.qcode.us/codes/sacramento. Accessed August 28, 2013.

1. Any tree of any species with a trunk circumference of one hundred (100) inches or more, which is of good quality in terms of health, vigor of growth and conformity to generally accepted horticultural standards of shape and location for its species.

2. Any native *Quercus* species, *Aesculus californica* or *Platanus racemosa*, having a circumference of thirty-six (36) inches or greater when a single trunk, or a cumulative circumference of thirty-six (36) inches or greater when a multi-trunk, which is of good quality in terms of health, vigor of growth and conformity to generally accepted horticultural standards of shape and location for its species.

3. Any tree thirty-six (36) inches in circumference or greater in a riparian zone. The riparian zone is measured from the centerline of the water course to thirty (30) feet beyond the high water line.

4. Any tree, grove of trees or woodland trees designated by resolution of the city council to be of special historical or environmental value or of significant community benefit.

4.3.3 Analysis, Impacts, and Mitigation

Significance Criteria

The Proposed Project would result in a significant impact on the environment if it would:

1. Result in substantial degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of federally or State threatened or endangered plant or animal species;

2. Interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridor;

3. Substantially reduce the number or restrict the range of a special-status species;

4. Substantially reduce the habitat of a fish or wildlife species;

5. Cause a fish or wildlife population to drop below self-sustaining levels;

6. Threaten to eliminate a plant or animal community;

7. Adversely affect other special-status species or species of special concern;

8. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption or other means; or

9. Violate the City's Street Tree and Heritage Tree Ordinances (City Codes 12.56 and 12.64).

Methodology and Assumptions

The impact analysis focuses on foreseeable changes to the baseline condition in the context of the significance criteria presented above. In conducting the following impact analysis, three principal components of the Guidelines outlined above were considered:

- Magnitude of the impact (e.g., substantial/not substantial);
- Uniqueness of the affected resource (i.e., rarity of the resource); and
- Susceptibility of the affected resource to perturbation (i.e., sensitivity of the resource).

The evaluation of the significance of the following impacts considered the interrelationship of these three components. For example, a relatively small magnitude impact to a State or federally listed species would be considered significant because the species is very rare and is believed to be very susceptible to disturbance. Conversely, a plant community such as California annual grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to result in a significant impact.

This analysis assumes that each offsite digital billboard would require a footprint of approximately 5,000 square feet within the identified site. A maximum of six billboards could be constructed, so a total of approximately 30,000 square feet of undeveloped land could be disturbed.

Downtown Project Site

With regard to significance criterion (1), no habitats or populations of threatened or endangered species of plant or animal are known to occur at the Downtown project site. Therefore, significance criterion (1) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (2), no established native resident or migratory wildlife corridors are known to occur at the Downtown project site. Therefore, significance criterion (2) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (3), no special-status wildlife or plant populations are known to occur at or depend on resources within the Downtown project site. Therefore, significance criterion (3) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (4), the Downtown project site has very limited natural features (mature ornamental trees) that would provide suitable habitat for wildlife. The mature ornamental trees located on the project site have low potential to support nesting raptor or migratory bird species due to the presence of heavy urban activities. Therefore, significance criterion (4) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (5), the Downtown project site does not provide significant habitat for any fish or wildlife populations and thus would not cause a drop of any wildlife

populations to below self-sustaining levels. Therefore, significance criterion (5) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (6), no natural habitat types or special-status wildlife and plant populations are known to occur at the Downtown project site. Therefore, significance criterion (6) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criterion (8), no wetlands or other waters are present at the Downtown project site. Therefore, significance criterion (8) does not apply to the Downtown project site, and no further analysis is required.

With regard to significance criteria 7 and 9, the Proposed Project may remove protected trees at the Downtown project site. Tree removal may also impact special-status species that have the potential to occur at the Downtown project site. Therefore, impacts to special-status species and protected trees are analyzed in detail below.

Offsite Digital Billboards

With regard to significance criterion (2), no established native resident or migratory wildlife corridors are known to occur at the proposed digital billboard sites. Therefore, significance criterion (2) does not apply to the proposed digital billboard sites, and no further analysis is required.

With regard to significance criterion (4), the proposed digital billboard sites do not provide suitable habitat for fish; additionally, habitat quality at the proposed digital billboard sites is low or sub-optimal for many species and thus Proposed Project activities would not substantially reduce suitable habitat for fish or wildlife species. Therefore, significance criterion (4) does not apply to the proposed digital billboard sites, and no further analysis is required.

With regard to significance criterion (5), the proposed digital billboard sites do not provide significant habitat for any fish or wildlife populations and thus would not cause a drop of any wildlife populations to below self-sustaining levels. Therefore, significance criterion (5) does not apply to the proposed digital billboard sites, and no further analysis is required.

With regard to significance criterion 9, the project would not remove any protected trees at the proposed digital billboard sites. Therefore, significance criterion (9) does not apply to any of the proposed digital billboard sites, and no further analysis is required.

With regard to significance criteria 1, 3, 6, and 7, the project may impact special-status species or their habitats at individual potential digital billboard sites (as discussed below). With regard to significance criteria 8, the Proposed Project may impact wetlands or other waters of the U.S. at the I-5 at San Juan Road and SR 99 at Calvine Road digital billboard sites. Therefore, potential impacts to special-status species and wetlands or other waters of the U.S. are analyzed in detail below.

Impacts and Mitigation Measures

Impact 4.3-1: Construction of the Proposed Project could disturb or harm listed wildlife species and/or destroy or degrade their habitat.

Downtown Project Site

There are no listed species that would occur within the Downtown project site, largely because the site itself and surrounding area are highly urbanized. Therefore, ***no impact*** would occur.

Offsite Digital Billboards

Construction

As shown in Table 4.3-1, three proposed digital billboard sites have the potential to support federally and State listed wildlife species, specifically valley elderberry longhorn beetle (federally threatened but proposed for delisting) and giant garter snake (federally and State listed threatened), as discussed below. Potential impacts to the State-listed Swainson's hawk are discussed under Impact 4.3-2, below. Potential significant impacts on federally-listed wildlife associated with the Proposed Project include:

- Direct mortality resulting from the movement of equipment and vehicles through the project area;
- Loss of aquatic foraging habitat for giant garter snake resulting from the filling of seasonal or perennial wetlands; and
- Habitat loss and fragmentation from the permanent removal of suitable host elderberry plants.

The three proposed digital billboard sites that could support federally listed species are:

- **Business 80 at Sutter's Landing Regional Park/American River:** This site is located approximately 220 feet west of the American River and 150 feet from the nearest elderberry shrubs (*Sambucus nigra* ssp. *caerulea*); additional elderberry shrubs occur approximately 400 feet west of the proposed site. Construction activities would be confined to the Proposed Project site boundary, so they would not disturb or destroy elderberry shrubs and/or the valley elderberry longhorn beetle. Therefore, no impacts on federally listed species would occur at this site.
- **Business 80 at Sutter's Landing Regional Park:** Two elderberry shrubs were observed within the proposed billboard site, one of which contained exit holes on stems measuring one to four inches in diameter. The USFWS considers any construction activities within 100 feet of an elderberry shrub dripline as having a potential impact on valley elderberry longhorn beetle. Because these shrubs are located within the project boundaries and within 100 feet of construction activities, proposed activities at this site may indirectly affect valley elderberry longhorn beetle through ground disturbance, removal of associated vegetation, and water quality impacts. Direct impacts to elderberry shrubs are not

anticipated. Construction activities could result in indirect impacts on suitable habitat, thereby resulting in the mortality of a shrub and loss of valley elderberry longhorn beetle habitat.

- **I-5 at San Juan Road:** A freshwater emergent wetland feature located at this proposed billboard site is hydrologically connected to drainage channels located south and east of the site. These drainage channels provide suitable aquatic habitat for giant garter snake. In addition, giant garter snake has been known to occur within five miles north and east of the site. Therefore, there is a low potential for this species to forage within the seasonal wetland at the project site due to the site having a hydrologic connection to suitable aquatic habitat. Thus, construction at this location may adversely affect giant ga**r**ter snake through removal of foraging habitat, accidental harm or take of the species, and water quality impacts to suitable habitat.

Because the above federally listed species could be disturbed or harmed and/or their habitat degraded at two of the proposed digital billboard sites, the impact on federally listed wildlife is considered ***significant.***

Mitigation Measures

4.3-1(a) (DB – Business 80 at Sutter's Landing Regional Park)

(1) *Prior to construction at the Business 80 at Sutter's Landing Regional Park digital billboard site, the site shall be surveyed for the presence of the valley elderberry longhorn beetle and its elderberry host plant by a qualified biologist in accordance with USFWS protocols. If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the project site, or are otherwise located where they may be directly or indirectly affected by the Proposed Project, minimization and compensation measures, which include transplanting existing shrubs and planting replacement habitat (conservation plantings), are required (see below). Surveys are valid for a period of two years. Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with all stems measuring 1.0 inch or less in diameter at ground level.*

(2) *For shrubs with stems measuring 1.0 inch or greater, the City shall ensure that elderberry shrubs within 100 feet of proposed development be protected and/or compensated for in accordance with the "U.S. Fish and Wildlife Services' (USFWS) Conservation Guidelines for the Valley Elderberry Longhorn Beetle*[73] *and the Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office."*

[73] U.S. Fish and Wildlife Service, 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*. July 9, 1999. p. 1-15.

4.3-1(b) (DB – I-5 at San Juan Road)

(1) *No more than 24-hours prior to the commencement of construction activities at the I-5 at San Juan Road digital billboard site, a preconstruction survey shall be conducted to survey for* giant *garter snakes by a USFWS-approved biologist. The biologist shall provide the USFWS with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The project site shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.*

(2) *Construction activity within giant garter snake habitat (e.g., riverine and fresh* emergent *wetland) shall be conducted between May 1 and September 30. This is the active period for the snake and direct mortality is lessened as snakes are expected to actively move and avoid danger. If it appears that construction activity may go beyond September 30, the City shall contact the USFWS as soon as possible, but not later than September 15 of the year in question, to determine if additional measures are necessary to minimize take. Construction activities within 200 feet from the banks of aquatic snake habitat will be avoided during the snake's inactive season. If this is not feasible, the City shall consult with USFWS to determine measures to avoid impacts to giant garter snake. If project activities are approved to continue into the inactive season, a USFWS-approved biologist shall inspect construction-related activities daily during this period for unauthorized take of federally listed species or destruction of their habitat. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to the giant garter snake.*

(3) *Any dewatered habitat shall remain dry for at least 15 consecutive days after April 15 and prior to excavating or filing the dewatered habitat.*

(4) *A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the snake, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under FESA, and an explanation of the relevant terms and conditions of project permits. Written documentation of the training shall be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.*

(5) *Prior to the commencement of construction activities, high visibility fencing shall be erected around the habitats of giant garter snake to identify and protect these designated areas from encroachment of personnel and equipment. These areas shall be avoided by all construction personnel. The fencing shall be inspected by the Contractor before the start of each work day and maintained by the Contractor until completion of the project. The fencing may be removed only when the construction of the project is completed. Fencing shall be established in upland habitat immediately adjacent to aquatic snake habitat and extending up to 200 feet from construction activities. Silt fencing, if properly installed and maintained, may serve as suitable snake exclusion fencing.*

(6) *Signs shall be posted by the Contractor every 50 feet along the edge of the GGS habitat, with the following information: "This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected*

by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and shall be maintained by the Contractor for the duration of construction.

(7) *The Contractor shall minimize the potential for harm, harassment, and direct* mortality *of the snake resulting from project-related activities by implementation of the project. The Contractor shall ensure that the temporary loss of giant garter snake habitat is confined to the Proposed Project site.*

(8) *Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.*

(9) *Temporary impacts shall be restored to pre-project conditions. Areas subject to temporary impacts shall be limited to one season (the calendar year period between May 1 and October 1) and be restored within two seasons. Permanent impacts to giant garter snake habitat shall be replaced at a 3:1 ratio which must include both upland and aquatic habitat components. A portion of the mitigation for permanent loss of wetlands at a ratio no less than 1:1 may fulfill a portion of the 3:1 mitigation obligation for permanent impacts to giant garter snake habitat. This mitigation may be fulfilled through in-kind, onsite or off-site, out-of-kind mitigation as approved by the U.S. Fish and Wildlife Service and the Corps.*

Impact Significance After Mitigation: With the implementation of Mitigation Measures 4.3-1(a) and 4.3-1(b), the Proposed Project would not cause a substantial reduction in local population size, reduce reproductive success, or create habitat fragmentation to federally or State listed species. Thus, impacts to threatened or endangered species from implementation of the Proposed Project at the Business 80 at Sutter's Landing Regional Park and I-5 at San Juan Road digital billboard sites would be mitigated to a ***less-than-significant*** level.

Impact 4.3-2: Construction of the Proposed Project could disturb nesting raptors, migratory birds, and/or maternity roosts for special-status bat species.

As shown in Table 4.3-1, the Downtown project site and six proposed digital billboard sites have the potential to (or are located in the vicinity of habitat features that could) support raptors, migratory birds, and/or special-status bat species. Direct impacts on nesting raptors or migratory birds or colonies of bats or their habitat could result in substantial lowered reproductive success or habitat loss, thereby potentially adversely affecting local population levels. Potential significant impacts on raptors, migratory birds, and special-status bats associated with the Proposed Project include:

- Loss of breeding, foraging, roosting, and refuge habitat resulting from the permanent removal of suitable trees;
- Abandoned eggs or young and subsequent nest/maternity roost failure for raptors, migratory birds, and special-status bats as a result of construction-related noise and increased human presence; and

- Disruption of bird and bat breeding and foraging behavior due to the introduction of nighttime lighting.

This impact is ***potentially significant***.

Downtown Project Site

Construction

Approximately 140 trees on and around the Downtown project site could be removed to accommodate project development. The mature trees on-site provide marginal nesting habitat for raptors and other migratory bird species. While the Downtown project site is situated in a highly urbanized area with constant pedestrian and traffic activity, mature trees within and adjacent to the project site can provide perching and nesting habitat. Construction activities, including the removal of mature trees at the Downtown project site, could therefore result in the abandonment of active raptor nests or destruction of migratory bird nests.

If tree removal occurs outside of the general bird nesting season (February 1 through August 31), the loss of mature trees on-site would not result in the loss of active nests, and no impact would occur. If tree removal occurs during the nesting season, the loss of mature trees on-site could result in destruction of nests or disturb nesting birds to the extent that they abandon the nest. This would be a ***significant impact***.

Offsite Digital Billboards

Construction

The six digital billboard sites that could support nesting raptors, migratory birds or special-status bats are:

- **Business 80 at Del Paso Regional Park/Haggin Oaks:** This site contains mature ornamental trees, which could provide suitable nesting habitat for raptors and other migratory birds, and roosting sites for special-status bat species. Additionally, it is located in the vicinity of the Alister Mackenzie Golf Course, which supports many mature trees and potential nesting habitat (annual grassland) for burrowing owl. The Proposed Project would remove 52 ornamental trees (*Casuarina* sp.) at this location to facilitate billboard installation. If construction occurs during the bird nesting and bat breeding seasons, the removal of suitable nesting/roosting trees could result in the loss of nests and or roosts, if present. Additionally, construction activities could disturb or disrupt the breeding efforts of burrowing owl if this species is nesting adjacent to the project site. This would be a ***significant impact***. The installation of the digital billboard would not affect a significant amount of foraging habitat and would be installed within an existing urban (landscaped) area.

- **Business 80 at Sutter's Landing Regional Park/American River:** Trees located within 500 feet of the project site could provide suitable nesting habitat for raptors and other migratory bird species. Although the Proposed Project would not remove trees in the

vicinity of the site, there is potential for construction activities to indirectly disrupt nesting efforts during the nesting season through increased noise and human presence. This is considered a ***significant impact***.

- **Business 80 at Sutter's Landing Regional Park:** Eucalyptus trees located within the project site could provide suitable nesting habitat for raptors and other migratory birds, and roosting sites for special-status bat species. The Proposed Project could remove trees to facilitate the installation of a digital billboard and this activity could affect nesting raptors or other migratory birds as well as roosting sites for special-status bats during the nesting/roosting seasons if active nests or maternity roosts are present. This would be a ***significant impact***.

- **I-5 at Water Tank:** Ornamental trees located adjacent to this project site could provide suitable nesting habitat for raptors and other migratory bird species. Additionally, cliff swallow nests have been observed on the bottom of the water tank, approximately 100 feet above the ground. Although the Proposed Project would not directly affect trees in the vicinity of the site, there is potential for construction activities to disrupt nesting efforts during the nesting season through increased noise and human presence. This would be a ***significant impact***.

- **I-5 at Sacramento Railyards:** A known population of purple martin is located within 200 feet of the Railyards billboard site boundary.[74] Remaining local populations in Sacramento nest exclusively in weep holes under elevated freeways and bridges. Because this project site does not contain weep holes or suitable crevices for purple martins to nest within, installation of a digital billboard at this location would not result in direct impact to purple martins. Additionally, the project site is located in an area that is partially disturbed due to active construction occurring directly north of the project site. Thus, construction at this location would not contribute substantially to disturbance levels experienced by purple martins at the site. Therefore, the impact would be ***less than significant*** at this site.

- **I-80 at Roseville Road:** An occurrence of purple martin has been recorded under I-80 where it crosses Roseville Road;[75] this location is within 500 feet of the proposed billboard site. Because this project site does not contain weep holes or suitable crevices for purple martins to nest within, installation of a digital billboard at this location would not result in direct impact to purple martins. Due to existing heavy traffic and urban activities at this location, construction of a digital billboard would not contribute substantially to disturbance levels experienced by purple martins at the site. Therefore, the impact would be ***less than significant*** at this site.

74 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

75 California Department of Fish and Wildlife, 2013a. *California Natural Diversity Database RareFind 4 personal computer program*. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 5 and 11, 2013. Data set expires March 3, 2014.

The project would not significantly affect Swainson's hawk foraging habitat. Suitable foraging habitat occurs at the following proposed billboard sites:

- Business 80 at Sutter's Landing Regional Park; however, the proposed billboard location is unlikely to be in the annual grassland area and impacts would be minimal.
- SR 99 at Calvine Road; however, the billboard footprint at this site would be very small (5,000 sf) and annual grassland at the potential billboard location is of low quality for Swainson's hawk foraging habitat.
- I-5 at San Juan Road; however, the billboard footprint at this site would be very small (5,000 sf) and likely in a more ruderal area where foraging habitat is of low quality.

Because the billboards are unlikely to be located in annual grassland habitats, the foraging habitat at these sites is of low quality and impacts related to the billboard footprint would be small (5,000 sf), impacts to Swainson's hawk foraging habitat would be ***less than significant***.

In summary, nesting raptors and migratory birds, and roosting special-status bat species, could be subjected to impacts during the nesting/roosting seasons at the Downtown project site and the Business 80 at Del Paso Regional Park/Haggin Oaks, Business 80 at Sutter's Landing Regional Park, and I-5 at Water Tank billboard sites. Because such disturbances could result in the abandonment of nests/maternity roosts and/or degrade suitable nesting/roosting habitat, this is considered a ***significant impact***.

Impacts on purple martin at the I-5 at Sacramento Railyards and I-80 at Roseville Road billboard sites are expected to be ***less than significant*** due to existing levels of noise, ambient lighting, and human disturbance at these locations.

Operation

Some animals are extremely sensitive to light cues, which influence their physiology and behaviors. The proposed billboard sites discussed above are located within or adjacent to suitable foraging and nesting habitat for migratory and special-status bird and bat species. In particular, artificial night light sources may influence migratory behavior in birds if the light source appears as a point source of light from above. Point source lighting may attract birds to the source of light and cause disorientation, potential exposure to predators, and stress or exhaustion.

Artificial lighting may also indirectly affect birds and bats by increasing the nocturnal activity of predators and/or causing birds and bats to avoid well-lit areas. Birds and bats may be deterred from nesting or roosting in trees and shrubs in the vicinity of the proposed digital billboard locations. Thus, nesting/roosting habitat availability and quality for birds and bats may be reduced in areas with introduced nighttime lighting.

However, based upon the following factors, lighting produced by the proposed digital billboards would not significantly affect the migration or nesting activities of birds and bats in the vicinity of the proposed billboard locations for the following reasons:

- The proposed digital billboards are designed to emit light from the face of the billboard (single-sided) and light emission is produced by light emitting diodes (LEDs) which are laid out in a grid and shielded such that the billboard is visible from direct view and less visible as the viewing position is shifted to a 35° angle from center. At a sufficient angle, the LED lights would not be visible. Consequently, the viewing angle will be narrow enough to preclude attracting migratory birds when birds are flying more than 35° above center of the sign's beam angle. Additionally, the billboard light would be no more than 0.3 lumens at 250 feet from the billboard face. Thus, lighting from the billboard would not create a significant point source (as viewed from above) that would attract birds migrating at night.

- The proposed digital billboards would be located adjacent to a major highway (Business 80), urban areas, or near structures that are lighted during the night (e.g., the water tank at the I-5 at Water Tank site). Thus, operation of the proposed digital billboards would not significantly increase ambient lighting at the proposed digital billboard sites. Additionally, birds and bats that typically nest or roost in urban environments are not likely to be deterred by the introduction of night lighting. However, those that may be deterred by lighting from the proposed digital billboards in areas adjacent to the American River or Del Paso Regional Park would have abundant similar habitat available to them elsewhere along the American River or within Del Paso Regional Park.

In summary, because the billboards will not produce a direct light source as perceived by migratory birds and the billboards will not significantly contribute to existing ambient lighting, impacts on migratory birds and special-status bats would be ***less than significant***.

Mitigation Measure

4.3-2(a) (ESC/SPD/DB – I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park, Business 80 at Del Paso Regional Park/Haggin Oaks, and Business 80 at Sutter's Landing Regional Park/American River)

The project applicant shall conduct any tree removal activities required for project construction outside of the migratory bird and raptor breeding season (February 1 through August 31) where feasible. For any construction activities that will occur between February 1 and August 31, the applicant shall conduct preconstruction surveys in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds. Surveys shall be conducted by a qualified biologist. In addition, all trees slated for removal during the nesting season shall be surveyed by a qualified biologist no more than 48-hours before removal to ensure that no nesting birds are occupying the tree. For Swainson's hawk nesting habitat, surveys shall be conducted in accordance with the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley).[76]

[76] Swainson's Hawk Technical Advisory Committee, 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. May 31, 2000.

If active nests are found during the survey, the applicant shall implement appropriate mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone as, approved by CDFW, around the active nest.

Measures may include, but would not be limited to:

(1) Maintaining a 500-foot buffer around each active raptor nest. No construction activities shall be permitted within this buffer. For migratory birds, a no-work buffer zone shall be established, approved by CDFW, around the active nest. The no-work buffer may vary depending on species and site specific conditions as approved by CDFW.

(2) Depending on conditions specific to each nest, and the relative location and rate of construction activities, it may be feasible for construction to occur as planned within the buffer without impacting the breeding effort. In this case (to be determined on an individual basis), the nest(s) shall be monitored by a qualified biologist during construction within the buffer. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until the nest is no longer active.

4.3-2(b) (DB – Business 80 at Del Paso Regional Park/Haggin Oaks)

Pre-construction surveys for burrowing owls shall be conducted by a qualified biologist (as approved by CDFW) within 30-days prior to the start of work activities at the Business 80 at Del Paso Regional Park/Haggin Oaks billboard site where land construction is planned in known or suitable habitat. If construction activities are delayed for more than 30 days after the initial preconstruction surveys, then a new preconstruction survey shall be required. All surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation.[77]

(1) If burrowing owls are discovered in the Proposed Project site vicinity during construction, the CDFW-approved project biologist shall be notified immediately. Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

(2) Occupied burrows during the nesting season shall be avoided by establishment of a no-work buffer of 250-foot around the occupied/active burrow. Where maintenance of a 250-foot no-work buffer zone is not practical, the City shall consult with the CDFW to determine appropriate avoidance measures. Burrows occupied during the breeding season (February 1 to August 31) will be closely monitored by the biologist until the young fledge/leave the nest. The onsite biologist shall have the authority to stop work if it is determined that construction related activities are disturbing the owls.

[77] California Department of Fish and Game, 2012. *Staff Report on Burrowing Owl Mitigation*. March 7, 2012. Sacramento, CA. p. 3-34.

(3) If approved by CDFW, the biologist may undertake passive relocation techniques by installing one-way doors in active and suitable burrows (that currently do not support eggs or juveniles). This would allow burrowing owls to escape but not re-enter. Owls should be excluded from the immediate impact zone and within a 160-foot buffer zone by having one-way doors placed over the entrance to prevent owls from inhabiting those burrows.

4.3-2(c) (DB – Business 80 at Del Paso Regional Park/Haggin Oaks and Business 80 at Sutter's Landing Regional Park)

If tree removal activities commence on the project site during the breeding season of special-status bat species (April 1 to August 31), then a field survey shall be conducted by a qualified biologist to determine whether active roosts are present on site or within 50 feet of the project boundaries. Field surveys shall be conducted early in the breeding season before any construction activities begin, when bats are establishing maternity roosts but before pregnant females give birth (April through early May). If no roosting bats are found, then no further mitigation is required.

If roosting bats are found, then disturbance of the maternity roosts shall be avoided by halting construction until the end of the breeding season or a qualified bat biologist excludes the roosting bats in consultation with CDFW.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 4.3-2(a), 4.3-2(b), and 4.3-2(c), the Proposed Project would not cause a substantial reduction in local population size or reduce reproductive success to raptors, migratory birds, and special-status bat species. Thus, impacts to raptors, migratory birds, and special-status bats from implementation of the Proposed Project at the Downtown project site and the proposed digital billboard sites would be mitigated to a ***less-than-significant*** level.

Impact 4.3-3: The Proposed Project could remove, fill, interrupt or degrade protected wetlands.

Downtown Project Site

There are no federally-protected wetlands in the Downtown project site. Therefore, ***no impact*** would occur.

Offsite Digital Billboards

Wetlands and other waters of the U.S. could be affected by project construction through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities. Such activities could result in long-term degradation of federally or state-protected aquatic features and fragmentation or isolation of an important wildlife habitat. Formal delineations of potentially jurisdictional wetlands and other waters of the U.S. within the project study area have not been conducted. However, potentially jurisdictional wetlands and other waters of the U.S. were noted during reconnaissance surveys at the following proposed digital billboard sites.

- **I-5 at San Juan Road:** This site is located adjacent to the existing city water drainage system. The site currently supports approximately 0.06 acres of freshwater emergent wetland that has a direct hydrological connection via a culvert under San Juan Road to a water drainage system that runs south and east of the site. The exact location and footprint of the potential digital billboard at this site has not been determined. If the digital billboard encroached into the wetland, it would result in its loss.

- **SR 99 at Calvine Road:** The study area for this site encompasses upland annual grassland habitat and a portion of a detention basin. The exact location and footprint of the potential digital billboard at this site has not been determined. If the digital billboard encroached into the basin, it would result in impacts to potentially jurisdictional waters. Elevations within the detention basin are variable and several areas appear to be potentially jurisdictional swales or seasonal wetlands. Project activities would be conducted in the upland area adjacent to the basin, not within the basin. However, ground excavations and other construction-related activities could indirectly affect potentially jurisdictional swales or seasonal wetlands located within the basin through ground disturbance and subsequent water quality impacts.

The potential loss of the wetland resources at the I-5 at San Juan Road billboard site and the potential degradation of potential waters of the U.S. at the SR 99 at Calvine Road billboard site are considered ***significant impacts***.

Mitigation Measure

4.3-3 (DB – I-5 at San Juan Road and SR 99 at Calvine Road)

(a) *The City shall require that the applicant(s) for the I-5 at San Juan Road and SR 99 at Calvine Road proposed billboard site (if the project encroaches into the detention basin) conduct a formal wetland delineation of wetlands and other waters of the U.S. within those project sites. The wetland delineation shall be submitted to the Corps for verification. If jurisdictional wetlands or other waters of the U.S. are not present, no further action is required.*

(b) *If jurisdictional wetlands or other waters of the U.S. are present, the applicant shall avoid them if feasible. The Proposed Project shall minimize disturbances and construction footprints near avoided wetlands and other waters of the U.S to the extent feasible.*

(c) *If avoidance is not feasible, then the applicant shall demonstrate that there is no net loss of wetlands through compensation. This measure may be satisfied by obtaining a Section 404 permit. To ensure that there is no net loss of wetland habitat and no significant impact to potential jurisdictional features, the project shall compensate for impacted wetlands at a ratio no less than 1:1. Compensation shall take the form of wetland preservation, enhancement or creation in accordance with Corps and CDFW mitigation requirements, as required under project permits. Preservation and creation may occur on-site (through a conservation agreement) or off-site (through purchasing credits at a Corps approved mitigation bank).*

(d) *at the I-5 at San Juan Road proposed billboard site, the project applicant shall compensate for loss of habitat in the Natomas Basin at a 0.5-to-1.0 ratio, per the requirements of the NBHCP.*

State and federal regulations require that the project applicant avoid or minimize impacts on wetlands and waters and develop appropriate protection for wetlands. Wetlands that cannot be avoided must be compensated to result in "no net loss" of wetlands to ensure that the project would maintain the current functions and values of onsite wetland habitats. If it is determined that the project will impact waters of the U.S., the project would obtain all required permit approvals from the Corps, RWQCB, CDFW and any other agencies with permitting responsibilities for construction activities within jurisdictional features.

With the implementation of Mitigation Measure 4.3-3, there would be a no net loss of wetlands and potential indirect impacts to wetlands would be avoided or mitigated to the extent feasible. Thus, impacts to wetlands and other waters of the U.S. from implementation of the Proposed Project at the I-5 at San Juan Road and SR 99 at Calvine Road billboard sites would be mitigated to a ***less-than-significant level***.

Impact 4.3-4: The Proposed Project could require removal of street trees and/or heritage trees.

Downtown Project Site

Construction

Approximately 140 trees on and around the project site could be removed, including three heritage trees and numerous street trees, as shown in Figure 4.3-16 and Appendix J. These trees are protected by Sacramento City Code Chapters 12.56 and 12.64. Additionally, project activities could harm retained trees by direct impacts to tree limbs, trunk, or roots, or indirect impacts through changes in hydrology or water quality impacts. The loss of street and/or heritage trees would be ***significant.***

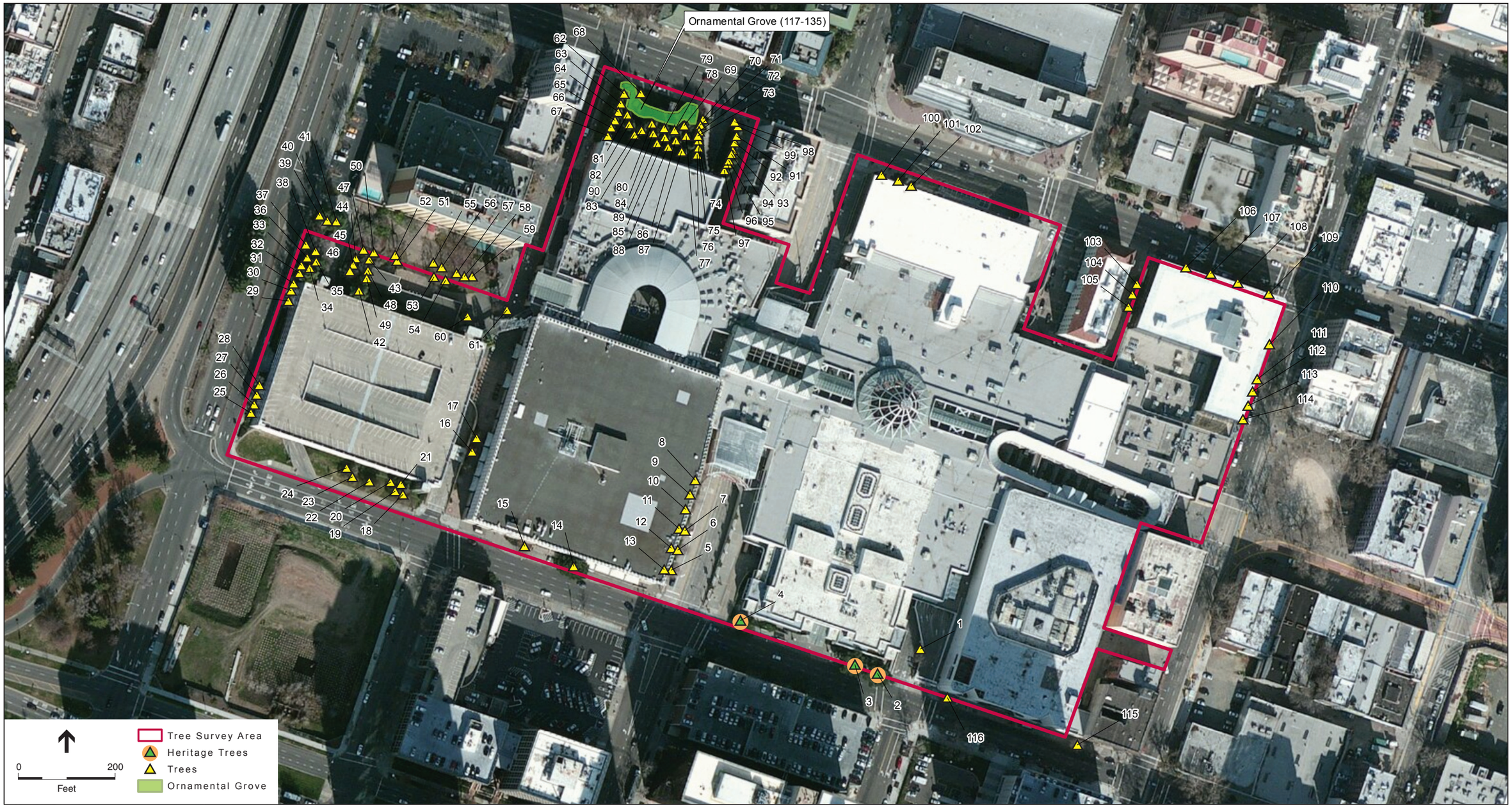
Offsite Digital Billboards

There are no trees meeting the City standard for heritage and street trees at any of the potential billboard sites. Therefore, there would be ***no impact***.

Mitigation Measure

4.3-4 (ESC/SPD)

The applicant for any project within the Downtown project site that would remove street and/or heritage trees shall submit a tree removal permit application for the removal of protected trees, as defined by City Codes 12.56 and 12.64. The application shall include proposed mitigation measures to protect retained trees and proposed replacement measures to mitigate for the loss of tree resources (replacement measures may be



SOURCE: Microsoft, 2012; ESA, 2013

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Figure 4.3-16
Tree Survey

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determined in consultation with the City's Director of the Department of Public Works). Several standard tree protection measures for retained trees are listed below; these measures may be revised in consultation with the City's Director of the Department of Transportation as appropriate.

- *A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The formula typically used is defined as 1.5 times the radius of the dripline or 5 feet from the edge of any grading, whichever is greater. The TPZ may be adjusted on a case-by-case basis after consultation with a certified arborist.*

- *The TPZ of any protected trees shall be marked with permanent fencing (e.g., post and wire or equivalent), which shall remain in place for the duration of construction activities in the area. Post "keep out" signs on all sides of fencing.*

- *Construction-related activities, including grading, trenching, construction, demolition, or other work shall be prohibited within the TPZ. No heavy equipment or machinery shall be operated within the TPZ. No construction materials, equipment, machinery, or other supplies shall be stored within a TPZ. No wires or signs shall be attached to any tree. Any modifications must be approved and monitored by a certified arborist.*

- *Prune selected trees to provide necessary clearance during construction and to remove any defective limbs or other parts that may pose a failure risk. All pruning shall be completed by a certified arborist or tree worker and adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.*

- *The TPZs of protected trees shall be monitored on a weekly basis.*

- *A certified arborist shall monitor the health and condition of the protected trees and, if necessary, recommend additional mitigations and appropriate actions. This shall include the monitoring of trees adjacent to project facilities in order to determine if construction activities (including the removal of nearby trees) would affect protected trees in the future.*

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-4, the project would not conflict with local policies or ordinances that protect locally significant biological resources, including heritage and street trees. The loss of heritage and street trees would be replaced at a ratio determined in consultation with the City's Director of the Department of Transportation and construction-related impacts to retained trees would be reduced or mitigated to the extent feasible. Thus, impacts to protected trees from implementation of the Proposed Project at the Downtown project site would be mitigated to a ***less-than-significant*** level.

Impact 4.3-5: The Proposed Project could install a digital billboard within a habitat mitigation area, resulting in a net loss in restorable area.

Offsite Digital Billboards

The former 28th Street Landfill was designated as Sutter's Landing Regional Park in 1995. As part of the landfill post-closure activities, a one-acre retention basin was established to capture runoff from the former landfill property. Over time, approximately 100-200 trees grew in the basin, including young cottonwood trees. This grove of trees may have provided habitat for raptors and other wildlife.[78] Due to illegal camping activities in this area, the trees within the basin were removed in September 2011. As part of mitigation for environmental impacts of tree removal, the 28th Street Landfill Tree Removal Mitigation Committee was established to identify the environmental impacts and develop a restoration plan to mitigate for lost habitat values per Resolution No. 2011-609, adopted by the Sacramento City Council November 8, 2011.[79]

To replace the lost habitat values at Sutter's Landing Regional Park, the Committee recommended restoring the City-owned portion of the "Triangle" area that sits immediately east of the retention basin and the Union Pacific Railroad property by planting native oak trees and other vegetation. The Business 80 at Sutter's Landing Regional Park/American River potential billboard site is located within this "Triangle" mitigation area. Implementation of the Proposed Project may conflict with the compensatory mitigation goals identified by Resolution No. 2011-609, because a portion of the "Triangle" mitigation area would be occupied by the proposed digital billboard footprint and not available for restoration. Additionally, installation of a digital billboard in this location may result in temporary construction-related impacts to the restoration area. This impact is ***potentially significant***.

Mitigation Measure

4.3-5 (DB – Business 80 at Sutter's Landing Regional Park/American River)

To mitigate for potential temporary and permanent impacts to Sutter's Landing Regional Park's "Triangle" mitigation area, the applicant shall restore all temporary project-related impacts immediately following the completion of installation of the digital billboard. The applicant shall implement additional site restoration and enhancement within the "Triangle" mitigation area to ensure no net loss of habitat values. Restoration and enhancement activities may include the planting of additional oak trees and other vegetation (native shrubs, vines, forbs, and/or grasses) consistent with the 28th Street Landfill Tree Removal Mitigation Committee Report.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-5, the project would not conflict with the mitigation goals of the 28th Street Landfill Tree Removal Mitigation Committee or Resolution No. 2011-609, adopted by the Sacramento City Council on

78 28th Street Landfill Tree Removal Mitigation Committee, 2012. *Sutter's Landing Regional Park, Report to the Sacramento City Council*. March 13, 2012.

79 Sacramento City Council, 2011. *Resolution No. 2011-609, 28th Street Landfill Tree Removal Mitigation Committee*. Adopted November 8, 2011.

November 8, 2011. Additionally, implementation of Mitigation Measure 4.3-5 would ensure that the project would not result in the loss of habitat values at the "Triangle" mitigation area. Impacts on habitat values within the "Triangle" mitigation area at the Business 80 at Sutter's Landing Regional Park/American River digital billboard site thus would be mitigated to a ***less-than-significant*** level.

Cumulative Impacts

The cumulative context for biological resources varies depending on the biological resource. For raptors, migratory birds, bats, and wetland resources, the context includes areas contained within the greater Central Valley from Oroville down to the Merced River and from the western Sierra Nevada foothills to the eastern foothills of the Coast Ranges. For special-status species that have distinct populations or occurrence areas, the context includes the Natomas Basin (giant garter snake) and Greater Sacramento Area (valley elderberry longhorn beetle and purple martin). The cumulative context for tree resources is within the City of Sacramento. The primary cumulative effect of the Proposed Project, when considered with other projects within the cumulative context, would be the direct loss of wetlands (San Juan Road and SR 99 at Calvine Road billboard sites), raptor and migratory bird nesting habitat (trees) (Downtown project site and Haggin Oaks, Business 80 at Sutter's Landing Regional Park/American River, Business 80 at Sutter's Landing Regional Park, and I-5 at Water Tank billboard sites), giant garter snake habitat (San Juan Road billboard site), and host plants (elderberry shrubs) for the valley elderberry longhorn beetle (Business 80 at Sutter's Landing Regional Park site).

Impact 4.3-6: The Proposed Project would contribute to the cumulative harm to special-status species or species of special concern and/or loss of degradation of their habitat.

The historic and ongoing loss of special-status species and native habitat on a regional scale has occurred as natural habitats have been converted to urban and agricultural development. Much of the suitable habitat for native species was lost over the last 150 years due to the conversion to agricultural uses and settlement by Europeans. The conversion or loss of plant and wildlife habitat on a regional level as a result of cumulative development would result in a regional significant cumulative impact on special-status species and their habitats. This impact is a potentially significant cumulative impact. Future development projects within the Central Valley would be required to comply with local ordinances and policies, in addition to CESA, FESA, CWA, Fish and Game Code of California, and other relevant regulations permits and requirements. Compliance with these policies and regulations would reduce project-level impacts to less-than-significant levels. However, continued development and habitat conversion would result in significant cumulative contributions to the regional loss of special-status species.

The Downtown project site and offsite digital billboard sites contain habitats that have been highly modified or are of relatively low quality due to their urban nature or proximity to urban development. In a regional perspective, Proposed Project activities would affect relatively small amounts of special-status species habitats at the Downtown project site and offsite digital

billboard sites. The Downtown project site has an approximate one-half acre site that is undeveloped, and the six digital signs would require approximately 30,000 square feet of land (5,000 acre feet each) for a total of conversion of undeveloped land of 1.2 acres. Additionally, affected habitats are relatively isolated from other areas of similar habitat due to existing urban development. However, the Proposed Project could directly affect special-status species such as raptors and migratory birds, giant garter snake, and valley elderberry longhorn beetle. Project impacts would result in a considerable contribution to cumulative impacts on special-status species and their habitats. This is a ***significant cumulative impact***.

Mitigation Measure

4.3-6 (ESC/SPD/DB)

Implement Mitigation Measures 4.3-1(a), 4.3-1(b), 4.3-2(a), 4.3-2(b), 4.3-2(c), and 4.3-5.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 4.3-1(a), 4.3-1(b), 4.3-2(a), 4.3-2(b), 4.3-2(c) and 4.3-5 and compliance with applicable federal, State, and local policies and regulations, the Proposed Project's contribution to the regional cumulative impact on special-status species and their habitats would be ***less than significant***.

Impact 4.3-7: The Proposed Project would contribute to the cumulative loss and degradation of wetlands.

Wetland habitats within the Central Valley have been reduced significantly from their historic range and probable future development within the region would continue to affect wetland resources. Future development within the Central Valley could result in permanent loss of wetland resources and a significant cumulative loss of wetlands within the Central Valley; this is considered a significant cumulative impact.

The Proposed Project would potentially impact 0.06 acres of wetland habitat. Project impacts to wetland habitat would be considered minimal. However, this loss would contribute to the cumulative fill of wetlands regionally. Therefore, the impact is a ***potentially significant cumulative impact***.

Mitigation Measure

4.3-7 (DB – I-5 at San Juan Road and SR 99 at Calvine Road**)**

Implement Mitigation Measure 4.3-3.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-3 and compliance with applicable federal, State, and local policies and regulations, the Proposed Project's contribution to the regional cumulative impact on wetland habitat would be less than significant. The loss of this habitat would be fully mitigated in accordance with federal policies

and regulations (through the CWA Section 404 permit process), in addition to applicable State and local water quality regulations. Loss of wetlands would be mitigated at a minimum of 1:1 replacement ratio to ensure no net loss of wetland habitat. Thus, with mitigation, the project-related impact on wetlands would not contribute considerably to the cumulative loss and degradation of wetlands in the Central Valley and this impact would be ***less than significant***.

Impact 4.3-8: The Proposed Project would contribute to the cumulative loss of street trees and heritage trees.

Trees enhance the natural scenic beauty, increase oxygen levels, promote ecological balance, provide natural ventilation, air filtration, and temperature, erosion, and acoustical controls, increase property values, improve the lifestyle of residents, and enhance the identity of the City. Future projects within the City could remove street trees or heritage trees. This would result in a loss or reduction in positive ecological, physical, and other benefits that trees provide to the City. This is considered a significant cumulative impact.

The Proposed Project would remove up approximately 140 trees on and around the Downtown project site, including three heritage trees and numerous street trees. This would contribute to the cumulative loss of trees. This is a ***potentially significant cumulative impact***.

Mitigation Measure

4.3-8 (ESC/SPD)

Implement Mitigation Measure 4.3-4.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-4, the Proposed Project's contribution to cumulative impact on tree resources within the City would be less than significant. The loss of protected trees would be fully mitigated in accordance with local ordinances; removed trees would be replaced at a ratio determined in consultation with the City's Director of the Department of Transportation to ensure no net loss of the ecological, physical, and other benefits provided by the existing trees. Additionally, retained trees would be protected by standard tree protection measures. Thus, project impacts to trees would not contribute considerably to the cumulative loss of trees within the City of Sacramento and this impact is ***less than significant***.

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4.4 Cultural Resources

This section discusses the potential for the Proposed Project to adversely affect cultural and paleontological resources. Cultural resources include built environment, architectural and cultural landscape resources, historic-era and prehistoric archaeological resources, and human remains. Paleontological resources include fossilized remains of vertebrate and invertebrate organisms, fossil tracks, and plant fossils.

In response to the NOP (see Appendix A), the United Auburn Indian Community (UAIC) and Shingle Springs Band of Miwok Indians (SSBMI) commented on issues related to development within their ancestral territory. The UAIC requested that they be involved in the planning process, and the SSBMI requested formal consultation in identifying Traditional Cultural Properties (TCPs). This consultation between the City and Tribes is ongoing, and is discussed below under Native American Consultation in Section 4.4.3, with the most complete record to date provided in Appendix G. Additionally, the Sacramento Old City Association commented regarding impacts on properties located near the project area along 8th and between J and K Streets, including the Bel-Vue Apartments, the underground sidewalks along 8th and K Streets, the structures at 805 and 815 L Street, and the Feldhusen Building (8th and L Streets). These buildings are located outside of the project area and immediate vicinity, so no additional analysis on these buildings was conducted. Section 4.4.3 below discusses impacts on historic resources.

The cultural resources findings described in this section are based on the ESA archaeological resources analysis and the JRP Historical Consulting technical report (Appendix G) completed for the Proposed Project.[1]

The following terms are used to refer to the project area:

- *Downtown project site*: The entire project area, including the ESC site and project mixed use sites, but exclusive of the digital billboard sites.
- *ESC site*: The area in which the ESC Arena and practice facilities/office building would be located.
- *SPD area*: The portion of the project site where the mixed use development would be located. Does not include the ESC site.
- *Project vicinity*: The area surrounding and near the project site.
- *Digital billboard sites*: The ten potential sites where offsite digital billboards could be located.

[1] JRP, 2013. *Historic Resource Evaluation Report for the Sacramento Entertainment and Sports Center, Prepared for the City of Sacramento*. November 2013.

4.4.1 Environmental Setting

Paleontological Setting

The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources.[2] Most practicing paleontologists in the United States adhere closely to the SVP's assessment, mitigation, and monitoring requirements as outlined in these guidelines, which were approved through a consensus of professional paleontologists and reflect the currently accepted standard practices. Many federal, state, county, and city agencies have either formally or informally adopted the SVP's standard guidelines for the mitigation of adverse construction-related impacts on paleontological resources. The SVP has helped define the value of paleontological resources and, in particular, indicates the following:

- Vertebrate fossils and fossiliferous (fossil-containing) deposits are considered significant nonrenewable paleontological resources and are afforded protection by federal, state, and local environmental laws and guidelines.
- A paleontological resource is considered to be older than recorded history, or 5,000 years before present, and is not to be confused with an archaeological resource.
- Invertebrate fossils are not significant paleontological resources unless they are present within an assemblage of vertebrate fossils or they provide undiscovered information on the origin and character of the plant species, past climatic conditions, or the age of the rock unit itself.
- A project paleontologist, special interest group, lead agency, or local government can designate certain plant or invertebrate fossils as significant.

In accordance with these principles, the SVP (1995) outlined criteria for screening the paleontological potential of rock units and established assessment and mitigation procedures tailored to such potential. Table 4.4-1 lists the criteria for high-potential, undetermined, and low-potential rock units.

Per the City of Sacramento 2030 General Plan Master EIR (Geology, Soils, and Mineral Resources), the City of Sacramento is not highly sensitive for paleontological resources present in fossil-bearing soils and rock formations. Most of the Downtown project site has been excavated and filled. Although not discussed in the SVP standards, artificial fills, surface soils, and high-grade metamorphic rocks do not contain paleontological resources. While such materials were originally derived from rocks, they have been altered, weathered, or reworked such that the discovery of intact fossils would be rare. Therefore, there is little potential for the project area to contain fossils.

[2] Society of Vertebrate Paleontology, 1995. *Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources – Standard Guidelines, Society of Vertebrate Paleontology News Bulletin, Vol. 163.* pp. 22-27; Society of Vertebrate Paleontology, 1996. *Conditions of receivership for paleontologic salvage collections: Society of Vertebrate Paleontology News Bulletin, Vol. 166.* pp. 31-32.

TABLE 4.4-1
CRITERIA FOR DETERMINING PALEONTOLOGICAL POTENTIAL

Paleontological Potential	Description
High	Geologic units from which vertebrate or significant invertebrate or plant fossils have been recovered. Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant.
Undetermined	Geologic units for which little to no information is available.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material.

SOURCE: Society of Vertebrate Paleontology, 1995 and 1996.

Prehistoric Setting

Archaeologists have developed individual cultural chronological sequences tailored to the archaeology and material culture of each subregion of California. Each of these sequences is based principally on the presence of distinctive cultural traits and stratigraphic separation of deposits. In 1974, D.A. Fredrickson initially divided human history in central California into three periods: the Paleoindian period, the Archaic period, and the Emergent period.[3] This scheme used sociopolitical complexity, trade networks, population, and the introduction and variations of artifact types to differentiate between cultural units. New radiocarbon dates are used by Rosenthal et al., who have divided human history in central California into five periods: Paleoindian (11,550 to 8500 B.C.), Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), Upper Archaic (550 B.C. to A.D. 1100), and Emergent (A.D. 1100 to the historic-period).[4] Economic patterns, stylistic aspects, and regional phases further subdivide cultural periods into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The five periods are described below.

The **Paleoindian Period** (11,550 to 8,550 B.C.), characterized by big-game hunters occupying broad geographic areas, is represented in the Central Valley region by only three locations in the San Joaquin Valley where early concave base points have been found at scattered surface sites. These points have been compared to Clovis points, the distinctive projectiles points that have been dated to approximately 11,550 and 9,550 B.C. At the Tulare Lake site in the southern San Joaquin Valley, uranium series dates were obtained on human bone fragments producing uncalibrated dates ranging from 11,379 to 15,802 RCYBP.[5] However there is no solid association between the bones and the points at this location.

[3] Fredrickson, D. A., 1974. *Cultural Diversity in Early Central California: A View from the North Coast Ranges.* Journal of California Anthropology 1:41-53.
[4] Rosenthal, Jeffrey S., Gregory G. White, and Mark Q. Sutton. 2007. *The Central Valley: A View from the Catbird's Seat*. In California Prehistory: Colonization, Culture, and Complexity. pp. 147-163.
[5] Radio Carbon Years Before the Present

During the **Lower Archaic Period** (8550 to 5550 B.C.), geographic mobility continued from the Paleoindian Period. The era is characterized by large wide-stemmed and leaf-shaped projectile points. One Lower Archaic archaeological site has been identified in the Central Valley and includes a small lithic artifact assemblage and a small amount of faunal remains that includes fish, waterfowl, mussels, and a few fragments of artiodactyl (deer/elk) bone. Despite the lack of abundant large mammal remains from the site, the size of the projectile points has led to the interpretation that hunting big game was predominant during the Lower Archaic. Analysis dated the bulk of artifacts recovered from the New City Hall site in Sacramento to a period between 7,750 and 3,500 years before present.[6] Evidence from the adjacent Sierra Nevada and Coast Range foothills also implies a reliance on plant foods, including acorns and pine nuts.

At the beginning of the **Middle Archaic Period** (5550 to 550 B.C.) climate change, including warmer, drier conditions and rising sea levels, ultimately led to the development of the Sacramento-San Joaquin Delta. As a result of initial deposition and later stabilization, alluvial landforms buried many Middle Holocene-aged surfaces. Subsequently, many sites from the Middle Archaic have been located in a buried context especially in the foothills of central California. Deposits associated with early-Middle Archaic sites include artifact assemblages of flaked and ground stone tools used for resource procurement and processing; few beads or ornaments have been found. However by the later Middle Archaic there is a recognizable shift towards sedentism as reflected by more developed material assemblages such as the mortar and pestle, non-utilitarian artifacts, and numerous trade goods including the first cut shell beads. Plant and animal remains as well as unique burial practices indicate year-round occupation at selected locations.

During the **Upper Archaic Period** (550 B.C. to A.D. 1100) geographic mobility may have continued, although groups began to establish longer-term base camps in locations from which a more diverse range of resources could be exploited. The first rich black middens[7] are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. Widespread goods such as *Olivella* beads, *Haliotis* ornaments, obsidian bifacial points, and ceremonial blades indicated specialized technologies. By the later Upper Archaic, mobility was being replaced by the development of numerous small villages.

The **Emergent Period** (A.D. 1100 to the historic-period) included social complexity developing toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

6 Tremaine & Associates, 2008. *Investigations of a Deeply Buried Early and Middle Holocene Site (CA-SAC-38) for the City Hall Expansion Project, Sacramento, California*. August, 2008. p. 102.

7 Culturally darkened soil ("midden") containing heat-affected rocks, baked clay fragments, or faunal food remains (bone and shell).

Ethnographic Setting

The Miwok are one of the largest ethnographic groups in California, comprising three geographical groups extending from the Pacific Ocean to the Sierra Nevada - the Coast Miwok, Lake Miwok, and Interior Miwok. While traditional anthropological literature portrayed the Miwok peoples as having a static culture, today it is better understood that many variations of culture and ideology existed within and between villages. While these "static" descriptions of separations between native cultures of California make it an easier task for ethnographers to describe past behaviors, this masks Native adaptability and self-identity. California's Native Americans never saw themselves as members of larger "cultural groups," as described by anthropologists. Instead, they saw themselves as members of specific villages, perhaps related to others by marriage or kinship ties, but viewing the village as the primary identifier of their origins.[8]

Within the interior valley, there were four regional and linguistic sub-divisions of the Interior Miwok, known to ethnographers as Valley or Plains Miwok, Northern Sierra Miwok, Central Sierra Miwok, and Southern Sierra Miwok. The Valley Miwok occupied the lower reaches of the Mokelumne, Cosumnes, and Sacramento rivers, including the area of south Sacramento County surrounding the project area. The Eastern/Plains Miwok represent one of the two main divisions of the Miwok subgroup of the Utian language family. Several large villages are known in the region. On the east bank of Sacramento River below Sacramento was the village of *Hulpu-mni*. Sites mapped on the Cosumnes River include *Chuyumkatat*, *Lulimal*, *Mayeman*, *Mokos-umni*, *Sukididi*, *Supu*, *Tukui*, and *Yomit*. Near the Sacramento River, mapped villages include *Umucha*, and *Yumhui*; and on the Mokelumne River there was *Lel-amni*, *Mokel (-umni)*, and *Sakayak-umni*.

At the time of contact, the Plains Miwok occupied a large area covering the banks of the Sacramento River from Rio Vista to Freeport and the lower drainages of the Mokelumne and Cosumnes Rivers. Arguably, their territory extended as far north as the American River or the Yuba River, but this cannot be confirmed from Powers' linguistic data and the boundary conflicts described above.[9]

Permanent Miwok villages tended to be constructed on high ground along seasonal and permanent waterways. Several villages would be organized into political units, called triblets, which were administered by a headman. Settlement size is unknown. For the region, Kroeber notes that roughly 9,000 may be a liberal population estimate, with the Plains Miwok accounting for at least 2,000 individuals. By 1910 the census counted only 670 full or half-blood Miwok individuals.[10]

The Valley Miwok who inhabited the fertile plains and delta between Sacramento and Stockton were uprooted by Euro-Americans who desired the rich agricultural region. As the Europeans encroached upon their lands, surviving Miwok people tended to migrate to the foothills and

8 Powers, Stephen. 1877. *The Tribes of California, Contributions of North American Ethnology, Vol. III*. pp. 346-360.

9 Powers, Stephen. 1877. *The Tribes of California, Contributions of North American Ethnology, Vol. III*. pp. 346-360; Kroeber, A.L. 1925. *Handbook of the Indians of California*. p. 443.

10 Kroeber, A.L. 1925. *Handbook of the Indians of California*. p. 445.

mountains. Many Miwok now live on the Wilton, Shingle Springs, Jackson, Buena Vista, Sheep Ranch, Tuolumne, and Chicken Ranch Rancherias.

The Downtown project site is located within a contact area that was inhabited ethnographically by the Valley Nisenan, also known as Southern Maidu. The Valley Nisenan occupied the area encompassing the drainages of the American, Yuba, and Bear Rivers, along with the lower reaches of the Feather River. Permanent villages were usually located on low rises along major watercourses, and size ranged from 3 houses to up to 40 or 50. Larger villages often had semi-subterranean dance houses, which were covered in earth and tule or brush and had a central smokehole at the top and an entrance which faced east. Another common village structure was a granary, which was used for storing acorns. The Nisenan occupied permanent settlements from which specific task groups set out to harvest the seasonal bounty of flora and fauna that the valley environment provided, with the Valley Nisenan economy predominantly including riverine resources.[11]

Historic Setting

The following discussion summarizes the historic setting information provided in the Historic Resource Impact Analysis Report completed by JRP for the Sacramento ESC and SPD sites, and found in Appendix G.

Europeans did not enter the Sacramento area until 1808, when Gabriel Moraga's expedition reached the junction of the Sacramento and American rivers. By the late 1820s, English, American, and French fur trappers, attracted by the valley's abundance of animal life, began operations throughout the Sacramento Valley. Native Americans still predominantly occupied the region, with only the occasional Spanish expedition into the interior to search for mission sites or escaped neophytes (Native Americans who had entered the mission system).[12]

Permanent non-native settlement in the Sacramento Valley began in the 1830s when Spanish and Mexican governors issued large land grants to various individuals, often in return for military or other services rendered to the government. Swiss immigrant John Augustus Sutter, upon receipt of a land grant from Mexican Governor Juan Alvarado, first settled the Sacramento area in 1839. Sutter established a fort away from the low-lying rivers area and Sutter's Fort served as an agricultural station and destination for immigrants into California until January 1848.[13] The small riverside settlement quickly took on the role of bustling port as ocean going ships and riverboats used the Sacramento River to transport goods and gold-seeking passengers to the mine fields in the slopes of the Sierra Nevada after the discovery of gold in 1849. John Sutter, Jr. laid out a grid

11 Wilson and Towne, 1978. *Nisenan. In California, edited by R. F. Heizer, Handbook of North American Indians, vol. 8,* W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C. pp. 387–397.

12 Hoover, Mildred B., Hero E. and Ethel G. Rensch, William Abeloe, revised by Douglas E. Kyle, 2002. *Historic Spots in California*. pp. 302-304.

13 Jackson, W. Turrentine, Rand F. Herbert, Stephen R. Wee (Jackson Research Projects), 1983. *The Old Courthouse Block: H-I-6-7 Streets, Sacramento, 1848-1983.* November 1983. p. 1; Hoover, Mildred B., Hero E. and Ethel G. Rensch, 1966. *Historic Spots in California*. pp. 298-302; Bean, Walton, 1978. *California, an Interpretive History* (New York: McGraw Hill). pp. 67-68; Reps, John W., 1975. *Cities of the American West: A History of Frontier Urban Planning* (Princeton, NJ: Princeton University Press). p. 195.

of streets extending from the waterfront and named the nascent town Sacramento, establishing numbered streets running north to south and lettered streets, east of Front Street along the Sacramento River, running east to west, with each block divided into eight 80 foot x 150-foot lots with four lots on either side of a east/west oriented central alley.

The new town was centered on the embarcadero, or Front Street, and continued inland to the east along J Street.[14] Downtown Sacramento developed rapidly after 1850. The blocks fronting on J Street were heavily developed, owing to the street's use as the main road leading east out of the city, with slightly less development on the parallel streets of I and K. By 1851, J Street was substantially occupied from Front Street eastward beyond 10th Street with stores, saloons, hotels, grocery stores, stables, and other concerns vying for the business of visitors and residents.

During the mid-1800s, the City faced severe flooding issues. The majority of flooding stemmed from the American River, where, during heavy rains, segments of the river north of I Street would experience severe flooding. The flood of 1861/62 left portions of the City under 20 feet of water. To address this problem, the City dug a new mouth for the American River, rerouting it north to better regulate flow, and elevated the city streets between I Street and L Street, from Front Street to 12th Street, approximately four to fifteen feet. The City completed this enormous undertaking in 1873, and this action has shaped the current downtown grid since that time.[15] The thirteen-year process resulted in gaps between the street and the business fronts. These were covered with new sidewalks leaving "hollow sidewalks" below the new street grade. Known segments of hollow sidewalks remain in the study area along J Street at the corners of 4th, 5th, and 6th streets around the California Fruit Building, the Travelers' Hotel, and the Ramona Hotel.[16]

With the reduction of flood risk, downtown businesses grew steadily. The Downtown project site is located in the area historically referred to as the West End (roughly located between the Sacramento River to the State Capitol building at 10th Street, and the Southern Pacific Railroad yard north of I Street to Y Street [now Broadway] at the south), specifically within the area's commercial core. The Golden Eagle Hotel (built in 1867, demolished in 1963)[17] at the corner 7th and K Street, the Hotel Marshall (1910), the Travelers' Hotel (1914), and the Ramona Hotel (1930) served businessmen and travelers, as well as provided permanent residence for downtown office workers. The bottom floor of many hotels had separate shops, cafes, and offices with hotel rooms above. Sacramento's tallest building at the time of its construction was the California Fruit Building (1914) at the corner of 4th and J streets. Half of the building was occupied by the

14 Hoover, Mildred B., Douglas E. Kyle. 2002. *Historic Spots in California*. p. 303; Center for Sacramento History, Sacramento County Assessor, 1849. *Assessor's Map Book*; Capt. Warner, Capt. William Horace, 1969. *Map of Sacramento, Plan of Sacramento City, 1848* (Ithaca, NY: Historic Urban Plans); Brienes, West, and Schultz, 1981. *Overview of Cultural Resources in the Central Business District, Sacramento, California*. p. 46-47.

15 City of Sacramento, 2009. City of Sacramento 2030 General Plan Master Environmental Impact Report. Certified March 3, 2009. p. 6.4-8.

16 City of Sacramento Department of Public Works, 2004. *Locations of Hollow Sidewalks in Sacramento Central Business District*. June 30, 1994, updated January 2004*;* Page & Turnbull, 2009. *Survey Report: Raised Streets and Hollow Sidewalks, Sacramento, California, prepared for the City of Sacramento*. July 20, 2009. p. 25.

17 Praetzellis, Mary, Adrian Praetzellis, and Marley R. Brown III, 2010. *Historical Archaeology at the Golden Eagle Site*. July 1980, reissued August 2010. p. i.

California Fruit Company and the other half rented as offices.[18] Modern apartment buildings constructed in the mid-twentieth century also followed the same model with businesses on the first story, including the Venice Apartments (also referred to as the Jade Apartments, circa 1931).

Up until the turn of the twentieth century, the West End was the focus of Sacramento's river and rail transportation and shipping, local economy, and residential growth. Many factors contributed to the West End's economic and physical decline, particularly during the 1920s and 1930s, which eventually lead to the redevelopment / urban renewal projects in the post-World War II era. The shift of the industrial economy from the railroads and river to trucking and newly developed areas and growth of the surrounding suburbs led to a steep decline in property values. The decline in value discouraged property owners from maintaining or improving their properties, resulting residential blight and decline through the West End.[19] The West End became a focal point for city planning officials and municipal reformers after World War II, and it became the subject of the first post-World War II-era "urban renewal" project in California. Eventually three federally supported redevelopment phases were carried out. In addition to redevelopment, the West End was subject to zoning changes and the final redevelopment project intertwined the modernization of state and interstate highway development that brought Interstate 5 (I-5) through the West End.

Sacramento's plans for redevelopment were underway in 1956, and as demolition in the West End began the City's plans caught the attention of land developers and businessmen who proposed a Macy's department store to anchor a new commercial project. Construction of the Macy's in downtown Sacramento began in 1962 by the Dinwidde Construction Company at the former site of the Weinstock's & Lubin Department Store. Macy's downtown presence expanded in 1996 when the department store took over the Weinstock's building that had been constructed in 1979 at 7th and L streets.[20]

The opening of the Macy's store for the Christmas shopping season in 1963 was just the beginning of the Commercial Complex plan along K Street. Envisioned as the central feature in the reconstruction of the western section of the downtown business district, the Sacramento Redevelopment Agency (SRA) drafted a preliminary plan to exclude traffic along K Street for a pedestrian mall during the initial stages of the "slum clearance program" as far back as the late 1940s and early 1950s. The SRA constructed the 5th Street Underpass as part of its agreement with Macy's, which was an important element of the design to accommodate the proposed K

18 Burg, William, 2012. *Sacramento's K Street: Where Our City Was Born* (Charleston, SC: The History Press). pp. 53-56, 70; State of California Department of Parks and Recreation, 1996. DPR 523 form, California Fruit Building, recorded by Napoli/Todd Consultants, 1994-1996; National Parks Service, 1978. *National Register of Historic Place Inventory - Nomination Form, Travelers' Hotel, PH0680478*; Sacramento Directory Company, 1931. *Sacramento City Directory 1931*; Avella, Steven M. 2003. *Sacramento Indomitable City* (Charleston, SC: Arcadia Publishing). pp. 90-92; California State Library, California Room, 1930. *Sacramento 1930 dated map*.

19 U.S. Department of Commerce, Bureau of the Census, 1950. *1950 Census, Vol. III, Selected Population and Housing Characteristics, Ch. 46, Sacramento, California;* Sacramento City Planning Commission, 1950. *Sacramento Urban Redevelopment: Existing Conditions in Blighted Areas.* October 1950. Table 14, pp. 4, 29-30; Lastufka, Ken. "Redevelopment of Sacramento's West End, 1950-1970: A Historical Overview with an Analysis of the Impact of Relocation." M.A. thesis, California State University, Sacramento, 1985. p. 17.

20 Insight, 2012. *JMA Buys Sacramento's Downtown Plaza*. November 2012. p. 9.

Street Pedestrian Mall, separating pedestrians from vehicular traffic.[21] The K Street Pedestrian Mall, which extended to 13th Street, was completed in several phases, moving west to east between 1967 and 1970.

Among the multiple real estate and construction redevelopment contracts SRA awarded in the 1960s for projects on 3rd to 7th and J and L streets was the large project that became the Downtown Plaza Shopping Center. By the middle of 1968, the developer, Downtown Plaza Properties (DPP), was approved for a $50 million commercial complex spanning the remaining eight cleared blocks in the West End commercial redevelopment area. Built in two phases, the initial portion of the Downtown Plaza Shopping Center was the southern building (535 L Street and 570 K Street) and 579 K Street completed in 1972. The northwest corner of 579 K Street was designed around the Ramona Hotel at 600 J Street, which was not razed during the demolition phase of redevelopment in this area. The north side of 579 K Street was a subterranean parking garage until 1978 when a three-story addition was added, which became 560 J Street.[22]

In the late 1970s additional parking and buildings were constructed north and east of the Downtown Plaza Shopping Center. A parking garage was constructed west of the Macy's at the corner of 3rd and L Streets around 1977 and the Holiday Inn was built soon thereafter just north of the garage. Additional construction in the study area included the two-level underground parking structure at the block bound by "J," "K," and 7th streets with a one-story building above at 660 J Street in 1978. Two years later a second and third floor was added to this building. To the south and facing K Street along 7th Street, the two-story I. Magnin store (later Liberty House) was built over the parking garage. In 1979, Weinstocks opened its new three-story, 205,000 square-foot store and company headquarters on L Street, next to the Hotel Marshall. Macy's took over this Weinstocks in 1996.[23]

In the late 1980s and early 1990s, the K Street Pedestrian Mall was remodeled to become the Downtown Plaza.[24] Based on new suburban designs for shopping malls, the project added 250,000 square feet with an additional second story, a food court, various upscale shops, and a movie theater with seven screens. The renovation enclosed the K Street Pedestrian Mall from 3rd to 7th Street removing the original landscape and hardscape elements from the late 1960s and early 1970s development. Opened in 1993, the renovated Downtown Plaza connected

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21 Center for Sacramento History, Sacramento Housing and Redevelopment Agency Collection, 1962. *Amendment Agreement, May 1962, Macy's May 1962-Dec. 31, 1962*; Sacramento Redevelopment Agency, 1969. *A New Sacramento: Progress and Promise*. pp. 16-17; Center for Sacramento History, Sacramento Bee Photo Morgue, 1967. *New Perch.* July 20, 1967.

22 Burg, William, 2012. *Sacramento's K Street: Where Our City Was Born* (Charleston, SC: The History Press). p. 137; Sacramento Union, 1967. *Tishman Co. Pulls Out of Mall Project.* September 19, 1967. p. 1; Sacramento Union, 1968. *Redevelopment Unit OKs West End Job*. June 18, 1968. pp. 1, 3; Sacramento Redevelopment Agency, 1969. *A New Sacramento: Progress and Promise*. p. 17.

23 CYS Structural Engineers, 2013. *560 J Street – Seismic Certification for DGS: CYS Proposal No. 22612.01 (560 J PHASE II). January 16, 2013;* CYS Structural Engineers, 2012. *Sacramento Downtown Plaza 660 J St. Seismic Evaluation: Phase I Findings*, December 3, 2012. December 3, 2012: p. 2; Insight, 2012. *JMA Buys Sacramento's Downtown Plaza*. November 2012. p. 9; Avella, Steven M., 2008. *The Good Life: Sacramento's Consumer Culture* (Charleston, SC: Arcadia Publishing). pp. 144-145; Kassis, Annette, 2012. *Weinstocks: Sacramento's Finest Department Store* (Charleston, SC: History Press). pp. 110-114.

24 Sacramento Bee, 1992. *Ernest Hahn built malls and helped save a city*. January 24, 1992. pp. K1, K10.

Old Sacramento through a pedestrian tunnel under I-5, which linked the two providing more access to the riverfront area that had been somewhat cut off from the city by the freeway.[25]

Analysis Methodology and Results

The investigation of cultural resources included archival research, consultation with Native American tribes and individuals, coordination with City Historic Preservation staff, and an intensive field survey.

Archival Research Methods

ESA staff conducted a records search at the North Central Information Center (NCIC) of the California Historical Resources Information System at Sacramento State University on August 13 and 14, 2013 (File No.SAC-13-91) and September 12, 2013 (File No.SAC-13-108). Records were accessed by reviewing the Sacramento East and Sacramento West 7.5-minute U.S. Geological Survey topographic quadrangle base maps. The records search included a 1/4-mile radius around the project area in order to: (1) determine whether known cultural resources had been recorded within or adjacent to the project area; (2) assess the likelihood of unrecorded cultural resources based on historical references and the distribution of environmental settings of nearby sites; and (3) develop a context for identification and preliminary evaluation of cultural resources.

Included in the review were the *California Inventory of Historical Resources* (California Department of Parks and Recreation 1976), *California Historical Landmarks* (1990), *California Points of Historical Interest* (1992), the Office of Historic Preservation *Historic Properties Directory Listing* (April 2012) and *Archaeological Determinations of Eligibility* (April 2012), and the *City of Sacramento Register of Historic & Cultural Resources* (2011). The Historic Properties Directory includes listings of the National Register and the California Register of Historical Resources, and the most recent listing of the California Historical Landmarks and California Points of Historical Interest.

Historic-period maps were also reviewed, including GLO Plat maps (1867), historic USCOE maps (1849, 1887-1888), historic USGS topographic maps (1911, 1916, 1948, 1949, 1954, and 1967), as well as historic Sanborn Company Fire Insurance maps (1895, 1915, 1951, and 1952).

The results of the records search indicate that fifty-one cultural resources studies have been previously conducted within the 1/4-mile records search radius around the Downtown project site, including six investigations intersecting portions of the project area. Fifty-five cultural resources have been previously recorded within the records search radius for the Downtown project site. The records search identified 79 cultural resource studies previously completed within the records search radius of the ten potential offsite digital billboard locations. Thirty-four cultural resources have been recorded within a 1/4-mile radius of the ten potential offsite digital billboard locations. Table 4.4-2 and Table 4.4-3 list the studies and resources identified within the project area. Complete versions of these tables, including resources not located within the project area, are included in Appendix G. Table 4.4-4 summarizes the findings of the archaeological surveys.

[25] Insight, 2012. *JMA Buys Sacramento's Downtown Plaza*. November 2012. p. 9.

TABLE 4.4-2
NCIC RECORDED CULTURAL RESOURCE STUDIES PREVIOUSLY CONDUCTED WITHIN THE PROJECT AREA AND ¼ MILE BUFFER

NCIC Report #	Year	Author	Title	In Project Area (y/n)
Downtown Project Site				
3338	1981	Brienes, West & Schulz	Overview of Cultural Resources in Central Business District, Sacramento, CA	y
3355	1979	Anthropological Studies Center	Revised Excavation Strategy for an Area Within the J/K/6/7 Block, Sacramento CA	y
3369	1978	City of Sacramento Redevelopment Agency	History of the Sacramento City Block: 6th and 7th, K and L Streets: 1848-1920	y
3390	1978	Sacramento Housing and Redevelopment Agency	Report of the Historical Development of City of Sacramento Block Bound by: 6th and 7th, J and K Streets: 1850:1920	y
3479	2002	Peak & Associates	Fifteen SureWest Tower Sites in Sacramento, Placer, El Dorado, San Joaquin, Yolo and Sutter Counties, California	y
9888	2008	Tremaine & Associates	Cultural Resources Assessment and Report of Findings for the Westfield Downtown Plaza Redevelopment Project, Sacramento, CA	y
Offsite Digital billboards				
I-5 at Water Tank				
9989	2007	Jones & Stokes	Revised Addendum Cultural Resources Inventory Report for Modifications to the Freeport Regional Water Project Area of Potential Effects, Sacramento and San Joaquin Counties, California-Extra Work Space on the Vineyard Road Pipeline Extension APE Modification	y
US 50 at Pioneer Reservoir				
No studies located within the proposed site				
Business 80 at Sutter's Landing Regional Park				
4457	2003	Caltrans	Negative Historic Property Survey Report For The Proposed Installation Of Automatic Vehicle Census Systems On Interstate 80 East Of The West El Camino Over-Crossing And On Highway 51 East Of The "E" Street Ramps, Sacramento County, California	y
Business 80 at Del Paso Regional Park/Haggin Oaks				
No studies located within the proposed site				
Business 80 at Sutter's Landing Regional Park/American River				
No studies located within the proposed site				
I-80 at Roseville Road				
10403	2009	California Air National Guard	Cultural Resources Survey North Highlands Air National Guard Station, North Highlands, Sacramento County, California	y
SR 99 at Calvine Road				
3844	1992	PAR Environmental Services, Inc	Archaeological Survey Report For The Cosumnes River Boulevard/Calvine Road Interchange At State Route 99, 03-Sac-99-P.M. 15.7/16.5, Sacramento County, California	y
6117	2003	EDAW, Inc	Cultural Resources Survey Report College Square Planned Unit Development	y

TABLE 4.4-2 (Continued)
CULTURAL RESOURCE STUDIES PREVIOUSLY CONDUCTED WITHIN THE PROJECT AREA AND ¼ MILE BUFFER

NCIC Report #	Year	Author	Title	In Project Area (y/n)
I-5 at Bayou Road				
No studies located within the proposed site				
I-5 at San Juan Road				
4177	2001	Caltrans	Historic Property Survey Report And Finding Of Effect For The Proposed Stadium Interchange And Auxiliary Lanes On Interstate 5 Between Interstate 80 And Del Paso Road In Sacramento, Sacramento County, California	y
I-5 at Sacramento Railyards				
3338	1981	Brienes, West & Schulz	Overview of Cultural Resources in Central Business District, Sacramento, CA	y
5804	2002	Parsons	Historic Property Survey Report for the Sacramento Rail Deport Acquisition and Improvement Project	y
11023	2011	Caltrans	Historic Property Survey Report I-5 Riverfront Reconnection Project	y

TABLE 4.4-3
CULTURAL RESOURCES PREVIOUSLY IDENTIFIED WITHIN THE PROJECT AREA AND ¼ MILE BUFFER

P# / Trinomial	Resource Name	Date Recorded	Recorded By	Description	NRHP Status	In Project Area (y/n)
Downtown Project Site						
P-34-2358	Raised Streets and Hollow Sidewalks District	May-09; Dec-10	Page & Turnbull, Inc; Sacramento Old City Association	Historic vernacular landscape district of hollow sidewalks in historic downtown	Appears eligible through survey	Immediately adjacent
P-34-421H / CA-SAC-394	n/a	Mar-80	A. Praetzellis	Historic period discrete refuse deposits and structural remains, 1851-1890 (Site entirely removed for construction of Liberty House Store in 1979)	n/a	y - destroyed
P-34-4409	1007 6th Street, Hollow Sidewalk	May-09	Page & Turnbull, Inc	Two segments of hollow sidewalk	Contributor to P-34-2358	Immediately adjacent
Offsite Digital Billboards						
I-5 at Water Tank						
None located within billboard site						
US 50 at Pioneer Reservoir						
None located within billboard site						
Business 80 at Sutter's Landing Regional Park						
None located within billboard site						
Business 80 at Del Paso Regional Park/Haggin Oaks						
None located within billboard site						
Business 80 at Sutter's Landing Regional Park/American River						
None located within billboard site						
I-80 at Roseville Road						
None located within billboard site						
SR 99 at Calvine Road						
None located within billboard site						
I-5 at Bayou Road						
None located within billboard site						
I-5 at San Juan Road						
None located within billboard site						
I-5 at Sacramento Railyards						
None located within billboard site						

TABLE 4.4-4
ARCHAEOLOGICAL FIELD SURVEY RESULTS FOR OFFSITE BILLBOARD LOCATIONS

Billboard Location	Date Surveyed	Description of Survey and findings
I-5 at Water Tank	September 27, 2013	The area is level and devoid of vegetation allowing complete inspection of the ground surface. No artifactual material was identified.
US 50 at Pioneer Reservoir	September 27, 2013	Approximately 75% of the ground surface was visible. The southeast portion of the project area is densely vegetated with ornamental trees and shrubs. The area is littered with modern refuse including glass, plastic, metal, etc. No definitively historic artifacts were identified.
Business 80 at Del Paso Regional Park/Haggin Oaks	September 17, 2013	Site is dominated by paved bike path. Adjacent unpaved shoulders are densely vegetated with Horsetail, and the ground covered with duff. Ground visibility was virtually zero. The area is highly disturbed with the elevated freeway and associated drainage ditch to the south, the developed bike path within the site, and a berm on the golf course running the length of the site.
Business 80 at Sutter's Landing Regional Park	September 27, 2013	Most of the project area is on the constructed, elevated portion of the dump, and is densely vegetated with eucalyptus and other trees. The project area continues a few feet past the toe of the slope of the landfill. This area was entirely covered with duff from surrounding trees. Ground surface visibility was virtually zero.
Business 80 at Sutter's Landing Regional Park/American River	September 17, 2013	Area is densely vegetated with grasses making ground visibility limited. Ground visible along a narrow area around levee and along freeway. No archaeological material noted. A portion of the south bank of the American River levee appears to fall within the site. The general area is being used as a staging area by UPRR, but no evidence of historic railroad activities was noted.
I-80 at Roseville Road	September 27, 2013	Access to this small area was not permitted, and was visually inspected from outside the barrier fence. The entire area appears to be paved.
SR 99 at Calvine Road	September 27, 2013	This area includes portions of a small constructed berm and catchment basin. The entire area is vegetated with a dense growth of low grasses. Ground visibility was approximately 20%. No cultural material was identified.
I-5 at Bayou Road	September 17, 2013	Area mostly paved and covered with a dense growth of grasses. Surveyor found a handful of historic-period artifacts, including: a stoneware ale bottle (1870s or earlier), amethyst glass (circa 1918 or earlier), colorless glass, brown glass, a WIE fragment with a maker's mark, and an oyster shell. An inspection of the plowed field to the south (outside site) did not reveal any further artifacts or features.
I-5 at San Juan Road	September 17, 2013	The site is dominated by a small wetland, mostly submerged, with a dense growth of grasses on surrounding areas. Surface visibility was virtually zero. Inspection of adjacent plowed field (east of site) revealed no archaeological artifacts or features.
I-5 at Sacramento Railyards	September 17, 2013	The area is mostly paved making ground visibility impossible. Unpaved area at north end of site was not accessible and not surveyed. From aerial it looks like the area has been highly disturbed by rehab work at the railyard. Archaeological potential is low.

Archaeological Results

One archaeological resource (P-34-000421H / CA-SAC-394) is recorded within the boundaries of the Downtown Project site. This resource was a historic-period artifact concentration excavated by archaeologists in the late 1970s and is no longer extant.[26]

The nearest prehistoric archaeological resource to the Downtown project site is P-34-002359. This site is the remains of a large pit house and several associated human burials/cremations that was identified 850 feet (260 meters) north of the current project area. The site measures 400 by 550 feet (120 by 170 meters) and was located on the historic shoreline of Lake Sutter, which is now filled in. Sutter Lake was located within the boundaries of the Southern Pacific Railyards. Identified during monitoring within the road right of way, P-34-002359 is presumed to be much larger than recorded and may extend into the adjacent blocks.[27]

Numerous archaeological resources, especially historic-era features and artifact concentrations associated with 19th- and early 20th-century Sacramento, are located in the vicinity of the Downtown project site. However, the entire Downtown project site itself has been highly disturbed from construction of the existing buildings and underground parking lots. The 1960s and later construction at the site and excavation for the underground parking lots below the historic land surface effectively removed much of both prehistoric and historic-era occupation in the project area.

No archaeological resources have been previously identified in the vicinity of the ten digital billboard locations. ESA completed a surface survey of the billboard locations on September 17, 2013 and September 27, 2013. One historic period trash scatter was identified during field survey.

Native American Consultation

ESA contacted the Native American Heritage Commission (NAHC) on August 19, 2013 to request a database search for sacred lands or other cultural properties of significance within or adjacent to the project area. ESA received a response on September 17, 2013. The sacred lands survey did not identify the presence of cultural resources in the project area. The NAHC provided a list of Native American contacts that might have further knowledge of the project area with respect to cultural resources. ESA contacted each person or organization identified by the NAHC by letter on September 17, 2013. On September 25, 2013, the City of Sacramento and representatives from ESA met with Andrew Godsey, a representative from SSBMI to discuss the Proposed Project. Written responses were received from SSBMI on October 28, 2013 and the UAIC on November 11, 2013, both formally requesting consultation with the City regarding the Project. Consultation between the City and these Tribes is ongoing. Contacts to date are provided in Appendix G.

[26] Praetzellis, Mary, 1980. *Confidential Site Record for P-34-421H.* Maintained on file at the North Central Information Center, Sacramento State University. p. 1-5.

[27] Tremaine & Associates, 2008. *Confidential Site Record for Pit House (P-34-2359).* Maintained on file at the North Central Information Center, Sacramento State University. p. 1-13.

Architectural Results and Analysis

In addition to a records search review, background and resource-specific archival research also was conducted at the California State Library; Sacramento Room, Sacramento Central Library Branch, Center for Sacramento History; Shields Library, University of California, Davis; and in JRP's in-house library. JRP staff coordinated with City of Sacramento staff regarding previous historic resources surveys in the study area. JRP conducted a field survey of the Downtown project site on September 4, 2013, documenting the four Sacramento Landmark buildings in the area as well as three potential historical resources through digital photography and DPR 523 forms. Table 4.4-5 describes these resources and their eligibility for listing in the Sacramento, California, or National Registers. Additional information and full evaluations of these resources can be found in the Historic Resource Impact Analysis Report completed by JRP for the Proposed Project (Appendix G).

TABLE 4.4-5
BUILT RESOURCES IDENTIFIED WITHIN OR ADJACENT TO THE DOWNTOWN PROJECT AREA

Resource Name	Address	Sacramento Register	California Register	National Register	Built Date
California Fruit Building	1000 & 1006 4th Street	Yes	No	No	1914
Travelers' Hotel	428 J Street & 1010 5th Street	Yes	Yes	Yes	1914
Ramona Hotel	600 J Street & 1007 6th Street	Yes	No	No	1930
Hotel Marshall (Hotel Clayton)	1122, 1126, 1128 7th Street	Yes	No	No	1910-11
Jade Apartments	1118/1120 7th Street	No	No	No	c. 1931
Macy's	414 K Street	No	No	No	1963
Downtown Plaza Shopping Center	535 L Street / 570 K Street / 579 K Street / 560 J Street	No	No	No	1972, 1978

The Jade Apartments building at 1118-1120 7th Street is not considered eligible as a Landmark in the Sacramento Register of Historic and Cultural Resources (Sacramento Register) as it is not significant under Sacramento Register eligibility criteria. The Jade Apartments also does not meet the criteria for listing in the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP) because it lacks historic and architectural significance and historic integrity.

The Macy's building at 414 K Street in downtown Sacramento does not appear to meet the criteria for listing in the NRHP, CRHR, or the Sacramento Register because it lacks sufficient historic integrity to convey its significance. Thus, the property is not a historical resource for the purposes of CEQA.

The Downtown Plaza Shopping Center does not meet the criteria for listing in the NRHP, CRHR, or Sacramento Register because it lacks both historic/architectural significance and historic integrity. This property was evaluated under standard criteria for the NRHP, CRHR, and Sacramento Register, as well additional standards necessary to assess potential importance for

properties that are less than 50 year old. P-34-004409 (1007 6th Street Hollow Sidewalk) is immediately adjacent to the Downtown project site. The sidewalk contributes to P-34-002358 (Raised Streets and Hollow Sidewalks District). The District appears eligible for listing in the California Register and is therefore considered a historical resource for the purposes of CEQA. ESA surveyed the sidewalk segment on August 28, 2013 by accessing the basement level of the building at 1007 6th Street, and noted the segment as including loosely mortared brick along the outside walls of the basement. The building itself is supported by concrete piers and drywall clad walls, however the western segment of sidewalk consists of brick buttressed retaining walls built to contain the fill to raise the streets and supporting the sidewalks above. The "hollow sidewalks" areas are those areas at the original street grade, between the raised streets and the building walls, below the "new" sidewalk/street level.

4.4.2 Regulatory Setting

Federal Regulations

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally assisted undertaking, or issuing licenses or permits, consider the effect of the proposed undertaking on historic properties. A historic property may include a prehistoric or historic-era building, structure, object, site or district included in, or eligible for inclusion in, the National Register of Historic Places (National Register) maintained by the U.S. Secretary of the Interior. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties.

The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- Initiate the Section 106 process (36 CFR 800.3);
- Identify historic properties, i.e., resources eligible for inclusion in the NRHP (36 CFR 800.4);
- Assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- Resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a Memorandum of Agreement or Programmatic Agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to

participate. The agreement describes stipulations to mitigate adverse effects on historic properties listed in or eligible for the National Register (36 CFR 60).

National Register of Historic Places

The NHPA established the National Register as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR Section 60.2). The National Register recognizes both historic-era and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Buildings, structures, objects, sites or districts of potential significance must meet one or more of the following four established criteria:[28]

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing.[29]

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance."[30] The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

Although the National Register standards for historic integrity are high, the National Register accepts that a property "must also be judged with reference to the particular criteria under which a

[28] National Parks Service, 1995. *National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation, U. S. Department of Interior, National Park Service, Interagency Resources Division*. p. 11.
[29] National Parks Service, 1995. *National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation, U. S. Department of Interior, National Park Service, Interagency Resources Division*. p. 44.
[30] National Parks Service, 1995. *National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation, U. S. Department of Interior, National Park Service, Interagency Resources Division*. p. 44.

resource is proposed for eligibility." Most archaeological properties are evaluated under Criterion D; the most applicable qualities of integrity under this criterion are those of location, materials, and association.

Integrity also defines the research potential of a resource. To possess research potential, archaeological data must have integrity in the form of what has been called "focus."[31] Focus in this context means the accuracy with which the archaeological remains represent a situation or condition. When focus is absent or inadequate because of disturbance, a resource does not retain integrity. Remains that represent several activities or have materials that cannot be separated from one another into discrete contexts may also lack focus and therefore integrity.

State Regulations

Office of Historic Preservation

The State of California implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The Office of Historic Preservation (OHP), as an office administered within the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state's jurisdiction.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for California Register eligibility are based on National Register criteria (PRC Section 5024.1[b]; California Code of Regulations [CCR], Title 14, Section 4850 et seq.). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-era property must be significant at the local, state, and/or federal level under one or more of the following four criteria. The resource:

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

[31] Deetz, James, 1977. *In Small Things Forgotten: An Archaeology of Early American Life* (Anchor Press, Doubleday, New York, NY). p. 94.

4. Has yielded, or may be likely to yield, information important in prehistory or history.

An eligible resource for the California Register must meet one of the criteria of significance described above and retain enough of its historical character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and
- California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (properties identified as eligible for listing in the National Register, the California Register, and/or a local register);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as local landmarks or designated under any local ordinance, such as a historic preservation overlay zone.

California Environmental Quality Act (CEQA)

CEQA is the principal state law governing environmental review of proposed discretionary actions by California public agencies. CEQA requires lead agencies to determine, prior to approval, if a project would have a significant impact on historical or unique archaeological resources.

The CEQA Guidelines generally recognize that a historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register (PRC Section 5024.1); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record (14 CCR Section 15064.5[a]).

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 of CEQA and CEQA Guidelines Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated as a "unique" archaeological resource in accordance with the provisions of PRC Section 21083. As defined in Section 21083.2, a unique archaeological resource is 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:

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

A non-unique archaeological resource is an archaeological artifact, object, or site that does not meet the criteria in PRC Section 21083.2(g) and need not be given further consideration, other than the simple recording of its existence by the lead agency if it so elects (PRC Section 21083.2[h]). The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064.5[c][4]).

PRC Section 5024.1(f) requires a lead agency to make provisions for handling the accidental discovery of historical or unique archaeological resources during construction. Provisions include an immediate evaluation of the find by a qualified archaeologist. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.

In the event that human remains are discovered in any location other than a dedicated cemetery, PRC Section 5024.1(e) requires all work to stop until the county coroner in which the remains are discovered is contacted. If the coroner determines the remains to be Native American, the coroner must contact the Native American Heritage Commission within 24 hours. The Commission would then identify any person or persons it believes to be the most likely descended from the deceased individual.

Paleontological Resources

Paleontological resources also are afforded protection by environmental legislation set forth under CEQA. Appendix G (Part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will "…disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study."

The SVP has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most California State regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

Local

Since 1996, the City of Sacramento has been a Certified Local Government, that is, a direct participant in the identification, evaluation, registration, and preservation of historic properties within its jurisdiction, to promote the integration of local preservation interests and concerns into local planning and decision-making processes. The CLG program is a partnership among local governments, the State of California-OHP, and the National Park Service, which is responsible for administering the National Historic Preservation Program.

City of Sacramento 2030 General Plan

The City of Sacramento's 2030 General Plan's Historic and Cultural Resources Element includes goals and policies relating to the identification and preservation of its historic resources. The following goals and policies from the 2030 General Plan are relevant to cultural resources in regard to the Proposed Project.

Goal HCR 2.1 Identification and Preservation of Historic and Cultural Resources. Identify and preserve the city's historic and cultural resources to enrich our sense of place and our understanding of the city's prehistory and history.

Policies

- **HCR 2.1.1 Identification.** The City shall identify historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) to provide adequate protection of these resources. (*PSR*)

- **HCR 2.1.3 Consultation.** The City shall consult with the appropriate organizations and individuals (e.g., Information Centers of the California Historical Resources Information System (CHRIS), the Native American Heritage Commission (NAHC), and Native American groups and individuals) to minimize potential impacts to historic and cultural resources. (*IGC/JP*)

- **HCR 2.1.11 Compatibility with Historic Context.** The City shall review proposed new development, alterations, and rehabilitation/remodels for compatibility with the surrounding historic context. The City shall pay special attention to the scale, massing, and relationship of proposed new development to surrounding historic resources. (*RDR*)

- **HCR 2.1.12 Contextual Elements.** The City shall promote the preservation, rehabilitation, restoration, and/or reconstruction, as appropriate, of contextual elements (e.g., structures, landscapes, street lamps, signs) related to the historic resource. (*RDR*)

- **HCR 2.1.14 Demolition.** The City shall consider demolition of historic resources as a last resort, to be permitted only if rehabilitation of the resource is not feasible, demolition is necessary to protect the health, safety, and welfare of its residents, or the public benefits outweigh the loss of the historic resource. (*RDR*)

- **HCR 2.1.15 Archaeological Resources.** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources. (*RDR*)

The Proposed Project is consistent with the 2030 General Plan goals and policies regarding cultural resources. Identification and consultation efforts have been conducted as outlined in Policies HCR 2.1.1 and HCR 2.2.2. The City is reviewing the proposed new development for compatibility with the surrounding historic context as designated in Policy HCR 2.1.11. Additionally the City has identified protocols in this EIR that mitigate impacts for inadvertent discovery of archaeological, historic, and cultural resources including prehistoric resources as defined in Policy HCR 2.1.15. See Impacts 4.4-1 through 4.4-3 for more detail on how resources would be identified, evaluated and treated.

City of Sacramento Historic Preservation Program

The City of Sacramento's historic preservation program began in 1975 with the enactment of the City's first historic preservation ordinance. Amendments to the original preservation ordinance, under ordinance No. 2006-063 were enacted in October 2006, amending the Historic Preservation Chapter 17.134 of Title 17 of the Sacramento City Code. On September 30, 2013, these sections of the code, under Chapter 17.134, related to historic preservation were included in a comprehensive update of Title 17, under its new "Planning & Development Code" name, formerly known as the Zoning Code. Under the new Title 17, the substance of the preservation sections was generally not materially changed, and changes related to procedure were also relatively minor. The new section of Title 17 related to eligibility criteria for historic resources is 17.604.210. Other preservation related matters are found under Chapter 17.604 or other sections of Title 17.

The City Code provides for the compilation of the ordinances adopting designations and deletions of Landmarks, Contributing Resources and Historic Districts into the Sacramento Register of Historic & Cultural Resources.

> **Landmark Eligibility Criteria** (17.604.210(A))
>
> A nominated resource shall be listed on the Sacramento register as a landmark if the city council finds, after holding the hearing required by this chapter, that all of the requirements set forth below are satisfied:
>
> 1. Requirements.
>
> a. The nominated resource meets one or more of the following criteria:
>
> i. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation;

ii. It is associated with the lives of persons significant in the city's past;

iii. It embodies the distinctive characteristics of a type, period or method of construction;

iv. It represents the work of an important creative individual or master;

v. It possesses high artistic values; or

vi. It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the state or the nation;

b. The nominated resource has integrity of location, design, setting, materials, workmanship and association. Integrity shall be judged with reference to the particular criterion or criteria specified in subsection A.1.a of this section;

c. The nominated resource has significant historic or architectural worth, and its designation as a landmark is reasonable, appropriate and necessary to promote, protect and further the goals and purposes of this chapter.

2. Factors to be considered. In determining whether to list a nominated resource on the Sacramento register as a landmark, the factors below shall be considered.

a. A structure removed from its original location is eligible if it is significant primarily for its architectural value or it is the most important surviving structure associated with a historic person or event.

b. A birthplace or grave is eligible if it is that of a historical figure of outstanding importance and there is no other appropriate site or structure directly associated with his or her productive life.

c. A reconstructed building is eligible if the reconstruction is historically accurate, if the structure is presented in a dignified manner as part of a restoration master plan, and if no other original structure survives that has the same association.

d. Properties that are primarily commemorative in intent are eligible if design, age, tradition, or symbolic value invests such properties with their own historical significance.

e. Properties achieving significance within the past 50 years are eligible if such properties are of exceptional importance.

Historic District Eligibility Criteria. (17.604.210 (B))

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

1. Requirements.

a. The area is a geographically definable area; or

b. The area possesses either:

i. A significant concentration or continuity of buildings unified by: (A) past events or (B) aesthetically by plan or physical development; or

ii. The area is associated with an event, person, or period significant or important to city history; or

c. The designation of the geographic area as a historic district is reasonable, appropriate and necessary to protect, promote and further the goals and purposes of this chapter and is not inconsistent with other goals and policies of the city.

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

a. A historic district should have integrity of design, setting, materials, workmanship and association;

b. The collective historic value of the buildings and structures in a historic district taken together may be greater than the historic value of each individual building or structure.

4.4.3 Analysis, Impacts, and Mitigation

Significance Criteria

The Proposed Project would result in a significant effect on cultural resources if it would:

(1) cause a substantial adverse change in the significance of historical or archaeological resource as defined in CEQA Guidelines section 15064.5; or

(2) directly or indirectly destroy a unique paleontological resources or site or unique geologic feature.

Impacts and Mitigation Measures

Impact 4.4-1: The Proposed Project could damage, degrade and/or destroy historic resources.

Downtown Project Site

Construction

Project construction would have direct impacts when the physical destruction or material alteration of historic buildings would result from demolition and/or physical construction of the Proposed Project. Indirect impacts are the potential for vibration and visual impacts of the Proposed Project, including both related demolition and construction, to historical resources.

No historical resources are located within the Downtown project site, so the proposed ESC and SPD would not result in the demolition or alteration of a historic resource.

There are several historic resources located adjacent to the Downtown project site, including a segment of the underground sidewalk (P-34-004409, a contributor to the apparently CRHR-eligible Raised Streets and Hollow Sidewalks District), and including the California Fruit

Building, Travelers' Hotel, Ramona Hotel, and Hotel Marshall, which structures are all historic resources for purposes of CEQA.

No project construction would occur immediately adjacent to the 1007 6th Street Hollow Sidewalk, the California Fruit Building, Travelers' Hotel, or Ramona Hotel, so these buildings and sidewalks would not be directly altered or materially impaired. These buildings would therefore retain their historic integrity of location, design, workmanship, materials, feelings, and association.

Proposed construction activities could result in vibration levels that have the potential to damage fragile buildings and structures, including those identified as eligible for the California Register or locally-listed properties and therefore qualifying as historical resources. Project activities for the Sacramento ESC include demolition of the loading dock at the Macy's East (former Weinstocks), which is connected to the west wall of the Hotel Marshall located on the corner of 7th and L streets. This loading dock is two and half stories tall with a brick façade facing L Street. Demolition of the loading dock has the potential to cause damage the Hotel Marshall because the buildings are so close together (separated by inches).

Project activities adjacent to the Hotel Marshall have the potential to cause an indirect impact to the historical resource through vibration occurring during demolition of the Macy's East building and/or during construction of the new ESC practice facility. Development of the SPD area could also affect historic resources that are in close proximity, such as the Traveler's Hotel, Ramona Hotel, California Fruit Building and the segment of the hollow sidewalk along 6th Street. As discussed in section 4.8, Noise, ground-borne vibration can damage the foundations and exteriors of existing buildings. The FTA building damage thresholds are typically is 0.2 inches per second peak particle velocity (PPV) for historic buildings. As shown in Table 4.8-10 (in section 4.8, Noise), some construction equipment used for the ESC could result in up to 1.0 PPV. Exposure to vibration at these levels could result in structural damage to buildings adjacent to the project area, particularly the Hotel Marshall, as well as the underground sidewalk segment located immediately north of the SPD along J Street. These impacts are considered ***potentially significant impacts***.

Operation

Once constructed, the Sacramento ESC and the mixed uses within the SPD would alter the character of the Downtown project site by replacing existing, later-half of the 20th century urban buildings with different, sometimes larger, buildings. This change would not substantially alter the context in which surrounding historic resources, including the California Fruit Building, Travelers' Hotel, Ramona Hotel, and Hotel Marshall, are situated, because this portion of the buildings' setting has been previously altered with the demolition of buildings for redevelopment in the 1950s and 1960s, and with construction of the K Street Pedestrian Mall and subsequent development including the Downtown Plaza. These historic resources are also relatively tall, multi-story urban context structures themselves, built to their property lines, and within a downtown setting where similar large structures would have been anticipated to be built. Therefore, the Sacramento ESC and SPD would not diminish the buildings' ability to convey significance. The segment of underground sidewalk located adjacent to the Downtown project

site is not visible from anywhere but below grade, so changes to buildings above grade would not alter its context or setting.

The proposed ESC Sign District would allow electronic signs on buildings within the blocks bounded by 3rd, 7th, J and L Streets. The historic buildings discussed above are on these blocks. The proposed Sign District would require that any signs placed on listed historic buildings meet Secretary of the Interior's Standards for the Treatment of Historic Properties, generally under the Rehabilitation Standards, and would be subject to review and approval by the City's Preservation Commission which would ensure that such signs do not alter the integrity of the buildings and/or affect their historic significance.

For these reasons, once construction is complete, impacts on historic resources would *be **less than significant**.*

Offsite Digital Billboards

The survey conducted for the project did not identify any historical resources within the locations of the offsite digital billboards. Therefore, ***no impact*** to historic resources would result from the construction of the offsite digital billboards.

Mitigation Measure

4.4-1(a) (ESC/SPD)

The Project applicant shall protect the Hotel Marshall from physical damage during demolition to ensure that the building's historic integrity of material is not significantly diminished and the Project Proponents will be responsible for repairs to the Hotel Marshall for damage caused by the demolition of the loading dock. If necessary, repairs shall be conducted in compliance with the "Treatment of Preservation" under the Secretary of Interior's Standards for the Treatment of Historic Properties (SOI Standards).[32] The Project Proponents shall provide the City Preservation Director for review and approval of work plans for documenting the pre-construction condition of the Marshall Hotel, for protocols as to determining damage from demolition work, for the means and methods of protecting the Marshall Hotel during demolition, and for the means and methods of the demolition work itself alongside the Marshall Hotel, for the means and methods for making any of the repairs to be undertaken as a result of construction damage, and a completion report to ensure compliance with the SOI Standards. The Project Proponents shall be responsible for repairs related to project impacts and not for general rehabilitation or restoration activities on the Hotel Marshall.

32 National Parks Service, 2001. *Protecting a Historic Structure during Adjacent Construction. Preservation Tech Notes*. July 2001. pp 1-8.

4.4-1(b) (ESC/SPD)

Implement Mitigation Measure 4.8-3.

Mitigation Measure 4.8-3(a) addresses vibration related impacts to both historic and non-historic buildings, including the development of a Noise and Vibration Reduction Plan to identify construction techniques that avoid exceeding the vibration threshold for historic buildings, as well as repairs consistent with the Secretary of Interior Standards Treatment of Preservation.

Impact Significance After Mitigation: Mitigation Measures 4.4-1(a) and 4.4-1(b) would reduce potential impacts to a ***less-than-significant*** level by ensuring that damage to the Hotel Marshall from demolition is minimized, and that any damage that does occur is identified and rectified promptly and in a manner that does not alter the historic character of the building. Mitigation Measure 4.8-3(a) addresses vibration related impacts to both historic and non-historic buildings, including the development of a Noise and Vibration Reduction Plan to identify construction techniques that avoid exceeding the vibration threshold for historic buildings. The plan will include pre-construction documentation, vibration monitoring during construction, and post-construction reporting and repair requirements.

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Downtown Project Site

The City identifies the downtown grid, with its close proximity to the confluence of the Sacramento and American Rivers, as an area of high sensitivity for both prehistoric and historic-era archaeological resources.[33] A large prehistoric site has been identified on what was formerly the historic shoreline of Lake Sutter, near the Downtown project site. Consultation with the UAIC and SSBMI has noted considerably Native American interest in potential prehistoric archaeological resources, especially in light of the presence of known prehistoric sites within the vicinity of the project. As discussed in the City of Sacramento Master Plan EIR, the downtown grid between I and L Streets, from Front Street to 12th Street, is elevated between four to fifteen feet. Historic-era archaeological resources are abundant downtown due to the raising of the surface street level.

Despite the general archaeological sensitivity of the Downtown project site, the previous excavation and construction of the underground parking lots and the existing buildings has effectively removed much of the historic-era ground surface and related traces of prehistoric or historic-era occupation and use in the project area. Geological coring sampling conducted by Geocon Consultants, Inc, encountered fill in one of the boring locations performed below the lower parking level, observing brick fragments, porcelain, and wood debris in the soil, with the

[33] City of Sacramento, 2009. *City of Sacramento 2030 General Plan Master Environmental Impact Report.* Certified March 3, 2009. p. 6.4-3.

fill extending about 5 feet below grade. The remainder of the borings encountered native alluvial soil immediately below the pavement/concrete surfaces. Geocon completed eleven total geological testing cores, with two of those under pavement encountering fill and one isolated core encountering fill below the parking garage. The remainder encountered native soil.[34]

Current plans indicate excavation depths of approximately 5 to 7 feet below the existing garage level, potentially extending an additional five feet for the wastewater vault. It is possible that portions of the existing project footprint include areas of previous undisturbed soil. In addition, the installation of utilities (e.g., electrical infrastructure by SMUD) could require excavation in areas with undisturbed soils.

Based on a review of current site plans, core sampling completed to date, and known disturbance, for much of the project area, there appears to be a low potential to uncover either prehistoric or historic-era archaeological resources during project implementation. Geological coring has indicated the potential for archaeological resources beneath the former site of the Weinstock's & Lubin Department Store. It is currently unknown if these deposits are intact, or were disturbed by subsequent construction. While unlikely because of the disturbance that has occurred to date, it is possible that there are archaeological resources present below the existing buildings in the Downtown project site. If such resources are present, the potential damage and/or loss of those resources would be a **significant impact**.

Offsite Digital Billboards

The survey conducted for the project by a qualified archaeological did not identify any significant archaeological resources at nine of the ten potential digital billboard sites, and there appears to be a low potential for unidentified archaeological resources to be located at those nine sites during construction.

The proposed I-5 at Bayou Road digital billboard would be located approximately 30 feet south of Bayou Road, 45 feet east of an existing electrical box adjacent to the sidewalk, and approximately 140 feet west of the North Natomas Self Storage facility parking lot. During a site visit to the proposed I-5 at Bayou Road digital billboard site, a qualified archaeologist located a small scattering of historic period artifacts within 15 feet of the existing electrical box along Bayou Road. The scattering included a stoneware ale bottle fragment, a white improved earthenware (WIE) fragment with a partial maker's mark, glass (amethyst, aqua, brown, and colorless), and oyster shell. This historic period artifact scatter has been identified as site SAS-1, as shown in Appendix G (see the DPR 523 form at the end of Appendix G of this EIR). This small scatter of material was found in an area within 15 feet of the south and east sides of a large electrical box on the south side of Bayou Road. The discovered resources probably date to the 1870s or earlier, after which stoneware ale bottles fell out of favor, and amethyst glass production dropped off dramatically after the first two decades of the 20th century. There is not enough of the maker's mark on the WIE to make a definitive identification.

[34] Geocon Consultants Inc, 2013. *Geotechnical Investigation of the Sacramento Entertainment and Sports Center, Sacramento, California. Prepared for Sacramento Basketball Holdings, LLC*. November 2013. p. 3.

Limited historical information about the area surrounding the artifact scatter location was discovered during historical research conducted for the Proposed Project. One oblique reference to historical activities in the proposed billboard vicinity that may pertain to the historic period artifact scatter found at the proposed billboard site was noted by Thompson & West:[35]

> The Six Mile House was on the old road to Marysville, about six miles from Sacramento. It was built by Mr. Holmes in 1852 or 3. He mortgaged his place, including 160 acres of land, to Mr. Hughes, who was obliged to foreclose in 1857. At this sale it was bought by H.C. Harvey. It has not been used as a hotel for some time previous to this. Harvey kept it as a hotel and farm house. Harvey was at this time interested in a stage line from Sacramento to Marysville. The place is now owned by Mr. Basley.

A map in Thompson & West depicts an unnamed road running roughly southeast-northwest less than 1/8-mile to the east of the site.[36] Given the size of Sacramento at the time the map was published (1880) the identified historic period artifact scatter location would have been roughly six miles north of the established downtown area of Sacramento. The temporally diagnostic artifacts at the site would fit into the time of occupation of Six Mile House. While this is a tenuous connection, later maps indicate that there was probably little habitation in the area through the later-half of the 19th century, limiting the list of possible historical associations. This fact is highlighted by an 1885 map that depicts the whole region as "Swamp and Overflow Land," indicating the area was not heavily used for habitation or built services.

The footprint of the identified historic period artifact scatter at the I-5 at Bayou Road site is small, and the resources were found on the ground surface in an area that had been disturbed by grading of nearby developments, regular disking, and the installation of the electrical box. An intensive survey of the surrounding area found no addition artifacts outside an approximately 15-foot radius around the electrical box. At this time there is no clear association for the material. Construction of the proposed digital billboard would avoid impacts to the identified historic resources scattering due to the distance between the locations, but may encounter other buried historic period resources deposits as the area for billboard construction is prepared and the footing is excavated.

While unlikely, there is always the possibility of inadvertent discovery of archaeological resources during ground disturbing activities (e.g., drilling five feet for base construction), which would be a ***significant impact***.

Mitigation Measures

4.4-2(a) (ESC/SPD/DB)

The project applicant shall retain a qualified archaeologist (i.e., defined as an archaeologist meeting the Secretary of the Interior's Standards for professional

[35] Thompson & West. 1880. History of Sacramento County, California with Illustrations. Oakland, CA. p. 210
[36] Thompson & West. 1880. History of Sacramento County, California with Illustrations. Oakland, CA.

archaeology) to carry out all actions related to archaeological and historical resources. Prior to the start of any ground disturbing activities, the qualified archaeologist shall conduct a Cultural Resources Sensitivity Training for all construction personnel working on the project. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The project applicant shall inform the City Preservation Director prior to ground disturbing activities. During ground disturbing activities, archaeological monitoring shall be undertaken by the qualified archaeologist and Native American monitor as approved by the City Preservation Director.

4.4-2(b) (ESC/SPD/DB)

If items of historic or archaeological interest are discovered, the construction contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, baked clay fragments, or faunal food remains (bone and shell); stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and/or battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include the remains of stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation the contractor shall immediately contact the City. The contractor shall not resume work until authorization is received from the City.

Any inadvertent discovery of cultural resources during construction shall be evaluated by a qualified archaeologist. If deemed appropriate by the qualified archaeologist, an Archaeological Testing and Recovery Plan shall be prepared and implemented for the area subject to excavation. The qualified archaeologist shall determine whether monitoring is appropriate when construction activities resume.

If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the State CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with State CEQA Guidelines section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, the archaeologist shall develop a treatment plan in consultation with the City and appropriate Native American representatives (if the find is of Native American origin).

4.4-2(c) (ESC/SPD/DB)

If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. No

additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.

4.4-2(d) (DB – I-5 at Bayou Road)

Prior to project construction at the I-5 at Bayou Road digital billboard site, on-site construction personnel shall attend a mandatory pre-project training led by a Secretary of the Interior-qualified archaeologist. The training will outline the general archaeological sensitivity of the area (without providing site specifics) and the procedures to follow in the event an archaeological resource and/or human remains are inadvertently discovered.

Prior to installation of the billboard, a Secretary of the Interior-qualified archaeologist shall establish an Archaeologically Sensitive Area (ASA) that shall remain in place during construction activities within and adjacent to the ASA. The ASA will include the electrical box and a 15-foot radius around the electrical box, as well as a 10-foot buffer around that radius. No personnel associated with project activities would be allowed access within the ASA without an archaeologist present. The archaeologist shall also monitor any activities within the ASA to ensure that ground disturbing activities do not adversely affect the known archaeologically-sensitive resources within the ASA.

Monitoring shall be required during all earthmoving activities associated with the installation of the billboard including, but not limited to site preparation, excavation of the footing for the billboard, and utility trenching.

If archaeological materials are encountered during billboard construction, all soil disturbing activities within 25 feet in all directions of the find shall cease until the resource is evaluated. The monitor shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological resource. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the State CEQA Guidelines section 15064.5), mitigation shall be implemented in accordance with PRC Section 21083.2 and section 15126.4 of the State CEQA Guidelines, with a preference for preservation in place. Consistent with State CEQA Guidelines section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, the archaeologist shall develop a treatment plan in consultation with the City. At the conclusion of constructions activities, the archaeological monitor shall submit a memorandum to the City describing what, if any, archaeological resources were encountered during construction activities.

Impact Significance After Mitigation: Mitigation Measures 4.4-2(a) through 4.4-2(d) would avoid and/or lessen the above impact by ensuring that any existing archaeological resources are appropriately identified, documented, evaluated, and treated promptly, so they are not inadvertently damaged or destroyed. However, if a substantial archaeological resource is discovered, evaluation and recovery may not fully offset its removal from the project site. Additionally, while these mitigation measures would address impacts resulting from ground disturbance and construction relating to utility construction, the City cannot compel other services providers (such as SMUD or PG&E) to implement such measures. Because it is not known at this

time what, if any, archaeological resources are present, the impact would remain ***significant and unavoidable*** even with mitigation.

Impact 4.4-3: Construction of the Proposed Project could damage and/or destroy paleontological resources.

Downtown Project Site

The City of Sacramento and surrounding area are not highly sensitive for paleontological resources although some discoveries have been made in the past. As with archaeological resources, the excavation and construction of the underground parking lots and the existing buildings has largely removed the historic-era ground surface and any potential traces of paleontological resources in the Downtown project site. Based on a review of current site plans and known disturbance, there appears to be a very low potential to uncover paleontological resources during project implementation. Nonetheless, if such resources are present, they could be damaged or destroyed during project excavation, pile driving, utilities installation by SMUD, PG&E and/or the City and related construction activities. This is considered a ***significant impact***.

Offsite Digital Billboards

As described above, the Sacramento metropolitan and surrounding areas are not considered highly sensitive for paleontological resources. However unlikely, ground disturbing activities in previously undisturbed areas damage or destroy paleontological site, which would be considered a ***significant impact***.

Mitigation Measures

4.4-3(a) (ESC/SPD/DB)

The project applicant shall retain a qualified paleontologist to carry out all actions related to paleontological resources. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Sensitivity Training for all construction personnel working on the project. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.

4.4-3(b) (ESC/SPD/DB)

If discovery is made of items of paleontological interest, the contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery. After cessation of excavation the contractor shall immediately contact the City. The contractor shall not resume work until authorization is received from the City. Any inadvertent discovery of paleontological resources during construction shall be evaluated by a qualified paleontologist. If it is determined that the project could damage a unique

paleontological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City.

Impact Significance After Mitigation: Mitigation Measure 4.4-3(a) and (b) would ensure that paleontological resources would be identified before they had been damaged or destroyed, and then properly evaluated and treated. The impact would therefore be ***less than significant*** with mitigation.

Cumulative Impacts

The cumulative setting for cultural resources includes Sacramento County for historic period resources, and the portions of Central Valley identified as the territory of the local Native American community for prehistoric archaeological resources. Historic resources tend to be concentrated within city limits, however, even within city limits, the majority of these resources have not been surveyed for significance under local, state, or federal criteria.

Within the city, excavations have uncovered evidence of prehistoric Native American culture dating to 7,750 before present, and future development within city limits increases the likelihood that archaeological sites be uncovered.

Impact 4.4-4: The Proposed Project would contribute to cumulative losses of historical resources.

Historic development of the City of Sacramento dates back to the mid-nineteenth century, and the downtown core reflects the ongoing development of the City, including the redevelopment of the 1950s and 1960s, construction of the K Street Pedestrian Mall, and subsequent development including the Downtown Plaza. No Proposed Project activities or components would physically alter known historical resources such that the significance of these historical resources would be materially impaired by negatively affecting the buildings' historic integrity of location, design, workmanship, materials, feelings, and association.

Demolition activities adjacent to the Hotel Marshall do have the potential to damage that historic building, as discussed in Impact 4.4-1. In addition, vibration from construction activities does have the potential to physically damage historical resources immediately adjacent to the downtown project site (including the Hotel Marshall and the Raised Streets and Hollow Sidewalks District [P-34-002358]). If historic resources were damaged or destroyed during construction of the Proposed Project, then the project contribution to cumulative loss of historic resources would be considered ***significant***.

Mitigation Measure

4.4-4 (ESC/SPD/DB)

Implement Mitigation Measure 4.4-1.

Impact Significance After Mitigation: Mitigation Measure 4.4-1(a) and (b) would ensure that the Hotel Marshall and other historic properties adjacent to the Downtown project site are protected from damage during project construction. With mitigation, the project contribution to the cumulative loss of historic resources would not be considerable and is ***less than significant***.

Impact 4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.

Excavations in the city have uncovered evidence of Native American culture dating back to 3,000 B.C.E, as well as historic archaeological sites dating to the mid-nineteenth century and settlement by Europeans. Potential future development increases the likelihood that prehistoric and historic archaeological sites will be uncovered, and it is therefore possible that cumulative development could result in the demolition or destruction of unique archaeological resources, which could contribute to the erosion of the prehistoric record of the city. Archaeological resources are finite, and the loss this material record cannot be completely mitigated.

Due to the extensive development of the Downtown project site, it is not currently possible to thoroughly address the potential for subsurface resources. While there had been considerable previous ground disturbance and several feet of historic fill covers much of the ground surface, it is still possible that historic and prehistoric period resources are present under the surface of the project site. Further, there could be undiscovered resources at the digital billboard sites. Any loss of these resources would contribute to a cumulatively ***significant impact*** to archaeological resources within the region.

Mitigation Measures

4.4-5 (ESC/SPD/DB)

Implement Mitigation Measure 4.4-2.

Impact Significance After Mitigation: Mitigation Measure 4.4-2 would ensure that existing archaeological resources are identified, evaluated and treated promptly before they can be damaged or destroyed during construction. However, as noted above, archaeological resources are finite. As such, the loss of this material record cannot be completely mitigated. Therefore, the project's potential contribution to this impact would be ***significant and unavoidable***.

Impact 4.4-6: The Proposed Project would contribute to cumulative losses of paleontological resources.

The City of Sacramento and surrounding areas are not considered highly sensitive for the presence of paleontological resources. Nonetheless, there could be undiscovered paleontological resources located in the region. Development that requires extensive excavation and pile driving,

such as the construction of office and residential towers in the urban core, and the conversion of undeveloped land to urban uses, could damage or destroy such resources. This is considered a significant cumulative impact. The Proposed Project could contribute to this impact if paleontological resources are located beneath the Downtown project site or within the digital billboard sites.

Mitigation Measure

4.4-6 (ESC/SPD/DB)

Implement Mitigation Measure 4.4-3.

Impact Significance After Mitigation: Mitigation Measure 4.4-3 would lessen the project contribution toward the loss of paleontological resources by requiring that work stop if such resources are discovered until the resource can be evaluated and properly treated. The project contribution to the cumulative loss of paleontological resources would therefore *be **less than significant*** with mitigation.

4.5 Global Climate Change

This section assesses the potential greenhouse gas (GHG) emissions and climate change effects of construction and operation of the Proposed Project and identifies potentially feasible mitigation measures where appropriate. The analysis was developed based on project-specific construction and operational features described in Chapter 2, Project Description, on traffic information generated as part of the analysis presented in section 4.10, Transportation and Circulation, and on data provided in the *City of Sacramento 2030 General Plan*,[1] *City of Sacramento 2030 General Master Environmental Impact Report*,[2] the Sacramento Metropolitan Air Quality Management District (SMAQMD) *Guide to Air Quality Assessment*,[3] and the City's *Climate Action Plan Consistency Review Checklist*.[4]

Comments received in response to the NOP (see Appendix A) included a letter from the SMAQMD requesting a climate change impact analysis, including construction and operational GHG emissions for the Proposed Project, as well as identification of mitigation measures to address significant GHG emissions. Several other comments on the NOP pertained to energy efficiency of the Proposed Project and GHG emissions associated with on-road vehicles. These issues and concerns are addressed in this section.

4.5.1 Environmental Setting

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal.[5] Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) has concluded that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing greenhouse gas concentrations resulting from human activity such as fossil fuel burning and deforestation are believed to be responsible for most of the observed temperature increase. Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. Certain gases in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. This is sometimes referred to as the "greenhouse effect" and the gases that cause it are called "greenhouse gases." Some GHGs occur naturally and are necessary for keeping the earth's surface inhabitable. However,

1 City of Sacramento, 2009a. *2030 General Plan, Land Use and Urban Form Designations and Development Standards*. Adopted March 3, 2009.
2 City of Sacramento, 2009b. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009.
3 Sacramento Metropolitan Air Quality Management District, 2009. *Guide to Air Quality Assessment.* Adopted December 2009 and last updated October 2013.
4 City of Sacramento, 2013. *Climate Action Plan Consistency Review Checklist*. June 27, 2013. pp. 1-13.
5 Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom. 2007. p. 9.

increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be intensified. CO_2, CH_4, and N_2O occur naturally, and are also generated through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing[6] associated with agricultural practices and landfills. Other human-generated GHGs include fluorinated gases such as SFCs, PFCs, and SF_6, which have much higher heat-absorption potential than CO_2, and are byproducts of certain industrial processes.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. For example, CH_4 and N_2O are substantially more potent GHGs than CO_2, with GWPs of 21 and 310 times that of CO_2, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e, both from residential developments and human activity in general.

Potential Effects of Human Activity on GHG Emissions

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO_2 concentrations were found to have increased by nearly 30 percent above pre-industrial (c. 1860) concentrations.

There is international scientific consensus that human-caused increases in GHGs have contributed and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include the displacement of thousands of coastal businesses and residences, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. As the California Air Resources Board (CARB) *Climate Change Scoping Plan* noted, the legislature in enacting Assembly Bill (AB) 32 found that global warming would cause detrimental effects to some of the state's largest industries, including agriculture, winemaking, tourism, skiing,

6 Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

commercial and recreational fishing, forestry, and the adequacy of electrical power generation. The *Climate Change Scoping Plan* states as follows:[7] "The impacts of global warming are already being felt in California. The Sierra snowpack, an important source of water supply for the state, has shrunk 10 percent in the last 100 years. It is expected to continue to decrease by as much as 25 percent by 2050. World-wide changes are causing sea levels to rise – about 8 inches of increase has been recorded at the Golden Gate Bridge over the past 100 years – threatening low coastal areas with inundation and serious damage from storms." AB 32 is discussed further below under Regulatory Setting.

Impacts of Climate Change

Ecosystem and Biodiversity Impacts

Climate change is expected to have effects on diverse types of ecosystems.[8] As temperatures and precipitation change, seasonal shifts in vegetation would occur; this could affect the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that "20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels".[9] Shifts in existing biomes could also make ecosystems vulnerable to encroachment by invasive species. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts

Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects such as malaria, dengue fever, yellow fever, and encephalitis. Cholera, which is associated with algal blooms, could also increase. While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency and could adversely affect the elderly, children, and the homeless. Finally, the water

7 California Air Resources Board, 2008. *Climate Change Scoping Plan*. Adopted December 11, 2008, re-approved by the CARB on August 24, 2011. p. 10.

8 United States Environmental Protection Agency, 2008a. *Climate Change – Ecosystems and Biodiversity.* http://www.epa.gov/climatechange/effects/eco.html. Accessed June 19, 2012.

9 Intergovernmental Panel on Climate Change, 2007. *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom. 2007. p. 38.

supply impacts and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.[10]

Greenhouse Gas Emissions Estimates

Global Emissions

Worldwide emissions of GHGs in 2004 were approximately 30 billion tons of CO_2e per year.[11] This includes both ongoing emissions from industrial and agricultural sources, but excludes emissions from land use changes.

U.S. Emissions

In 2009, the United States emitted about 6.7 billion tons of CO_2e or about 21 tons per year per person. Of the four major sectors nationwide — residential, commercial, industrial, and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 33 percent); these emissions are entirely generated from direct fossil fuel combustion.[12]

State of California Emissions

In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration. California produced approximately 452 million gross metric tons of CO_2e in 2010. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2010, accounting for 38 percent of total GHG emissions in the state. This sector was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent).[13]

City of Sacramento Emissions

Based on the 2005 GHG inventory for the City of Sacramento, the transportation sector represents the largest source of GHG emissions, accounting for 48.4 percent of the City's annual emissions of 4.16 million metric tons of CO_2e. Electricity and natural gas combustion for the

[10] United States Environmental Protection Agency, 2008b. *Climate Change – Health and Environmental Effects.* http://www.epa.gov/climatechange/effects/health.html#climate. Accessed June 19, 2012.

[11] United Nations Framework Convention on Climate Change, 2012. *Total CO_2 Equivalent Emissions without counting Land-Use, Land-Use Change and Forestry (LULUCF).* http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php. Accessed January 7, 2013. (For countries for which 2004 data was unavailable, the most recent year was used.)

[12] United States Environmental Protection Agency, 2011. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009; Executive Summary, Table ES-2.* April 2011. pp. 5-7.

[13] California Air Resources Board, 2013. *California Greenhouse Gas Inventory for 2000-2010 — by Category Defined in the Scoping Plan*. February 19, 2013. pp. 1-2.

operation, heating, and cooling of commercial, industrial, and residential buildings accounted for another 42.5 percent of annual CO_2e emissions. The other CO_2e emission sectors included in the inventory (with percent contributions reported in parentheses) were waste (5.8 percent), wastewater treatment (1.4 percent), industrial specific sources (0.7 percent), water related (0.3 percent), and municipal operations (1.9 percent).[14]

4.5.2 Regulatory Setting

Federal

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court held that the United States Environmental Protection Agency (U.S. EPA) must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., twelve states and cities, including California, together with several environmental organizations sued to require the U.S. EPA to regulate GHGs as pollutants under the CAA (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and the U.S. EPA had the authority to regulate GHGs.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- ***Endangerment Finding:*** The current and projected concentrations of the six key GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- ***Cause or Contribute Finding:*** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the U.S. EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the U.S. EPA to develop "…mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…." The Reporting Rule will apply to most entities that emit 25,000 metric tons of CO_2e or more per year. Starting in 2010, facility owners are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the U.S. EPA to verify annual GHG emissions reports.

[14] City of Sacramento, 2012. *Sacramento Climate Action Plan.* Adopted February 14, 2012. p. 2-7

State

The legal framework for GHG emission reduction has come about through Governors' Executive Orders, legislation, and regulation. The major components of California's climate change initiative are reviewed below.

California Environmental Quality Act and Senate Bill 97

Under CEQA lead agencies are required to disclose the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to global climate change. In turn, global climate change has the potential to raise sea levels, alter rainfall and snowfall, and affect habitat.

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA Guidelines, as required by SB 97. These State CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective March 18, 2010.

State CEQA Guidelines

The State CEQA Guidelines are embodied in the California Code of Regulations (CCR), Public Resources Code, Division 13, starting with Section 21000. State CEQA Guidelines section 15064.4 specifically addresses the significance of GHG emissions, requiring a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." The CEQA Guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (State CEQA Guidelines section 15064(h)(3)). The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

The CEQA Guidelines also include the following direction on measures to mitigate GHG emissions, when such emissions are found to be significant:

Consistent with Section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;

(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

(4) Measures that sequester greenhouse gases; and

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

(State CEQA Guidelines section 15126.4(a).)

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493, which required the CARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by the CARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, the CARB approved amendments to the California Code of Regulations (CCR) in 2004, adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1), require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight [GVW] rating of less than 10,000 pounds and that is designed primarily for the transportation of persons), beginning with model year 2009. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for model year 2016 are approximately 37 percent lower than the limits for the first year of the regulations, model year 2009. For light-duty trucks with an LVW of 3,751 pounds to a GVW of 8,500 pounds, as well as for medium-duty passenger vehicles, GHG emissions will be reduced approximately 24 percent between 2009 and 2016.

Because the Pavley standards (named for the bill's author, state Senator Fran Pavley) would impose stricter standards than those under the CAA, California applied to the U.S. EPA for a

waiver under the CAA; this waiver was initially denied in 2008. In 2009, however, the U.S. EPA granted the waiver.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Arnold Schwarzenegger established Executive Order S-3-05, which sets forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 and the California Climate Change Scoping Plan

Assembly Bill 32 Requirements

In 2006, the California legislature passed Assembly Bill 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires the CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. The CARB has identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

Scoping Plan Provisions

Pursuant to AB 32, the CARB adopted a *Climate Change Scoping Plan* in December 2008 (re-approved by the CARB on August 24, 2011[15]) outlining measures to meet the 2020 GHG reduction goals. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures that are worth studying further, and that the State of California may implement, such as new fuel regulations. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and other sources could be achieved should the state implement all of the measures in the Scoping Plan. The Scoping Plan relies on the requirements of Senate Bill (SB) 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions.

Cap-and-Trade Program

The Scoping Plan identifies cap-and-trade as a key strategy for helping California reduce its GHG emissions.[16] A cap-and-trade program sets the total amount of greenhouse gas emissions

[15] California Air Resources Board, 2008. *Climate Change Scoping Plan.* Adopted December 11, 2008, re-approved by the CARB on August 24, 2011. pp. ES-1 and 17.

[16] California Air Resources Board, 2008. *Climate Change Scoping Plan*. Adopted December 11, 2008, re-approved by the CARB on August 24, 2011. pp. 18-20.

allowable for facilities under the cap and allows covered sources, including producers and consumers of energy, to determine the least expensive strategies to comply. AB 32 required the CARB to adopt the cap-and-trade regulation by January 1, 2011, and the program itself began in November 2012.

Carbon offset credits are created through the development of projects, such as renewable energy generation or carbon sequestration projects, that achieve the reduction of emissions from activities not otherwise regulated, covered under an emissions cap, or resulting from government incentives. Offsets are verified reductions of emissions whose ownership can be transferred to others. As required by AB 32, any reduction of GHG emissions used for compliance purposes must be real, permanent, quantifiable, verifiable, enforceable, and additional. Offsets used to meet regulatory requirements must be quantified according to the CARB-adopted methodologies, and the CARB must adopt a regulation to verify and enforce the reductions. The criteria developed will ensure that the reductions are quantified accurately and are not double-counted within the system.[17]

Executive Order S-1-07

Executive Order S-1-07, signed by then-Governor Arnold Schwarzenegger in 2007, proclaimed that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. The order established a goal of reducing the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. It also directed the CARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bills 1078 and 107 and Executive Orders S-14-08 and S-21-09

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33-percent-by-2020 goal was codified in April 2011 with Senate Bill X1-2, which was signed by Governor Edmund G. Brown, Jr. This new Renewable Portfolio Standard (RPS) preempts the CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state,

[17] California Air Resources Board, 2008. *Climate Change Scoping Plan.* Adopted December 11, 2008, re-approved by the CARB on August 24, 2011. pp. 36-38.

including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. Consequently, the Sacramento Metropolitan Utility District (SMUD), who would be the electricity provider for the Project, must meet the 33 percent goal by 2020. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by then-Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (CPUC) to establish a GHG emission performance standard for baseload generation from investor-owned utilities by February 1, 2007. The California Energy Commission (CEC) was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

Senate Bill 375

In addition to policy directly guided by AB 32, the legislature in 2008 passed SB 375, which provides for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires Regional Transportation Plans (RTPs) developed by the state's 18 metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) that will achieve GHG emission reduction targets set by the CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. SB 375 would be implemented over the next several years. The Sacramento Area Council of Government's (SACOG) *Metropolitan Transportation Plan/Sustainable Communities Strategy for 2035* was adopted on April 19, 2012. SACOG's *Strategy* calls for meeting and exceeding the CARB GHG reduction goals from passenger vehicles and light-duty trucks of 7% by 2020 and 16% by 2035, where 2005 is the baseline year for comparison.[18]

Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code (CALGreen) that establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of minimum guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels. This Code went into effect as part of local jurisdictions' building codes on January 1, 2011.

[18] Sacramento Area Council of Governments, 2012. *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted April 19, 2012. p. 178.

Senate Bill 743/Public Resources Code 21168.6.6

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) which, among other things, added Section 21168.6.6 to the Public Resources Code (PRC Section 21168.6.6).[19] PRC Section 21168.6.6 modifies certain CEQA procedures as they apply to qualifying projects.

In order to meet the definition of "Downtown arena" under PRC Section 21168.6.6, the proposed ESC must receive Leadership in Energy and Environmental Design (LEED) Gold certification for new construction within one year of completion of the first NBA season. Strategies proposed to qualify the project for LEED Gold certification are described in Chapter 2, Project Description. The "Downtown arena" also must take the following steps to minimize operational traffic congestion and reduce global climate change impacts:

1. Achieve and maintain carbon neutrality or better by reducing to at least zero the net emissions of greenhouse gases from private automobile trips (automobiles and light vehicles) to the Sacramento ESC as compared to the baseline, and as verified by the Sacramento Metropolitan Air Quality Management District (SMAQMD);

2. Achieve a per attendee reduction in greenhouse gas emissions from automobiles and light trucks compared to per attendee greenhouse gas emissions associated with the existing arena during the 2012-13 NBA season that will exceed the carbon reduction targets for 2020 and 2035 achieved in the Sacramento Area Council of Governments (SACOG) sustainable communities strategy; and

3. Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline.

The relationship of the proposed ESC to Steps 1 and 2 is discussed below.

Step 1 – Achieve and Maintain Carbon Neutrality

For Step 1, the carbon neutrality criterion, CO_2 emissions from private automobiles and light duty vehicles traveling to and from the proposed ESC in 2017, the first full year of operation, were compared to CO2 emissions from the CEQA baseline of existing conditions. Based on consultation with the SMAQMD, the existing conditions baseline was defined as average annual attendance at Sleep Train Arena from 2002 through 2013 (also known as Arco Arena and Power Balance Pavilion during this period). The average annual attendance over this time span was 1,358,208 (see Appendix K).[20] This baseline reflects a time span that includes years of high attendance denoted by a strong economy, the Sacramento Kings being very successful on the court and making the NBA playoffs, and the presence of the WNBA Monarchs including a year when the team won the WNBA championship. This time span also includes periods of lower attendance caused in part by a slumping economy, an NBA strike (2012), the folding of the Sacramento Monarchs, and poorer on-court performance by the Kings, as well as years (2012-2013) where attendance was influenced by threats of relocation of the Kings to another city. Although variation in team performance and

19 A copy of PRC Section 21168.6.6 is contained in Appendix F of this Draft EIR.

20 Attendance represents the total number of patrons going through turnstiles at Sleep Train Arena. It is not limited to paid tickets.

economic business cycles are anticipated in the future, the inclusion of the variation created by threats of relocation make the use of this baseline conservative because the preliminary term sheet requires that the Proposed Project include a 35-year lease for the Kings.

Table 4.5-1 compares the annual CO_2 emissions from travel to and from Sleep Train Arena to the projected CO_2 emissions from travel to and from the proposed ESC, and shows the net change between the two venues, including accounting for a projected increase in annual attendance of 296,892 per year, from the baseline of 1,358,208 to a projected 1,654,150 per year under the Proposed Project. The projection of baseline annual attendance is conservative because this attendance level would be higher than any year at Sleep Train Arena based on attendance data since 2008 (see Appendix K). As called for in SB 743, emissions are based on annual vehicle miles traveled (VMT) to and from each venue by private automobiles and light duty vehicles,[21] and do not include emissions associated with building energy use or other operating criteria that generates CO_2 emissions (water use, wastewater disposal, or solid waste disposal). Based on this analysis, the proposed ESC would meet the Step 1 carbon neutrality requirement of SB 743 because it would result in a net decrease of 268 metric tons CO_2 per year when compared to the baseline of existing annual emissions. CO_2 emissions would be lower for the proposed ESC as compared to Sleep Train Arena despite a projected average ESC attendance of nearly 296,000 attendees per year leading to a higher total annual VMT. The reason for this is that CO_2 emissions per vehicle in 2017 would be 11.2 percent lower than Sleep Train's CO_2 emissions per vehicle in 2013, which outweighs ESC's 7.1 percent increase in total VMT.

TABLE 4.5-1
SB 743 STEP 1 – CARBON NEUTRALITY COMPARISON

	Average Attendance	VMT	CO_2 Emissions (metric tons/year)	Net Change Sleep Train vs. ESC CO_2 Emissions (metric tons/year)
Sleep Train Arena	1,358,208	14,908,710	5,458	
Proposed ESC	1,654,150	15,969,083	5,190	-268

NOTES: Additional description and calculations included in Appendix B.
SOURCE: ESA, 2013.

Step 2 – Achieve Per Attendee Reduction in GHG Emissions

Step 2 requires a comparison of the reduction in per attendee GHG emissions for the proposed ESC compared to the carbon reduction targets established in the SACOG MTP/SCS that was approved in April 2013. Table 4.5-2 compares the annual CO_2 emissions from private automobiles and light duty vehicles per attendee at Sleep Train Arena to the same emissions per attendee for the proposed ESC, estimated for years 2020 and 2035. Unlike Step 1, which includes total annual arena attendance and total annual emissions, this comparison is based on emissions per attendee for all types of events. In order to qualify as a "Downtown arena" under SB 743, the

[21] See section 4.10, Transportation, for a discussion of the methodology for calculation of the VMT associated with the two venues.

2020 and 2035 CO_2 per attendee values must meet or exceed SACOG's MTP/SCS goals of a 9% CO_2 reduction for 2020 and a 16% reduction for 2035.

Table 4.5-2 shows that during the 2013 NBA season (from July, 2012 through June, 2013) passenger automobiles and light duty vehicles traveling to and from events at Sleep Train Arena resulted in emissions of 9.4 pounds per attendee based on an average of 11.6 vehicle miles traveled per attendee. By comparison, the proposed ESC would generate 6.0 pounds CO_2 per attendee in 2020 and 5.1 pounds CO_2 per attendee in 2035. The lower emissions per attendee at the proposed ESC would be due in part to lower VMT per attendee in 2020 and 2035, which is projected to be largely due to the proposed location of the ESC in downtown Sacramento as well as because the amount of non-automotive travel to and from the proposed ESC due to proximity to transit. In addition, CO_2 emissions are projected to decrease from 2013 to 2020 and from 2020 to 2035 due to the California Air Resources Board's Pavley clean-car standards and to the implementation of the Low Carbon Fuels Standard (LCFS). As presented in Table 4.5-2, in 2020 the proposed ESC would have CO_2 emissions per attendee 36% lower than the 2013 Sleep Train Arena CO_2 emissions per attendee, easily exceeding the SACOG SCS target of 9% in 2020. In 2035, the proposed ESC would have CO_2 emission per attendee 45% lower than the 2013 Sleep Train Arena CO_2 emissions per attendee, also easily exceeding the SACOG SCS target of 16% in 2035.

TABLE 4.5-2
SB 743 STEP 2 –GHG REDUCTION PER ATTENDEE COMPARISON TO SCS TARGETS

Period/Factor	VMT per Attendee	Percent Reduction to Sleep Train: VMT per Attendee	SACOG SCS Carbon % Reduction Goals	Pounds CO_2 per Attendee	Percent Reduction to Sleep Train Arena: CO_2 per Attendee	Exceed SCS Targets?
Sleep Train Arena: 2013	11.6			9.4		
Proposed ESC: 2020	9.4	19%	9%	6.0	36%	**Yes**
Proposed ESC: 2035	9.0	22%	16%	5.1	45%	**Yes**

SOURCE: ESA 2013.

As presented above, the proposed ESC would meet the criteria established in SB 743 Steps 1 and 2 as defined for a "Downtown arena" under PRC Section 21168.6.6.

Local

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to GHGs and climate change.

Goal ER 6.1 Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that contribute to climate change.

Policies

- **ER 6.1.7 Greenhouse Gas Reduction Goal.** The City shall work with the CARB to comply with statewide GHG reduction goals as established in the *Global Warming Solutions Act of 2006 for 2020* and any subsequent targets.

- **ER 6.1.9 Greenhouse Gas Reduction in New Development.** The City shall reduce GHG emissions from new development by discouraging auto-dependent sprawl and dependence on the private automobile; promoting water conservation and recycling; promoting development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; improving the jobs/housing ratio in each community; and other methods of reducing emissions.

- **ER 6.1.11 Coordination with SMAQMD.** The City shall coordinate with SMAQMD to ensure projects incorporate feasible mitigation measures if not already provided for through project design.

- **ER 6.1.14 Zero-Emission and Low-Emission Vehicle Use.** The City shall encourage the use of zero-emission vehicles, low-emission vehicles, bicycles and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure and parking facilities in residential developments and employment centers to accommodate these vehicles.

The Proposed Project would be consistent with the goals and policies in the Sacramento General Plan (ER 6.1.7). As described below, the Proposed Project would be consistent with the City of Sacramento Climate Action Plan, which, in turn, is consistent with the CARB's Scoping Plan and the emission reduction goals contained therein.

The Proposed Project would reduce GHGs from new development (ER 6.1.9). By shuttering Sleep Train Arena and replacing it with proposed ESC as described in Chapter 2, Project Description, the length of trips to and from the ESC would be reduced compared to Sleep Train Arena, and many automobile trips can be replaced with pedestrian, bicycle, and transit trips. Also, the Proposed Project would include residential units and other mixed-use development that would have access to transit and would not need to rely solely on automobile travel. The Proposed Project would be energy efficient and would be a mixed-use project with an improved jobs-housing balance.

The Proposed Project is being closely coordinated with SMAQMD (ER 6.1.11) to ensure that appropriate mitigation is selected and that the emission estimates are accurate.

The Proposed Project would encourage the use of zero-emission and low-emission vehicles (ER 6.1.14). Due to its location and proximity to other complementary uses, the Proposed Project would encourage pedestrian and bicycle access. In addition, the Proposed Project would include a bicycle valet service for the larger events.

City of Sacramento Climate Action Plan

The City of Sacramento Climate Action Plan (CAP) outlines multiple initiatives intended to help the City achieve its overall goals of reducing community-wide emissions by 15% below 2005 levels by 2020, 38% below 2005 levels by 2030, and 83% below 2005 levels by 2050. The CAP outlines seven strategies to meet these goals.[22] In order to determine the consistency of a project with the CAP, the City developed a Climate Action Plan Consistency Checklist[23] to provide a streamlined review process for proposed new development projects that are subject to environmental review pursuant to CEQA. The relationship of the Proposed Project to the CAP and the Climate Action Plan Consistency Checklist is discussed further under Impact 4.5-1, below.

4.5.3 Analysis, Impacts, and Mitigation

Significance Criteria

GHG emissions relate to an inherently a cumulative impact because no single project makes a significant contribution to global climate change. The State CEQA Guidelines require the analysis of GHGs and potential climate change impacts from new development. Under section 15183.5 of the State CEQA Guidelines:

> [p]ublic agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

The Sacramento Climate Action Plan qualifies under section 15183.5 of the State CEQA Guidelines as a plan for the reduction of GHG emissions for use in cumulative impact analysis pertaining to development projects. Thus, for purposes of this EIR, impacts to global climate change may be considered significant if the Proposed Project would result in the following:

- Conflict with the City's Climate Action Plan.

Methodology and Assumptions

The City has developed a CAP Consistency Review Checklist that is designed to streamline the GHG emissions review process for new development projects subject to CEQA. Projects that meet the City's CAP Consistency Review are considered to be consistent with the CAP and therefore would not result in significant GHG emissions/climate change impacts.

[22] City of Sacramento, 2012. *Sacramento Climate Action Plan.* Adopted February 14, 2012. pp. i-xiv.
[23] City of Sacramento, 2013. *Climate Action Plan Consistency Review Checklist*. June 27, 2013. pp. 1-13.

Impact and Mitigation Measures

Impact 4.5-1: Implementation of the Proposed Project could conflict with the City's Climate Action Plan.

The City's CAP establishes requirements for projects to reduce a portion of their estimated GHG emissions to assist the City in reducing GHG emissions in compliance with State law. The City has created a checklist to assist projects in demonstrating CAP consistency. The CAP Consistency Review Checklist includes seven criteria that a project must be evaluated against. Projects that are consistent with each of the seven criteria are considered consistent with Sacramento's CAP and would not have a significant GHG impact. As shown in the completed CAP Checklist in Appendix B, the Proposed Project would meet the City's seven CAP requirements as summarized here, because it:

1. Meets the City's 2030 General Plan for land use and urban form, allowable floor area ratio, and density standards,
2. Supports less than 15.9 VMT per capita based on its proposed location,
3. Will be located within the Central Business District, an area where traffic calming measures are not encouraged,
4. Incorporates pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan,
5. Complies with City's Bikeway Master Plan and the portions of City's Zoning Code that apply to bicycles and bike facilities,
6. Includes design features and mitigation measures that would reduce total energy demand by more than 15%.
7. Complies with the minimum CALGreen Tier I water efficiency standards.

The Proposed Project would meet each of the seven CAP Consistency Review Checklist items and is consistent with the City's CAP. As such, the Proposed Project would have a ***less-than-significant impact*** on climate change.

Mitigation Measure

None required.

4.6 Hazards and Hazardous Materials

This section addresses the potential of encountering contaminated soils and groundwater during construction activities and release of hazardous materials during construction and operation of the project.

Public comments received in response to the Notice of Preparation (see Appendix A) were primarily focused on the remediation issues related to the Railyards and the South Plume Groundwater Study Area. These issues are addressed in this section.

The analysis in this section is based on project-specific construction and operational features, data provided in the City of Sacramento 2030 General Plan and City of Sacramento 2030 General Plan Master Environmental Impact Report, a Phase I Environmental Site Assessment (2011 Phase I ESA) prepared by Hillmann Environmental Group, LLC[1], a Phase I Environmental Site Assessment (2013 Phase I ESA) prepared by Geocon[2], a Phase II Environmental Site Assessment (2013 Phase II ESA) prepared by Geocon[3], and the Final Draft Remedial Action Plan (RAP) for the South Plume Study Area prepared by ERM[4], and search of government databases for a listing of known listed contaminated sites. The 2011 and 2013 Phase 1 ESAs were based on slightly different boundaries and differed somewhat due to timing and approach. However, in combination, they fully cover the Downtown project site. Therefore, both Phase 1 ESAs are used in this analysis.

The following terms are used to refer to the project area:

- *Downtown project site*: The entire project area, including the ESC site and project mixed use sites, but exclusive of the digital billboard sites.
- *ESC site*: The area in which the ESC Arena and practice facilities/office building would be located.
- *SPD area*: The portion of the project site where the mixed use development would be located. Does not include the ESC site.
- *Project vicinity*: The area surrounding and near the project site.
- *Digital billboard sites*: The ten potential sites where offsite digital billboards could be located.

1 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011.
2 Geocon Consultants, Inc., 2013a. *Phase I Environmental Site Assessment Proposed Sacramento Entertainment and Sports Center Portion of Downtown Plaza, Sacramento, California*. November 2013.
3 Geocon Consultants, Inc., 2013b. *Phase II Environmental Site Assessment Sacramento Entertainment and Sports Center Sacramento, California*. November 2013.
4 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area-Groundwater, Sacramento, California*. January 2013.

4.6.1 Environmental Setting

Existing known soil and groundwater contamination on or within one mile of the project area and other potential existing hazardous materials are summarized below, based on information provided in the 2011 and 2013 Phase I ESAs prepared for the Downtown project site. The Phase I ESAs were prepared using generally accepted industry standards in accordance with the American Standard for Testing Materials (ASTM) Standard Practice E 1527-05. The complete report can be found in Appendix I of this document.

The California Department of Toxic Substance Control's (DTSC's) Hazardous Waste and Substances Sites (Cortese) List was searched to determine if any of the proposed digital billboard sites are included on the list. The results of this search are also presented in this section (Envirostor, 2013).[5] The Cortese list accesses a variety of data sources, including:

- A list of Hazardous Waste and Substances sites from DTSC's EnviroStor database;
- A list of Leaking Underground Storage Tank (LUST) Sites by County and Fiscal Year from the Water Board's GeoTracker database;
- A list of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels outside the waste management unit;
- A list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC; and
- The Sacramento Environmental Management Department electronic reporting page.[6]

Downtown Project Site

The Downtown project site was developed beginning in the 1800s and has housed a wide range of urban development, including retail, office, restaurant, lodging, saloon, cinema, gas station, dry cleaning, automotive repair, lumber yard, and printing facilities. Structures on portions of the Downtown project site were razed in the 1960s to accommodate construction of two levels of subterranean parking and retail stores. The Downtown Plaza was constructed in 1970, and remodeled in the early 1990s. The Downtown project site currently includes various retail, office and restaurant uses.

The topography is variable and underlying soils are classified as Urban Land, which is characterized as having more than 85 percent of the original soils disturbed or covered by paved surfaces or structures. The Sacramento River is located approximately 0.3 miles to the west-northwest. Depth to groundwater in the vicinity of the Downtown project site has measured between 7.58 to 29 feet below ground surface (bgs) with flow in a southeasterly direction.

5 Envirostor, 2013. *California Department of Toxic Substances Control. DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List).* http://www.envirostor.dtsc.ca.gov/public/. Accessed September 12, 2013.

6 Sacramento County, 2013. *Sacramento County Environmental Management Department Electronic Reporting.* http://www.emd.saccounty.net/EnvComp/HM/E-Reporting.html. Accessed November 22, 2013.

Groundwater was encountered during October 2013 geotechnical borings at depths ranging from 7.5 to 9 feet below the ESC site.[7] See section 4.7 Hydrology and Water Quality for additional discussion of groundwater.

Listed Sites

Three listed sites were identified within the Downtown project site, and each is summarized below.[8] One of the properties (515 L Street) was identified as Resource Conservation and Recovery Act (RCRA) Small Quantity Generators (SQG). RCRA-SQG facilities either generate between 100 kilograms (kg) and 1,000 kg of United States Environmental Protection Agency (US EPA) regulated hazardous waste per month or they meet other applicable requirements of RCRA. The second site (570 J Street) was listed on the RCRA Non-Generator list, which means they presently do not generate hazardous waste. One site (510 Downtown Plaza) was identified on the LUST list.

515 L Street (Kits Camera 1 Hour No 114) – was listed as a small quantity generator. Wastes identified for this site include silver and sodium hydroxide and/or hydrochloric acid. Although records were not available for review at the time of the Phase I ESA investigation, there is no documentation of a release of hazardous materials at this location.

570 J Street (Pacific Bell) – was described as a non-generator that does not presently generate hazardous waste. There is no documentation of a release of hazardous materials at this location.

510 Downtown Plaza (Parking Lot D) – is located under the Plaza in the vicinity of 5th and K Streets and is listed on the LUST list. Details indicate that a diesel release as detected that impacted site soils. Case closure was granted in 1993.

Other Contaminants

Asbestos-Containing Materials and Lead Based Paint. Asbestos is a naturally occurring mineral that can be hazardous to human health if it becomes airborne. Due to their small size, asbestos particles are easily inhaled. Inhaled fibers can become lodged in the lung or go to other parts of the body. Asbestos fibers can cause local inflammation and disrupt cell division in the lungs. Some of the diseases associated with asbestos exposure include lung cancer, mesothelioma, and asbestosis.

Based on a review of historical aerial photographs and records, much of the Downtown Plaza building constructed in 1970 was altered but not removed, and, therefore, could have been constructed with asbestos-containing materials or with lead-based paint. A survey to identify asbestos material or lead based paint has not been conducted for this structure.

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7 Geocon Consultants, Inc., 2013. *Phase I Environmental Site Assessment Proposed Sacramento Entertainment and Sports Center Portion of Downtown Plaza, Sacramento, California*. November 2013. p. 5.

8 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011. pp. 21 and 22.

Polychlorinated Biphenyl. Polychlorinated biphenyl (PCB) is an organic chemical, usually in the form of oil that was historically used in electrical equipment. PCBs are most commonly associated with pole-mounted electrical transformers, but they were also used in insulators and capacitors in building electrical equipment. PCBs are deemed to be hazardous waste when concentrations exceed 5 parts per million (ppm) in liquids or 50 ppm in non-liquids. Fluorescent light ballasts may contain PCBs, and if so, they are regulated as hazardous waste and must be transported and disposed of as hazardous waste. Ballasts manufactured after January 1, 1978, should not contain PCBs and are required to have a label clearly stating that PCBs are not present. PCBs are highly persistent in the environment, and exposure to PCBs can cause serious liver, skin, and reproductive system damage. PCBs are also a suspected human carcinogen.

The 2013 Phase 1 ESA identified three pad-mounted, fluid-filled electrical transformers in the project area. One was observed to be in good condition and no stains were noted. Two were located behind a locked enclosure in the parking garage, so they were not accessible for visual inspection. [9] All of the transformers are owned by SMUD, and none contains PCBs.[10]

Eleven hydraulic passenger and freight elevators are present within the plaza building. The property management reported that the elevators are serviced by an external company, Koenig. Given the date of construction and/or remodel of the buildings (1991), it is unlikely that the hydraulic systems contain PCBs. No evidence of stains or leaks was observed at the base of the equipment during the site inspection. Five-gallon containers of hydraulic fluid were observed in the elevator equipment rooms. Based on the good condition and regular maintenance of the elevator equipment, the elevators are not expected to represent a significant environmental concern.[11]

Adjacent and Nearby Listed Sites

Historic and existing land uses in the vicinity of the Downtown project site are similar to the project site. Existing uses are generally characterized by retail, commercial and office developments. The physical setting is also similar to that described above for the Downtown project site. Two sites were listed adjacent to the project site, and are summarized below.[12]

630 K Street (Department of Corrections) – was listed as a small quantity generator but no additional information was provided. Although records were not available for review at the time of the 2011 Phase I ESA investigation, operations were administrative in nature and there is no documentation of a release of hazardous materials at this location.[13]

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9 Geocon Consultants, Inc., 2013. *Phase I Environmental Site Assessment Proposed Sacramento Entertainment and Sports Center Portion of Downtown Plaza, Sacramento, California*. November 2013. p. 17.

10 Jose Bodipo-Memba, Environmental Management Specialist III at SMUD Environmental Management, electronic communication to Brian Boxer, Principal Associate/Vice President at ESA, December 10, 2013.

11 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011. p. 17.

12 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011. pp. 21 and 22.

13 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011. p. 21.

555 Capitol Mall is listed as a small quantity generator. Wastes identified for this site include silver. There is no documentation of a release of hazardous materials at this location.[14]

1120 7th Street (A-B-C Cleaners) is immediately east of the project site and is listed on the EnvirStor database list. Listing details indicate that this site is a historic listing that was referred to another agency in 1994. No records were on file with the Central Valley Regional Water Quality Control Board (CVRWQCB) and records could not be reviewed at the Sacramento County Department of Environmental Management (SCDEM) at the time of the 2011 Phase I ESA investigation. Based on the inferred direction of groundwater flow and depth of previous subsurface excavation in the project area, a release at this site would not be expected to impact the project area.

Additional sites were identified by a search of federal, state and local record searches within one mile of the project area. None of these sites, with the exception of the Sacramento Railyards Facility, was anticipated to affect the Downtown project site due to the nature of contaminant, distance, direction of groundwater flow, and/or regulatory status.[15] The Sacramento Railyards Facility is described below and details about the other sites can be found in Appendix I of this report.

Sacramento Railyards Facility. The Union Pacific Railroad (UPRR) (formerly the Southern Pacific Transportation Company (SPTCo)'s Sacramento Railyard Facility) or Railyards, encompasses 240 acres approximately 0.15 miles north of the Downtown project site. The Railyards was used as SPTCo's locomotive maintenance and rebuilding facility from the 1860s to the 1990s. In 1988 SPTCo entered into an Enforceable Agreement with DTSC, which outlined investigation and clean up activities for the remediation of the Railyards. The results of various soil remedial investigation phases, initiated in 1988 under the Enforceable Agreement, identified extensive soil, soil vapor and groundwater contamination which consists of metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH). Based on the historical use, known contamination, and the size of the cleanup effort, the property was divided into eight study areas for soils and two study areas for groundwater: Central Shops, Central Corridor, Carshop Nine, Lagoon, Northern Shops, Sacramento Station, Lagoon (Northwest Corner), Drum Storage Area and the South Plume. Interim actions were implemented to remove source contaminants from soil and to prevent the groundwater plumes from expanding. In the 20 + years since cleanup activities began, remedial pilot tests and interim remedial measures designed to remove volatile constituents in both soil and groundwater have been installed and clean up efforts are on-going. Approximately 200 acres of the 240-acre Railyards site has been cleaned up. Current groundwater and recovered soil vapor conditions show substantial reductions in both the VOC concentrations and areas of impact.[16] Approximately 500,000 tons of contaminated soil has been removed from

14 Sacramento County, 2011. *Sacramento County Environmental Management Photo-Processing (Silver Only) Waste Self-Certification Program*. July 5, 2011.

15 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814*. May 27, 2011. pp. 21 - 27; Geocon Consultants, Inc., 2013. *Phase I Environmental Site Assessment Proposed Sacramento Entertainment and Sports Center Portion of Downtown Plaza, Sacramento, California*. November 2013. pp. 11 and 12.

16 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California*. January 2013. p. ES-2.

the site to date[17]. Contaminated groundwater is being actively pumped and treated both onsite and near the southern terminus of the plume, at a rate of approximately 400,000 gallons a day.[18]

A significant dissolved phase chlorinated VOC plume ranging in depth between approximately 25 and 180 feet bgs[19] extends offsite to the south (the South Plume), beneath downtown Sacramento to approximately Q Street to the south, 5th Street to the west, and 12th Street to the east. Therefore, contaminated groundwater extends beneath the Downtown project site (see Figure 4.6-1). A Final Draft Remedial Action Plan (RAP) has been prepared for the South Plume,[20] which identifies clean up goals (levels and timing) and a preferred alternative for achieving established goals. A health risk assessment (HRA) conducted for the South Plume Study Area concluded that the offsite South Plume groundwater does not pose an unacceptable vapor intrusion risk for offsite uses because volatile constituents are not routinely detected in the shallowest water-bearing zone of the plume.[21]

Offsite Digital Billboards

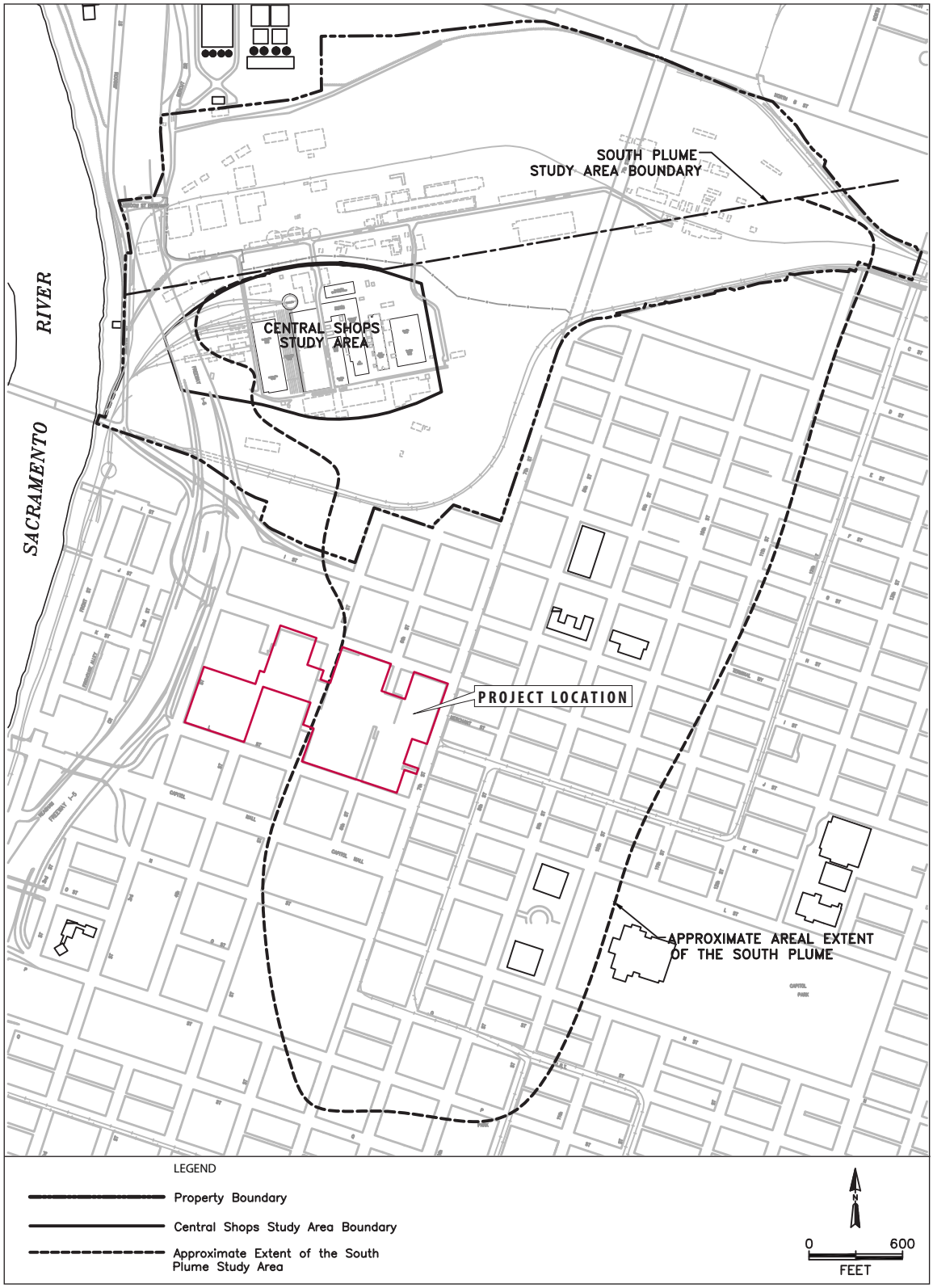
The following summarizes the results of the database search for contaminated sites on or near the digital billboard sites.

I-5 at Water Tank. This site is located in the southeast corner of City water tank property. The land here is regularly maintained. No hazardous sited were listed within a quarter mile of the site.

US 50 at Pioneer Reservoir. This site consists of disturbed land to the west of pioneer water reservoir and to the south of the Sacramento River. No listed sites are located directly at this proposed location; however, there are 8 listed sites within a quarter mile of the project site:

- *State Response or NPL sites: PG&E Sacramento Site.* A RAP was approved in 2011. In Situ Soil Solidification/Stabilization (ISSS) was used in 2012 to bind contaminants in the soil and allow clean groundwater to move around. This will decrease the leaching of polynuclear aromatic hydrocarbons (PAH) and benzene, toluene, ethylbenzene, and xylenes (BTEX) to the groundwater. The operating groundwater remedy will continue to operate until remedial action objectives are achieved.[22] Soil contamination is limited to the site and groundwater flow is to the east and not in the direction of the proposed billboard location.[23]

17 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814.* May 27, 2011. p. 22.
18 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814.* May 27, 2011. p. 29.
19 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California.* January 2013. p. 2-4.
20 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California.* January 2013.
21 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California.* January 2013. p. ES-3.
22 Pacific Gas and Electric, 2013. *Manufactured Gas Plants, Former Sacramento Manufactured Gas Plant.* http://www.pge.com/about/environment/taking-responsibility/mgp/sacramento.shtml. Accessed October 14, 2013.
23 Pacific Gas and Electric, 2011. *Draft Remedial Action Plan, PG&E Front and T Streets Site.* April 27, 2011. p. 11, Figure 3.



SOURCE: ERM, 2013

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 4.6-1
South Plume Study Area

- *Sacramento Housing and Redevelopment Agency (SHRA) site*. On April 30, 2008, DTSC completed the certification process and found that the SHRA site should be deleted from the "active" site list. However, the SHRA site will be placed on the list of sites undergoing operation and maintenance to ensure proper monitoring of long-term clean-up efforts. The certification was based on the fact that DTSC determined that all appropriate removal/remedial actions have been completed and that all acceptable engineering practices were implemented; however, the site requires ongoing operation and maintenance.[24] Based on this, the SHRA site is not anticipated to constitute a significant environmental concern.
- *Cleanup Program sites: PG&E Sacramento Former MGP*. This is the previously described PG&E site. It is also listed as a cleanup program site.
- *Chevron Sacramento Terminal*. Petroleum hydrocarbons have impacted groundwater on site and recent monitoring has indicating a shrinking plume. The groundwater at the site flows to the east and not towards the potential US 50 at Pioneer Reservoir billboard site.[25]
- *Tosco Refining Co. 66 Broadway*. Petroleum hydrocarbons have impacted soil and groundwater at the site. Groundwater at the site flows in a westerly direction and not towards the potential US 50 at Pioneer Reservoir billboard site.[26]
- *Evaluation site: PG&E Manufactured Gas Plan SV-SA-SAC-3*. This site is currently under evaluation and no potential media affected have been listed. Therefore, this site is not anticipated to constitute a significant environmental concern.
- *Historical permitted site: Ramos Environmental Services*. Ramos Environmental Services is currently operating under a Standardized Hazardous Waste Facility Permit, Series B issued on May 18, 1999. The Facility is located on the other side of the Sacramento River and therefore not anticipated to constitute a significant environmental concern.

Business 80 at Sutter's Landing Regional Park. This site is located adjacent to disturbed land that is currently undeveloped. No hazardous sited were listed within a quarter mile of this site.

Business 80 at Del Paso Regional Park/Haggin Oaks. This site consists of a wooded area on the north side of Business 80 and west of Business 80. There are no active hazardous sites listed within a quarter mile of this site.

Business 80 at Sutter's Landing Regional Park /American River. This site consists of undeveloped, disturbed land with seasonal grasses. There are no listed hazardous sites within a quarter mile of this site.

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24 Envirostor, 2013. *California Department of Toxic Substances Control. DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List).* http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=34240036. Accessed September 12, 2013.

25 Chevron, 2013. *Second Quarter 2013 Groundwater Monitoring Report Chevron Fuel Terminal 1001620*. July 24, 2013. p. 9, Figure 4.

26 Stantec, 2013. *2012 Second Semi-Annual Groundwater Monitoring Report Sacramento 76 Terminal*. January 30, 2013. p. 2.

I-80 at Roseville Road. This site consists of a paved parking lot to the west of an existing building and north of I-80. There is one site, North Highlands Air National Guard, listed approximately a quarter mile to the northeast. Although no orders have ever been issued to this facility, a work plan was prepared to determine if contamination exists and what remediation efforts would be required if contamination has occurred.[27] Potential contaminants of concern include halogenated solvents, waste oil and mixed oil. Due to the relative distance and because groundwater at the site is recorded at 100 feet bgs,[28] it is not anticipated that this listed site would result in a significant environmental concern.

SR 99 at Calvine Road. This site consists of disturbed land on the west side of State Route 99. There are no listed hazardous sites within a quarter mile of this site.

I-5 at Bayou Road. This site consists of a vacant site covered in ruderal grasslands, south of Bayou Road. There are no listed hazardous sites within a quarter mile of this site.

I-5 at San Juan Road. This site consists of disturbed land adjacent to an existing City water drainage system and to the west of I-5. There are no listed active hazardous sites within a quarter mile of this site.

I-5 at Sacramento Railyards. This site consists of disturbed and partially developed land adjacent to I-5 between I Street and existing railroad tracks. The Sacramento Amtrak station is immediately to the east. In total, 16 listed hazardous sites are listed within a quarter mile of this site. As described above, the results of various soil remedial investigations have identified extensive soil, soil vapor and groundwater contamination in the Railyards, which includes metals, VOCs, SVOCs, PAHs and TPH.

- 8 sites are listed as cleanup program sites and include: the Railyards Cleanup, Ponds and Ditch Area, Manufactured Gas Plant, South Plume Groundwater Study Area, Sacramento Station, Central Shops, Central Corridor, and Northern Shops/Drum Storage Area.

  One of these sites, the Central Corridor, is located adjacent to the Railyards digital billboard site. The Central Corridor site contains contaminated soil. A RAP has been finalized for this site and remediation efforts are ongoing.

- 6 sites are listed as state response or NPL and include Union Pacific Downtown Sacramento – Central Corridor, Union Pacific Downtown Sacramento –Track Relocation, Union Pacific Downtown Sacramento Station, Union Pacific Downtown Sacramento – Northern Shops/Drum, Sand piles, and Union Pacific Downtown Sacramento – Battery Shop Yard.

[27] Air National Guard, 2013. *Compliance Restoration Program – Western Region 1 Final Preliminary Assessment/ Site Investigation Work Plan.* March 2013. p. viii.
[28] Air National Guard, 2013. *Compliance Restoration Program – Western Region 1 Final Preliminary Assessment/ Site Investigation Work Plan.* March 2013. p. 3-3.

Two of these sites are located near the potential I-5 at Sacramento Railyards billboard site. The first is the Sand Piles site. The DTSC's goal for cleanup to achieve a level of total lead in the soils below 950 mg of lead/kg of soil was met and the site was certified in 1990. Levels of lead exceeding the Soluble Threshold Limit Concentration (STLC) of 5.0 mg of lead/kg have been found at and adjacent to the previous location of the sand piles. STLC is a leaching procedure intended to simulate the conditions that may be present in a landfill where water could pass through the landfill waste and travel into the groundwater, carrying the soluble materials with it. The Department has determined that the remaining contamination is part of a general overall condition at the facility. This contamination will be addressed as part of the overall site investigation and remediation.[29]

The Union Pacific Downtown Sacramento – Central Corridor site is part of the Central Corridor Study Area of the Railyards. In addition to the previously described soil contamination at this site, groundwater contamination includes metals, Volitle Organic Compounds (VOC), Semi Volitle Organic Compounds (SVOC), and Total Petroleum Hydrocarbons (TPH). Although remediation is ongoing, contamination is still present.[30]

- 2 sites are listed as voluntary cleanup sites: federal courthouse and Union Pacific – Downtown Sacramento. Neither of these sites is immediately adjacent to the potential I-5 at Sacramento Railyards billboard site.

4.6.2 Regulatory Setting

Federal

Hazardous materials are governed under three main federal regulations: Occupational Safety and Health Administration (OSHA), RCRA, and the Toxic Substance Control Act (TSCA).

OSHA

Worker safety is regulated through the federal OSHA. Federal OSHA, established in Code of Federal Regulations (CFR) Title 29, requires 40 hours of training for hazardous materials operators, plus eight hours of refresher training per year. The training includes personal safety, hazardous materials storage and handling procedures, and emergency response procedures.

Resource Conservation and Recovery Act

Under the federal RCRA, individual states may implement their own hazardous waste programs in lieu of the RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by the U.S. EPA. The EPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. Since that time, Cal EPA and the DTSC, a

[29] Envirostor, 2013. *California Department of Toxic Substance Control. DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List).* http://www.envirostor.dtsc.ca.gov/public/profile_reort.asp?global_id=34240036. Accessed September 12, 2013.

[30] Envirostor, 2013. *California Department of Toxic Substance Control. DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List).* http://www.envirostor.dtsc.ca.gov/public/profile_reort.asp?global_id=34240036. Accessed September 12, 2013.

department within Cal EPA, meets RCRA by regulating the generation, transportation, treatment, storage, and disposal of hazardous waste.

Toxic Substance Control Act

The TSCA of 1976 was enacted by Congress to give the EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. The EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

State

Hazardous materials are governed under these California regulations: California OSHA (Cal OSHA), California Code of Regulations (CCR), the California Hazardous Materials Release Response Plans and Inventory Law, the Unified Hazardous Materials Management Regulatory Program and the Department of Toxic Substances Control.

California OSHA

Cal OSHA regulates California worker safety similarly to federal OSHA. Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices; regulations specifically addressing protection of construction workers from exposure to hazardous substances are found in Title 8 of the CCR. At sites known to be contaminated, a Site Safety Plan must be prepared to protect workers. The Site Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Department of Toxic Substances Control

Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100, *et seq*., DTSC (a division of the Cal EPA) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law.

California Code of Regulations

The CCR, Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would classify a soil as a hazardous waste. When excavated, soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed as hazardous waste.

California Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials onsite prepare a business plan and submit it to local health and fire departments. The business plan must include:

- Details of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled and stored onsite;
- An emergency response plan; and
- A safety and emergency response training program for new employees with an annual refresher course.

Unified Hazardous Materials Management Regulatory Program

In January 1996, Cal EPA adopted regulations, which implemented a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: (1) hazardous waste generators and hazardous waste onsite treatment; (2) Underground Storage Tanks; (3) Aboveground Storage Tanks; (4) hazardous materials release response plans and inventories; (5) risk management and prevention programs; and (6) Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level and the agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA).

Transport of Hazardous Materials

The United States Department of Transportation (DOT) regulates hazardous materials transportation on all interstate roads. Within California, the State agencies with primary responsibility for enforcing federal and State regulations and for responding to transportation emergencies are the California Highway Patrol (CHP) and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

Local

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. Sacramento County has adopted the Area Plan for Emergency Response to Hazardous Materials Incidences in Sacramento County, which is administered by the Environmental Management Department (EMD) (SCEMD, 2007). The Area Plan outlines the procedures that County regulatory and response agencies will use to coordinate management, monitoring, containment, and removal of hazardous materials in the event of an accidental release. The Area Plan also provides guidance for coordinating the responses of other agencies, including

the Department of Toxic Substance Control (DTSC), California Highway Patrol (CHP), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and local fire departments. Sacramento Metropolitan Fire District provides fire protection services and a Hazardous Materials Response Team that serves the City of Citrus Heights.

Sacramento County Environmental Management Department, Hazardous Materials Division

The Hazardous Materials Division of the Sacramento County Environmental Management Department is the designated Certified Unified Program Agency (CUPA) for the City of Sacramento and Sacramento County. As the CUPA, the Hazardous Materials Division is responsible for implementing six statewide environmental programs for Sacramento County, including:

- Underground storage of hazardous substances (USTs);
- Hazardous Materials Business Plan (HMP) requirements;
- Hazardous Waste Generator requirements;
- California Accidental Release Prevention (Cal-ARP) program;
- Uniform Fire Code hazardous materials management plan; and
- Above Ground Storage Tanks (Spill Prevention Control and Countermeasures Plan).

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to hazards and hazardous materials.

Goal PHS 3.1 Reduce Exposure to Hazardous Materials and Waste. Protect and maintain the safety of residents, businesses, and visitors by reducing, and where possible, eliminating exposure to hazardous materials and waste.

Policies

- **PHS 3.1.1 Investigate Sites for Contamination.** The City shall ensure buildings and sites are investigated for the presence of hazardous materials and/or waste contamination before development for which City discretionary approval is required. The City shall ensure appropriate measures are taken to protect the health and safety of all possible users and adjacent properties. (*RDR*)
- **PHS 3.1.2 Hazardous Material Contamination Management Plan.** The City shall require that property owners of known contaminated sites work with Sacramento County, the State, and/or Federal agencies to develop and implement a plan to investigate and manage sites that contain or have the potential to contain hazardous materials contamination that may present an adverse human health or environmental risk. (*RDR*)

As discussed in Impacts 4.6-1 through 4.6-3, the Proposed Project would be required to fully investigate sites with possible hazardous materials contamination to ensure the safety of people in the vicinity of these sites. In addition, should sites be contaminated with hazardous materials they would be managed in a way that would reduce the potential for adverse impacts on human or environmental health. Therefore, the Proposed Project would be consistent with the General Plan goals and policies.

4.6.3 Analysis, Impacts, and Mitigation

Significance Criteria

Criteria used to determine the significance of impacts related to hazards and hazardous materials are based on Appendix G of the *CEQA Guidelines*. The project would result in a significant impact if it would:

- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials, or other hazardous materials or situations;
- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during construction or dewatering activities;
- Substantially increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site; or
- Interfere with an adopted emergency response plan or emergency evacuation plan.

Methodology and Assumptions

Existing land uses, the Phase 1 ESA, Final Draft RAP, the Cortese List Data Resources database, and historic aerial photographs were reviewed to identify known contaminated soil and/or groundwater sites in the project area. This information was used to determine if Proposed Project construction activities could encounter known subsurface contamination. The analysis also considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from the Proposed Project and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. With the exception of the ESC, the specific businesses that could locate in the project site are unknown at this time, but the general types of businesses and the range and types of uses (e.g., retail stores, offices, hotel) that are expected to be located in the project area would be limited by zoning to those that use minimal amounts of hazardous materials. Compliance with applicable federal, state, and local health and safety laws and regulations by residents and businesses in the project area is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

Impacts and Mitigation Measures

Impact 4.6-1: The Proposed Project could expose people to previously unidentified contaminated soil during construction activities.

Downtown Project Site

Construction

As described in Subsection 4.6.1, the Downtown project site was developed beginning in the 1800s and has evolved over the years to include, at various times, a wide range of urban uses, such as retail, office, restaurant, lodging, saloon, cinema, gas station, dry cleaning, automotive repair, lumber yard, and printing facilities. Structures on portions of the Downtown project site were razed in the 1960s to accommodate construction of two levels of subterranean parking. The Downtown Plaza was constructed in the early 1970s and substantially remodeled in the 1990s. The project site currently includes various retail, office and restaurant uses and related facilities, such as underground parking.

As identified in the 2011 and 2013 Phase I ESAs and summarized in the environmental setting, three sites were identified by the ASTM database as being located in the Downtown project site. Based on the absence of current or historical occupancies of concern in the project area, historical uses are not expected to constitute a significant environmental concern. Furthermore, the existing subterranean parking structure involved extensive excavation. Given the depth of prior excavation, any source of soil contamination from former uses (i.e., dry cleaners, gas stations) would likely have been removed prior to the construction of the current Plaza structure.[31] The 2013 Phase II ESA evaluated soil samples collected as part of the geotechnical investigation of the project site for the presence of contaminants of potential concern. Analysis showed that metals, petroleum and VOC concentrations were either not detected or detected at concentrations less than regulatory screening levels.[32]

Historic and existing land uses in the project vicinity are similar to the Downtown project site. Existing uses are generally characterized by retail, commercial and office developments. The physical setting is also similar to that described above for the Downtown project site. Two sites were listed adjacent to the project site, but neither is expected to constitute a significant environmental concern. Additional sites were identified by a search of federal, State and local record searches within one mile of the project area. None of these sites would be a source of soil contamination in the project area.

Although contaminated soils are not anticipated to be encountered during project construction, soil borings beneath the existing subterranean parking structure showed historic fill that includes building and paving materials. Therefore, depending on the depth of excavation, soils could be

31 Hillmann Environmental Group, LLC, 2011. *Phase I Environmental Site Assessment for Downtown Plaza, 515 L Street, Sacramento, CA 95814.* May 27, 2011. p. 3.

32 Geocon Consultants, Inc., 2013. *Phase II Environmental Site Assessment Sacramento Entertainment and Sports Center, Sacramento, Californi*a. November 2013. p. 8.

encountered that contain previously unidentified hazardous substances potentially exposing construction workers to associated health risks. This is considered a ***potentially significant*** impact.

Offsite Digital Billboards

During installation of the offsite digital billboards, holes would be drilled and the excavated soil would be transported offsite. As described in the environmental setting, listed sites are located adjacent to proposed digital billboard locations at US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards. At the US 50 at Pioneer Reservoir and I-80 at Roseville Road billboard locations, listed sites are not anticipated to constitute a significant environmental concern due to relative distance to the proposed digital billboard locations. Listed sites adjacent to the I-5 at Sacramento Railyards billboard site are known to have contaminated soil and could be encountered during excavation for billboard base. A spread footing construction method would be used at the I-5 at Sacramento Railyards billboard site, which would minimize the depth of excavation to five feet instead of up to 35 feet. This would minimize the amount of soil excavated and the potential exposure to any contaminated soil on site. However, the potential for exposure would still be present at the potential I-5 at Sacramento Railyards billboard site. Although it is unlikely that contaminated soils would be encountered during installation of the signs at the US 50 at Pioneer Reservoir and I-80 at Roseville Road billboard sites, and construction techniques at the potential I-5 at Sacramento Railyards billboard site could limit exposure, no site-specific Phase I ESA have been performed to identify the type or extent of potential known soil contamination at proposed digital billboard locations. Therefore, the potential exposure of construction workers to contaminated soils is considered ***significant***.

Mitigation Measures

4.6-1(a) (ESC/SPD/DB)

If unidentified or suspected contaminated soil or groundwater evidenced by stained soil, noxious odors, or other factors, is encountered during site preparation or construction activities at the Downtown project site and/or digital billboard site, work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a Registered Environmental Assessor (REA) or qualified professional. The REA or qualified professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of anticipated contaminants and contaminant concentrations, and recommendations for appropriate handling and disposal. Site preparation or construction activities shall not recommence within the contaminated areas until remediation is complete and a "no further action" letter is obtained from the appropriate regulatory agency.

4.6-1(b) (DB – US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards)

Prior to final project design and any earth disturbing activities at the US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards billboard sites, the City shall require that the applicant conduct a Phase I Environmental Site Assessment. The

Phase I Site Assessment shall be prepared by a REA or other qualified professional to assess the potential for contaminated soil or groundwater conditions at the project site. The Phase I Site Assessment shall include a review of appropriate federal and State hazardous materials databases, as well as relevant local hazardous material site databases for hazardous waste on-site and off-site locations within a one-quarter mile radius of the subject project site. The Phase I Site Assessment shall also include a review of existing or past land uses and aerial photographs, summary of results of reconnaissance site visit(s), and review of other relevant existing information that could identify the potential existence of contaminated soil or groundwater. If no contaminated soil or groundwater is identified or the Phase I ESA does not recommend any further investigation than no further action is required.

The Phase 1 ESA for the Sacramento Railyards shall include contacting DTSC to obtain information to identify any remediation infrastructure within the vicinity of the proposed billboard site. No remediation system, monitoring well network, extraction wells, associated conveyance piping or treatment systems shall be altered, disturbed or destroyed without prior approval by DTSC.

No excavation and/or removal of soil at the Sacramento Railyards billboard site, except as allowed pursuant to section 3.01.C of the 1994 covenant, shall occur without prior written approval of DTSC. Excavated soil must be tested for those compounds noted in the preamble of the 1994 covenant and properly used, treated and/or disposed of as required by law and DTSC.

4.6-1(c) (DB – US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards)

If existing soil or groundwater contamination is identified and the Phase I ESA recommends further review, the applicant shall retain a REA to conduct follow-up sampling to characterize the contamination and to identify any required remediation that shall be conducted consistent with applicable regulations prior to any earth-disturbing activities. The environmental professional shall prepare a report that includes, but is not limited to, activities performed for the assessment, summary of anticipated contaminants and contaminant concentrations at the proposed construction site, and recommendations for appropriate handling of any contaminated materials during construction. These recommendations shall be implemented and the site shall be deemed remediated by the appropriate agency (e.g., DTSC, Sacramento County EMD) prior to earth disturbance continuing in the vicinity of the contamination.

Impact Significance After Mitigation: Mitigation Measure 4.6-1(a) would minimize risk of exposure to previously unidentified soil contamination by requiring that work stop and the appropriate analysis occur to identify the type and extent of the contamination. Depending on the results, appropriate remediation would be completed prior to resuming construction activities in the affected area. The handling, storage, transportation and disposal of any contaminated soil would be accomplished with applicable federal, state and local laws. Therefore, impacts related to contaminated soil would be ***less than significant***. Mitigation Measures 4.6-1 (b) and (c) would further reduce the risk at the US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards billboard sites by requiring additional review of those sites, which are in the vicinity of known contamination, prior to construction activities commencing. If contaminated soils are found, they would be identified, characterized and remediated, as appropriate, limiting

potential exposure of construction workers to associated health risks. The handling, storage, transportation and disposal of any contaminated soil would be accomplished with applicable federal, state and local laws. Therefore, impacts related to contaminated soil would be ***less than significant***.

Potential Effects Related to Site Investigation and Remediation

In the event that evidence of previously unidentified contaminated soils, such as stained soils or noxious odors, are identified during construction a more detailed site investigation would be performed. Site investigations typically include collection of soil, water, sediment, and/or waste (e.g., tailings) samples at contaminated sites, transportation of the samples to an analytical laboratory, and analysis and reporting. Workers directly engaged in the sampling activity would face the greatest potential for exposure to hazards. Small samples may be transported from the site for analysis, but because relatively small amounts are collected, public exposure to potential hazards would be limited. Associated impacts would be localized. However, the public could be exposed to potential hazards if access to the project site were not controlled.

Should contamination be detected in areas to be disturbed, in areas directly adjacent to sites to be developed, or in areas open to public access, the contaminated areas would need to managed to minimize the potential for people to come into contact with the contaminants during construction. For most contaminated sites, risks can be mitigated through standard remediation procedures. "Remediation" could include, at a minimum, treatment of contaminated soils in a manner that would render them nonhazardous or otherwise protect public health and safety (e.g., placing an impervious cover such as roadways over the soils, or excavating soils and using them elsewhere under an impervious cover and backfilling the excavated area with clean fill). Proper treatment and/or disposal of soils and groundwater could also be required. The specific tasks to manage soils would be described in a site-specific Soil Management Plan.

Site remediation measures, in themselves, could also have adverse impacts. During site remediation, workers and possibly the nearby public could be exposed to chemical compounds in soils, water, or wastes. The public and the environment could be exposed to airborne chemical compounds migrating in dusts from a site under remediation. However, worker and public health and safety requirements required by state laws and regulations would apply during remediation activities, thus minimizing the potential that the above-mentioned exposures would occur. In the case of soils management, dust control methods such as watering exposed soils, covering them during and after excavation, and air monitoring around the perimeter of the affected location are standard procedures.

Potential adverse impacts of site investigation and remediation, if any, would be mitigated, in part, by legally required safety and hazardous waste handling and transportation precautions. For hazardous waste workers, OSHA regulations mandate an initial 40-hour training course and subsequent annual training review. Additionally, site-specific training would be required for affected construction workers. These measures, along with application of state cleanup standards, would serve to protect human health and the environment during site remediation, thus minimizing potential adverse effects associated with remediation. Moreover, the major hazards-related effects of environmental cleanup associated with any remediation would be beneficial

over the long term. Remediation, or effective management, of contaminated locations would eliminate the health threats posed by hazardous wastes and prevent workers and the public from encountering such materials in the event of any future excavation at the site. Management of soil contamination would also eliminate a potential local source of groundwater and/or surface water contamination. Consequently, effective risk management would be beneficial in the long run.

Identification of appropriate risk management measures such as proper handling, treatment, and/or disposal of contaminated media in accordance with applicable federal, state, and local laws and regulations would preempt potential health, safety, or environmental effects of the contamination. Implementation of appropriate risk management measures would also allow for localized cleanup of contamination, while other nearby site preparation activities could proceed. Regardless of the level of remediation, such actions would be coordinated in consultation with appropriate regulatory agencies and would be performed according to applicable laws and regulations. Therefore, investigation and remediation impacts, should such actions be necessary, would be ***less than significant***.

Impact 4.6-2: Demolition of existing structures could expose people to asbestos-containing materials, lead-based paint and/or other hazardous materials.

Downtown Project Site

As identified in the environmental setting, portions of Downtown Plaza were constructed when asbestos and lead-based paint were used in building construction (prior to 1978), so there is a possibility that the building components contain asbestos or lead-based paint. However, without samples and test results from the buildings, this assumption cannot be confirmed. Such testing has not been performed to date, so there is the potential that demolition of these structures could result in the inadvertent release or improper disposal of debris containing these materials.

CCR Title 8 Section 5208 requires that a State-certified risk assessor conduct a risk assessment and/or paint inspection of all structures constructed prior to 1978 for the presence of asbestos or lead-based paint prior to demolition. If such hazards are determined to exist on site, the risk assessor would then prepare a site-specific hazard control plan detailing asbestos and/or paint removal methods and specific instructions for providing protective clothing and gear for abatement personnel. If necessary, a State-certified lead-based paint and an asbestos removal contractor (independent of the risk assessor) would be retained to conduct the appropriate abatement measures as required by the plan. Wastes from abatement and demolition activities would be disposed of at a landfill(s) licensed to accept such waste. Once all abatement measures have been implemented, the risk assessor would conduct a clearance examination and provide written documentation to the City that testing and abatement have been completed in accordance with all federal, state, and local laws and regulations.

If any unforeseen conditions are discovered during construction, the contractor would coordinate with the appropriate agencies for the safe handling, sampling, and disposal of encountered

materials. Construction workers are required to comply with Cal-OSHA worker health and safety standards that ensure safe workplaces and work practices.

As described in the Environmental Setting, three fluid filled power transformers were identified in the Downtown project site. According to SMUD, which owns the transformers, no PCBs are used in them.

Eleven hydraulic passenger and freight elevators are present within the Downtown Plaza building. The property management reported that the elevators are serviced by an external company, Koenig. Given the date of construction of the buildings (1991), it is unlikely that the hydraulic systems contain PCBs. No evidence of stains or leaks was observed at the base of the equipment during the site inspection. Five-gallon containers of hydraulic fluid were observed in the elevator equipment rooms. Based on the good condition and regular maintenance of the elevator equipment, the elevators are not expected to represent a significant environmental concern.

Compliance with all applicable laws and regulations at the federal, state, and local levels would prevent the exposure of individuals and the environment to the hazards (by ensuring that all abatement regulations are carried out prior to demolition). In addition, no evidence of PBCs was identified during the 2011 Phase I ESA; therefore, exposure to asbestos and lead-based paint or PCBs would be less than significant.

Offsite Digital Billboards

The construction of the offsite digital billboards would not involve the demolition of existing structures and is not anticipated to result in the exposure of people in the vicinity of the project sites to asbestos or lead based paints. Therefore, ***no impact*** would occur.

Mitigation Measure

None required.

Impact 4.6-3: The Proposed Project could expose people to existing contaminated groundwater during dewatering activities.

Downtown Project Site

Construction

As described in the setting, groundwater underlying the Downtown project site was recently measured at 7.5 to 29 feet bgs and 7.5 to 9 feet below the ESC site. Construction of the proposed ESC would involve excavation to a depth of 9 to 14 feet below the existing garage and installation of up to 1,000 auger displacement piles at a depth of up to 60 feet. Currently, the Downtown Plaza is dewatered and is discharged to the CSS. Therefore it is anticipated that groundwater would be encountered during construction, and temporary dewatering would be required. It is estimated that approximately 1 million gallons per day (mgd) will be extracted over

a period of 12 to 15 months during project construction. Excavation and pile driving could be required for construction of the mixed-use buildings in the SPD area also. As discussed in the environmental setting, one of the sites (1120 7th Street) listed adjacent to the Downtown project site could involve contaminated groundwater; however, based on the inferred direction of groundwater flow a release at this site would not be expected to affect the Downtown project site.

As also discussed in the environmental setting, a significant dissolved phase chlorinated VOC plume for which remediation activities are being undertaken extends from the Railyards site south beneath downtown Sacramento at a depth of 25 to 180 feet bgs to approximately Q Street to the south. As shown in Figure 4.6-1, the South Plume extends beneath the Downtown project site. Therefore, construction dewatering activities associated with excavations and pile driving to could extract groundwater that contains elevated VOC levels attributed to the South Plume. The 2013 Phase II ESA evaluated groundwater samples collected as part of the geotechnical investigation of the project site for the presence of contaminants of potential concern. Analysis showed petroleum hydrocarbons at levels that exceed drinking water standards. In addition, VOCs were detected; however, only vinyl chloride was measured at concentrations in excess of drinking water standards.[33] On-going monitoring of the South Plume shows that vinyl chloride is present in the deeper groundwater bearing zones under the project site. Concentrations measured in the Phase 2013 II ESA groundwater samples were lower than those that have been measured for the deeper groundwater. While groundwater samples identified contaminants at levels that exceeded drinking water standards, because this shallow groundwater would not be used as a water supply it is not considered a primary concern.[34] However, because contaminants of potential concern were identified, water extracted during construction would need to be managed consistent with City and RWQCB requirements.[35]

Groundwater extracted during construction would be discharged into either the City's combined sewer system (CSS) or into the separate drainage system that conveys stormwater flows to Storm Basin 52 before discharge to the Sacramento River. See section 4.11 Utilities and Services for a discussion of sewer and drainage infrastructure and infrastructure capacity. As described in Chapter 2, Project Description, analysis of the groundwater for contaminants would be performed prior to initiating any dewatering activities. Monitoring wells would be used, either new or existing, around the Downtown project site to obtain data prior to and during dewatering. Periodic water quality tests would be performed to establish the need for on-site treatment prior to discharge. In addition, dewatered groundwater discharges to the CSS or separated sewer system would be regulated and monitored by the City's Utilities Department pursuant to Department of Utilities Engineering Services Policy No. 0001, adopted as Resolution No. 92-439. Groundwater discharges to the City's sewer system are defined as construction dewatering discharges,

[33] Geocon Consultants, Inc., 2013. *Phase II Environmental Site Assessment Sacramento Entertainment and Sports Center, Sacramento, California*. November 2013. p. 8.
[34] Geocon Consultants, Inc., 2013. *Phase II Environmental Site Assessment Sacramento Entertainment and Sports Center, Sacramento, California*. November 2013. p. 8.
[35] Geocon Consultants, Inc., 2013. *Phase II Environmental Site Assessment Sacramento Entertainment and Sports Center, Sacramento, California*. November 2013. p. 8.

foundation or basement dewatering discharges, treated or untreated contaminated groundwater cleanup, discharges, and uncontaminated groundwater discharges.

The City requires that any short-term discharge be permitted, or an approved Memorandum of Understanding (MOU) for long-term discharges be established, between the discharger and the City. Short-term limited discharges of seven days duration or less must be approved through the City Department of Utilities by acceptance letter. Long-term discharges of greater duration than seven days must be approved through the City Department of Utilities and the Director of the Department of Utilities through a MOU process. The MOU must specify the type of groundwater discharge, flow rates, discharge system design, a City-approved contaminant assessment of the proposed groundwater discharge indicating tested levels of constituents, and a City-approved effluent monitoring plan to ensure contaminant levels remain in compliance with State standards or Sacramento Regional County Sanitation District (SRCSD) and CVRWQCB-approved levels. All groundwater discharges to the sewer must be granted a SRCSD discharge permit. As a standard precautionary action, the CVRWQCB would be notified prior to beginning any site preparation or grading and the applicant would adhere to all requests and recommendations from the CVRWQCB.

Discharges to the drainage system that are stored in Storm Basin 52 before discharge to the Sacramento River would require obtaining a separate National Pollutant Discharge Elimination System (NPDES) permit. The NPDES Permit would specify standards for testing, monitoring, and reporting, receiving water limitations, and discharge prohibitions.

While it is likely that contaminated groundwater associated with the South Plume would be extracted during dewatering activities, because the project would include monitoring and on-site treatment, as needed, prior to discharge, and because discharge of groundwater during dewatering is regulated by federal, state and local regulations to minimize potential degradation of receiving waters and to minimize exposure to associated risks, this is considered a ***less-than-significant*** impact.

Operation

Operational dewatering currently occurs at the Downtown project site and the pumped groundwater is discharged to the CSS. It is possible that contaminated groundwater associated with the South Plume is currently extracted during dewatering at the Downtown project site and discharged to the CSS. The Proposed Project would incrementally eliminate the seasonal dewatering system by constructing buildings with waterproof foundations. As the project is implemented and groundwater dewatering is phased out, the potential discharge of contaminated groundwater to the CSS would no longer occur. Therefore, this is considered a ***less-than-significant*** impact.

Offsite Digital Billboards

As described in the environmental setting, there are several listed sites with potential groundwater contamination located adjacent to proposed digital billboard US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards sites. At the US 50 at Pioneer Reservoir and I-80 at Roseville Road billboard sites, the listed sites are not anticipated to constitute a significant environmental concern due to relative distance to the proposed sign location, direction of groundwater flow and/or depth to groundwater (100 feet bgs at the I-80 at Roseville Road

billboard site). The I-5 at Sacramento Railyards potential billboard site is in the Railyards where groundwater contamination is known to exist at approximately 25 to 180 feet bgs (see the discussion above regarding the South Plume). As discussed under Impact 4.6-1, a spread footing construction method would be used at the potential I-5 at Sacramento Railyards billboard site. This method involves excavation to a depth of five feet, which would be shallower than the depth to contaminated groundwater at this location. Although contaminated groundwater is not anticipated to be encountered during project excavation for at the US 50 at Pioneer Reservoir and I-80 at Roseville Road billboard sites, no site-specific Phase I ESA has been performed to identify the type or extent of potential groundwater contamination. Therefore, this is considered a ***potentially significant impact.***

Mitigation Measure

4.6-3 (DB – US 50 at Pioneer Reservoir and I-80 at Roseville Road)

Implement Mitigation Measure 4.6-1 (a) through (c).

Impact Significance After Mitigation: Mitigation Measures 4.6-1 (a) through (c) would ensure that contaminated groundwater that could be encountered during installation of a digital billboard at these locations is identified, characterized and remediated, as appropriate thus limiting potential exposure of construction workers to associated health risks. The handling, storage, transportation and disposal of any contaminated groundwater would be accomplished in compliance with applicable federal, state and local laws. Therefore, impacts related to exposure to contaminated groundwater would be ***less than significant***. Please refer also to discussion of potential effects related to site investigation and remediation under Impact 4.6-1.

Impact 4.6-4: Dewatering activities associated with the Proposed Project could interfere with remediation of the Railyards South Plume.

Downtown Project Site

Construction

As described under Impact 4.6-3, construction of the proposed ESC and possibly SPD development would involve excavation and pile driving that would require dewatering. As further discussed, the existing South Plume from the Railyards site extends below the Downtown project site. Dewatering is anticipated to occur at a rate of 1 mgd for a period of 12 to 15 months, which could adversely affect the South Plume remediation efforts by pulling the contamination farther to the south and/or closer to the ground surface. As described in Chapter 2, Project Description, analysis of the groundwater for effects on groundwater quality and quantity levels would be performed prior to initiating any dewatering activities. Monitoring wells would be used, either new or existing, around the Downtown project site to obtain data prior to and during dewatering to characterize project dewatering impacts on the underlying groundwater. Automatic controls would be installed to alternate pumps and subsequent discharge quantities. Periodic water quality

tests will be performed to establish the need for on-site treatment. Nevertheless, due to the rate and time frame for dewatering, remediation efforts for the South Plume could be adversely affected, so this is considered a ***potentially significant*** impact.

Operation

As described under Impact 4.6-3, existing on-going dewatering would be phased out as the ESC and SPD are developed, thereby reducing the potential for contaminated groundwater to be discharged during dewatering. Therefore, ***no impact*** would occur.

Offsite Digital Billboards

Only one digital billboard site is near the Railyards South Plume—I-5 at Sacramento Railyards. The construction of the digital billboard at the I-5 at Sacramento Railyards site would not require excavation to a depth that would require dewatering. Therefore, the digital offsite billboards would have ***no impact*** on South Plume remediation efforts.

Mitigation Measure

4.6-4 (ESC/SPD)

Prior to initiating dewatering activities for the ESC and/or SPD development, the project applicant shall demonstrate that dewatering activities would adequately protect construction workers and minimize interference with remediation activities subject to approval from DTSC. If during project dewatering, monitoring data indicate that the remediation of the groundwater plume is being adversely affected, dewatering activities shall cease until measures are developed and implemented, subject to DTSC approval. Measures might include: (1) limiting the duration of pumping during periods of high groundwater flow; (2) relocating dewatering wells; or (3) equally effective measures to be developed in consultation with DTSC which eliminate demonstrated adverse effects to on-going remediation.

Impact Significance After Mitigation: Mitigation Measure 4.6-4 would ensure that approval from DTSC would be obtained prior to dewatering activities and that the appropriate steps would be taken to limit adverse effects of dewatering activities on the existing South Plume. Therefore, this impact is considered ***less than significant***.

Impact 4.6-5: The Proposed Project could increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site.

Downtown Project Site/Digital Billboard Sites

Construction

Construction activities would likely require use of limited quantities of hazardous materials such as fuels for construction equipment, oils, and lubricants. These materials would be transported to

and from the project area. The improper handling and transport of hazardous materials could result in accidental release of hazardous materials, thereby exposing site occupants to hazardous materials contamination. As discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. Because numerous laws and regulations govern the transportation of hazardous materials to reduce the potential hazards this impact would be ***less than significant***.

Operation

Operation of Proposed Project facilities would involve use of small quantities of common hazardous materials including paints, solvents, waste oils, and fuels. As previously discussed, transportation of hazardous materials is regulated by the DOT and Caltrans which together determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. Because numerous laws and regulations govern the transportation of hazardous materials to reduce the potential hazards this impact would *be* ***less than significant***.

Mitigation Measure

None required.

Cumulative Impacts

Exposure to existing soil and groundwater contamination and contaminated building materials (asbestos, lead paint, etc.) is generally site-specific and depends on past, present, and future uses, and existing soil and groundwater conditions. Any existing or previously unidentified contaminated soil or groundwater uncovered during construction activities would be managed consistent with applicable federal, state and local laws to limit exposure and to clean up the contamination at each site. Therefore, construction of the Proposed Project would not combine with other projects to result in the cumulative exposure of people to contaminated soil, groundwater or hazardous building materials during construction activities and no cumulative impact would occur.

The Proposed Project would contribute to potential cumulative exposure associated with interference with remediation of the South Plume, accidental or inadvertent release of hazardous substances during transportation, and interference with adopted emergency response or evacuation plans. Each of these cumulative impacts is further discussed.

Impact 4.6-6: The Proposed Project would contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume.

The South Plume extends from the Railyards site beneath downtown Sacramento at a depth of 25 to 180 feet bgs to approximately Q Street to the south, 5th Street to the west, and 12th Street to the east. Projects in areas that overlie the existing South Plume and require dewatering, depending on the

rate and length of time, could interfere with on-going remediation efforts by pulling the contamination farther to the south and/or closer to the ground surface. Depth to groundwater underlying the Downtown project site was recently measured at 9 to 15 feet bgs and construction of the proposed ESC would involve excavation at a depth of 9 to 14 feet and pile driving to a depth of 60 feet. Analysis of the groundwater for effects on groundwater quality and quantity levels would be performed prior to initiating any dewatering activities. Monitoring wells would be used, either new or existing around the Downtown project site to obtain data prior to and during dewatering to characterize project dewatering impacts on the underlying groundwater. Automatic controls would be installed to alternate pumps and subsequent discharge quantities. Periodic water quality tests will be performed to establish the need for on-site treatment. Nevertheless, due to the rate and time frame for dewatering remediation efforts for the South Plume could be adversely affected and, the projects contribution would be considerable resulting in a ***significant*** cumulative impact.

Mitigation Measure

4.6-6 (ESC/SPD)

Implement Mitigation Measure 4.6-4.

Impact Significance After Mitigation: Mitigation Measure 4.6-4 would ensure that approval from DTSC would be obtained prior to dewatering activities and that the appropriate steps were taken to limit adverse effects of dewatering activities on the existing South Plume. Therefore, the project's contribution to this cumulative impact would be reduced to less than considerable and this cumulative impact is considered ***less than significant***.

Impact 4.6-7: The Proposed Project could contribute to cumulative risk of exposure of people due to inadvertent or accidental releases of hazardous substances transported on local or regional roadways or rail lines.

The transportation of hazardous materials associated with the Proposed Project, when considered with other projects in the region, would increase the amount of hazardous substances transported on local and regional roadways, which could increase the risk of exposure due to the inadvertent or accidental release of hazardous substances. As discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. Because numerous laws and regulations govern the transportation of hazardous materials to reduce the potential hazards this cumulative impact would be ***less than significant*** and the project's contribution would be less than considerable.

Mitigation Measure

None required.

4.7 Hydrology and Water Quality

This section of the EIR evaluates potential environmental effects related to hydrology and water quality that would result with implementation of the Proposed Project. The analysis addresses surface water, groundwater, flooding, stormwater, and water quality.

Comments on the NOP from the Department of Toxic Substances Control (DTSC) requested that the EIR for the Proposed Project consider the South Plume, a groundwater plume contaminated with metals, solvents, and petroleum-based compounds located below a portion of the Downtown project site.[1] Impacts associated with the South Plume are addressed in section 4.6, Hazards and Hazardous Materials.

The analysis included in this section was developed based on project-specific construction and operational features; data provided in the City of Sacramento 2030 General Plan; City of Sacramento 2030 General Plan Master Environmental Impact Report; several reports published by the California Department of Water Resources; the California Water Code and Code of Federal Regulations; the Water Quality Control Plan for the Sacramento and San Joaquin River Basins[2]; several National Pollutant Discharge Elimination System permits; Federal Emergency Management Agency Digital Flood Insurance Rate Maps and flood zone designation definitions; the American River Watershed Sanitary Survey 2008 Update, Sacramento County Multi-Hazard Mitigation Plan; Sacramento Groundwater Authority Basin Management Report Update; Stormwater Quality Improvement Plan for the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova; and the Stormwater Quality Design Manual for the Sacramento and South Placer Regions.

4.7.1 Environmental Setting

Surface Water[3]

The City of Sacramento is located at the confluence of the Sacramento and American rivers within the Sacramento River Basin. The Sacramento River Basin encompasses approximately 27,000 square miles and is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Sacramento – San Joaquin Delta (Delta) to the southeast. The Sacramento River Basin is the largest river basin in California, capturing, on average, approximately 22 million acre-feet of annual precipitation. The Sacramento River is approximately 327 miles long, and its major tributaries are the Pit and McCloud Rivers, which join the Sacramento River from the north, and the Feather and American Rivers, which are tributaries from the east. Numerous additional tributary streams and creeks flow from the east and west. The Sacramento Valley portion of the basin contains the largest

1 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California*. January 2013. Figure 1-2.
2 Central Valley Regional Water Quality Control Board, 2011. *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. October 2011. pp. II-5.00-II-8.00.
3 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024)*. Certified March 3, 2009. pp. 6.7-1 – 6.7-2.

population, concentrated in the cities of Sacramento, West Sacramento, Chico, Red Bluff, and Redding. The river is regulated by Shasta Dam and several dams on the major tributaries, including Oroville Dam on the Feather River and Folsom Dam on the American River, which provide power generation, flood control, water supply, recreation, fisheries, and wildlife management.

Six small tributaries of the Sacramento River run through the greater Sacramento area and provide drainage for the City of Sacramento. These tributaries are Dry Creek, Magpie Creek, and Arcade Creek in the northern portion of the City (north of the American River), and Morrison Creek, Elder Creek, and Laguna Creek in the southern portion of the City (south of the American River). Forty miles south of the Sacramento area, the Sacramento and San Joaquin rivers meet and drain into the San Francisco Bay. Local surface water drainages or creeks such as Chicken Ranch and Strong Ranch sloughs, Florin Creek, Unionhouse Creek, Strawberry Creek, and Rio Linda Creek are additional major natural drainages tributary to the Sacramento River. Human-made drainage canals, such as Steelhead Creek (also referred to as the Natomas East Main Drain Canal) and the East, West, and Main Drainage canals provide drainage for a large portion of the urbanized areas within the City of Sacramento that are not served by the City combined sewer system (CSS) or the City storm drainage collection system.

The American River watershed encompasses approximately 1,900 square miles and is tributary to the Sacramento River. The American River watershed is situated on the western slope of the Sierra Nevada mountain range, extending from the spine of the Sierra Nevada westward to the City of Sacramento. The American River watershed drains approximately 2.7 million acre-feet annually. The river is regulated by dams, canals, and pipelines for power generation, flood control, water supply, recreation, fisheries, and wildlife management. Folsom Dam, located on the American River, is owned and operated by the U.S. Bureau of Reclamation. Folsom Lake and its afterbay, Lake Natoma, release water to the lower American River and to the Folsom South Canal. The operation of Folsom Dam directly affects most of the water utilities on the American River system.

Precipitation in Sacramento occurs primarily as rain from November through March. Climate data collected from 1941 through 2003 show that annual rainfall averaged 17.22 inches, but was variable. Recorded annual rainfall has ranged from a low of 6.25 inches in 1976 to a high of 33.44 inches in 1983. The American River watershed climate is temperate and is characterized by wet winters and dry summers; 95 percent of the annual precipitation occurs between November and April as both rain and snow at higher elevations. Flows in the Sacramento and American rivers are influenced by the volume of surface runoff within the respective watersheds, rainfall, the operation of upstream dams, Sierra Nevada spring snowmelt, local groundwater, and tidal action, which extends to the upper extent of the Delta in the Sacramento River at the I Street Bridge, just downstream of the confluence with the American River.

The Downtown project site is located approximately 1,000 feet east of the Sacramento River and just over one mile southeast of the Sacramento and American River confluence, and 0.3 miles to the west-northwest of the Sacramento River. Stormwater runoff from the project site is conveyed to Storm Drainage Basin 52. Please refer to section 4.11, Utilities and Service Systems, for a detailed description of Storm Drainage Basin 52.

Groundwater

The Downtown project site and six of the proposed offsite digital billboard sites are located within the South American Groundwater Subbasin of the Sacramento Valley Groundwater Basin, as delineated in the California Department of Water Resources (DWR) Bulletin 118 (2003 Update). The South American Subbasin encompasses 388 square miles, and is bounded by the Sierra Nevada to the east, the Sacramento River to the west, the American River to the north, and the Cosumnes and Mokelumne rivers to the south. The calculated groundwater storage capacity of the South American Subbasin is 4,816,000 acre-feet.[4] The Central Sacramento County Groundwater Basin has nearly the same boundaries as the South American Subbasin and differs in places because the Central Sacramento County Groundwater Basin boundaries were drawn to be consistent with the Integrated Groundwater Surface Water Model (IGSM) for Sacramento County. The calculated long-term average annual sustainable yield from the Central Sacramento County Groundwater Basin in 273,000 acre-feet per year.[5] Four of the offsite digital billboard sites are located within the North American Subbasin, which encompasses 548 square miles and is bounded by the Bear River to the north, Feather River to the west, Sacramento River to the south, and a line that extends between the Bear River and Folsom Lake.[6]

Sacramento is underlain by various geologic formations. These formations include an upper, unconfined aquifer system[7] consisting of the Modesto, Riverbank, Turlock Lake, Victor, Fair Oaks, and Laguna Formations, and Arroyo Seco and South Fork Gravels, and a lower, semi-confined aquifer system consisting primarily of the Mehrten Formation. These deposits form a wedge that generally thickens from east to west to a maximum thickness of about 2,500 feet along the western margin of the subbasins. Groundwater occurs in unconfined to semi-confined states throughout the subbasins. Semiconfined conditions occur in localized areas; the degree of confinement typically increases with depth below the ground surface. Groundwater in the upper aquifer formations is typically unconfined. However, due to the mixed nature of the alluvial deposits, semi-confined conditions can be encountered at shallow depths in the upper aquifer.

Groundwater depths at wells in the vicinity of the City of Sacramento in the South American Subbasin have fluctuated generally less than 10 feet overall since the mid-1970s.[8] In the North American Subbasin, groundwater levels have generally remained stable and between 20 and 35 feet below mean sea level (msl), fluctuating no more than five feet since 1997.[9] Depth to groundwater beneath the Downtown project site varies seasonally, and has been reported to range from 7.5 to 29 feet below ground surface, and 7.5 to 9 feet below the ESC site.[10] According to the

4 California Department of Water Resources, 2004. *California's Groundwater Bulletin 118, Sacramento Valley Groundwater Basin, South American Subbasin.* February 27, 2004. p. 1.
5 Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. pp. 2-22 – 2-23
6 California Department of Water Resources, 2006. *California's Groundwater Bulletin 118, Sacramento Valley Groundwater Basin, North American Subbasin.* January 20, 2006. p. 1.
7 An unconfined aquifer is one that is open to receive water from the surface. A confined aquifer is overlain by a rock layer that prevents water from the surface from percolating into the aquifer.
8 Central Valley Regional Water Quality Control Board, 2011. *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. October 2011. pp. II-5.00-II-8.00.
9 Sacramento Groundwater Authority, 2011. *Basin Management Report Update 2011*. Undated. pp. 14-15.
10 Geocon Consultants, Inc. 2013. *Geotechnical Investigation, Sacramento Entertainment and Sports Center. November*. p. 7 and Figure 2.

groundwater elevation contour map included in the Central Sacramento County Groundwater Management Plan, groundwater elevations at the offsite digital billboard sites range from 35 feet below msl at the Business 80 at Del Paso Regional Park/Haggin Oaks and I-80 at Roseville Road sites to approximately 5 feet above msl at the I-5 at Bayou Road site.[11]

Groundwater containing elevated levels of contaminants is present within the Sacramento region, including below the Downtown project site. Additionally, there are currently over 200 active Leaking Underground Storage Tank (LUST) locations within the City of Sacramento. In the greater region, polluted groundwater plumes emanate from the former McClellan Air Force Base (AFB), the former Mather AFB, and the Aerojet property south of Highway 50 in Rancho Cordova.[12] A portion of the South Plume, a groundwater plume originating in the Railyards and contaminated with metals, solvents, and petroleum-based compounds, is located below a portion of the Downtown project site.[13] Impacts related to contaminated groundwater are addressed in section 4.6, Hazards and Hazardous Materials. While there are instances of polluted groundwater in the region, groundwater quality in the Sacramento area is generally within the secondary drinking water standards for municipal use, including levels of iron, manganese, arsenic, chromium, and nitrates.[14]

There is currently a dewatering system at the Downtown project site that includes pumps in each of the parking garages. The exact volume of groundwater that is pumped from the parking garages is unknown, but is estimated at an average of approximately 15.1 million gallons per month.[15] The water pumped from the parking garages is discharged to the CSS connection on L Street.

Flooding

The following discussion is based primarily on information provided in the City of Sacramento General Plan Master EIR.[16]

Background

High water levels along the Sacramento and American rivers are a common occurrence in the winter and early spring months due to increased flows from stormwater runoff and/or snowmelt. To protect the area from regional flooding, an extensive system of dams, levees, overflow weirs, drainage pumping stations, and flood control bypass channels are strategically located on and adjacent to the Sacramento and American rivers, and their respective tributaries. In the project

11 Water Forum, Sacramento County Water Agency, and MWH, 2006. Central Sacramento County Groundwater Management Plan. February 2006.pp. 2-22 – 2-23

12 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024).* Certified March 3, 2009. p. 6.7-9.

13 ERM, 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California*. January 2013. Figure 1-2.

14 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024).* Certified March 3, 2009. p. 6.7-8.

15 Hiser, Matt, 2013. Personal communication via email between Brian Boxer of ESA and Matt Hiser of Turner Construction. December 11, 2013.

16 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024).* Certified March 3, 2009. pp. 6.7-9 – 6.7-12.

vicinity, the amount of water flowing through the levee system can be controlled by Folsom Dam on the American River and the reserve overflow area of the Yolo Bypass on the Sacramento River. However, several areas of the City remain vulnerable to localized flooding by the overtopping of rivers and creeks, levee failures, and the surcharge of urban drainage systems that cannot accommodate large volumes of water during severe rainstorms.[17]

During major flood events, high flows can occur throughout the Sacramento River and American River systems. The relative timing of these flows can accentuate the flood risk because high water levels in a primary stream (Sacramento River) can result in a "backwater" effect, which reduces the effective capacity of the tributary or incoming stream (American River). This is true in rivers and streams and stormwater collection systems. The historic peak flow on record for the gage located on the Sacramento River at the I Street Bridge is 108,800 cubic feet per second (cfs) during the 1986 flood. While areas in the City and surrounding communities did experience some localized flooding, the Sacramento River at I Street remained four inches below flood stage during that event.

Riverine flooding occurs when a watercourse exceeds its ‘bank-full’ capacity and is the most common type of flood event in the Sacramento River Basin. Riverine flooding occurs as a result of prolonged rainfall that is combined with saturated soils from previous rain events, or combined with snowmelt, and is characterized by high peak flows of moderate duration and by a large volume of runoff. Riverine flooding occurs in river systems with tributaries that drain large geographic areas and can include many watersheds and sub-watersheds. The duration of riverine floods varies from a few hours to many days. Factors that directly affect the amount of flood runoff include precipitation amount, intensity, and distribution; soil moisture content; channel capacity; seasonal variation in vegetation; snow depth; and water-resistance of the surface. In Sacramento County, riverine flooding typically occurs anytime from November through April. Flooding is more severe when previous rainfall events saturate ground conditions. Urbanization may increase peak flow runoff as well as the total volume of stormwater runoff from a site. The increase is dependent upon the type of soil and topography compared to the proposed land uses.

Floodplain Management

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) and delineates areas subject to flood hazards on Flood Insurance Rate Maps (FIRMs) for each community participating in the NFIP. The FIRMs show the areas subject to inundation by a flood that has a one percent chance or greater of being equaled or exceeded in any given year. This type of flood is referred to as the 100-year or base flood. Areas on FIRMs are divided into geographic areas, or zones, that FEMA has defined according to varying levels of flood risk. Table 4.7-1, FEMA Flood Zone Designations, includes a description of the risk associated with each zone.

[17] Sacramento County, 2011. *Sacramento County, California, Local Hazard Mitigation Plan.* September 2011. p. 4.4.

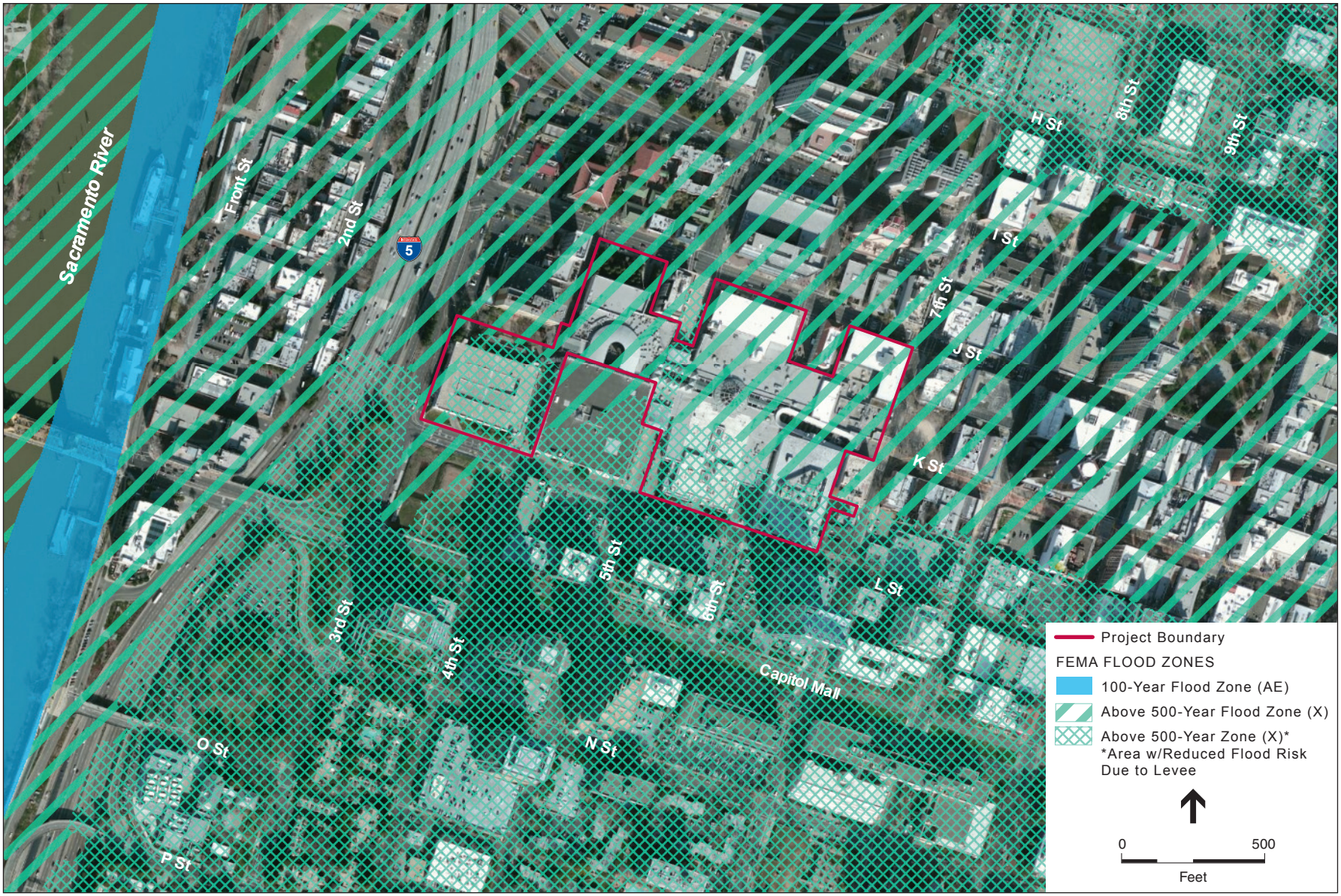
TABLE 4.7-1
FEMA FLOOD ZONE DESIGNATIONS

Zone	Description
Moderate to Low Risk Areas	
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year events. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year event, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level.
High Risk Areas	
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
Undetermined Risk Areas	
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

SOURCE: Federal Emergency Management Agency, 2013. *Definitions of FEMA Flood Zone Designations*. https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations. Accessed October 12, 2013.

As shown in Figure 4.7-1, two types of the FEMA Flood Zone Designation X apply to the project site. Generally, the southern portion of the site as well as the length of 5th Street within the site is designated Zone X (unshaded) – areas above the 500-year flood zone. The remainder of the site is designated Zone X – (shaded) above the 100-year zone with reduced flood risk due to levees. There is an approximately nine foot difference in elevation between L and J streets, and the portion of the site that is located outside of the 500-year flood zone is at a higher elevation than the remainder of the site.

Each potential offsite digital billboard location is described in Chapter 2, Project Description. Table 4.7-2 presents the FEMA Flood Zone Designation that applies to each offsite digital billboard location as well as the distance from each offsite digital billboard site to the nearest river. Offsite digital billboard locations 1 through 7 and 10 are either outside of any flood hazard



SOURCE: FEMA, 2012; Microsoft, 2012; City of Sacramento, 2012; ESA, 2013

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Figure 4.7-1
FEMA Flood Zones

TABLE 4.7-2
FEMA FLOOD ZONE DESIGNATIONS AT OFFSITE DIGITAL BILLBOARD SITES

Site Name	FEMA Flood Zone Designation
1. I-5 at Water Tank	Zone X, Area with Reduced Flood Risk Due to Levee
2. US 50 at Pioneer Reservoir	Outside of any flood zone
3. Business 80 at Sutter's Landing Regional Park	Zone X, Area with Reduced Flood Risk Due to Levee
4. Business 80 at Del Paso Regional Park/Haggin Oaks	Zone X, Area of Minimal Flood Hazard
5. Business 80 at Sutter's Landing Regional Park/American River	Zone X, Area with Reduced Flood Risk Due to Levee
6. I-80 at Roseville Road	Zone X, Area of Minimal Flood Hazard
7. SR 99 at Calvine Road	Zone X, 0.2% Annual Chance Flood Hazard
8. I-5 at Bayou Road	Zone AE
9. I-5 at San Juan Road	Zone AE
10. I-5 at Sacramento Railyards	Zone X, Area of Minimal Flood Hazard

SOURCE: Federal Emergency Management Agency, 2012. *FEMA Mapping Information Platform, Flood Hazard Zones GIS data layer*. See Figure 4.7-1 of this EIR. August 16, 2012.

zone or within Zone X. The I-5 at Bayou Road and I-5 at San Juan billboard sites are located within Zone AE, a zone that applies to the 100-year floodplain where base flood elevations, or the water surface elevations associated with the 100-year event, are also available. None of the offsite digital billboard locations are located within a designated floodway, which is defined as the channel of a water course and those portions of the adjoining floodplain required to provide for passage of a selected flood with a small increase in flood stage above that of natural conditions.[18]

The Sacramento Area Flood Control Agency (SAFCA) was formed to address the Sacramento area's vulnerability to catastrophic flooding. This vulnerability was exposed during the record flood of 1986 when Folsom Dam exceeded its normal flood control storage capacity and several Sacramento area levees nearly collapsed under the strain of the storm. In response, the City of Sacramento, the County of Sacramento, Sutter County, the American River Flood Control District, and Reclamation District 1000 created SAFCA through a Joint Exercise of Powers Agreement to provide the Sacramento region with increased flood protection along the American and Sacramento rivers and their immediate tributaries. The SAFCA mission is to provide the region with at least a 100-year level of flood protection as quickly as possible while seeking a 200-year or greater level of protection over time. Under the Sacramento Area Flood Control Agency Act of 1990, the California Legislature has given SAFCA broad authority to finance flood control projects and has directed the Agency to carry out its flood control responsibilities in ways that provide optimum protection to the natural environment. Current SAFCA projects include the Folsom Dam Joint Federal Project, American River Common Features Project, Natomas Levee Improvement Program, South Sacramento Streams Project, Mayhew Levee Improvements Project, and Sacramento Bank Protection Project.

[18] California Department of Water Resources, 2013a. *Designated Floodway Web Viewer*. http://gis.bam.water.ca.gov/bam/. Accessed October 12, 2013.

After Hurricane Katrina, the U.S. Army Corps of Engineers (USACE) developed more stringent levee standards. As of August 31, 2013, the USACE 100-year storm event certification for portions of the lower Sacramento and American River levees expired. In the vicinity of Downtown Sacramento, a portion of the Sacramento River East Levee starting near Front and R streets and extending approximately 3.7 miles downstream was decertified. SAFCA is working toward implementing levee improvements and applying for re-certification of the levees under FEMA NFIP standards and the California Urban Levee Design Criteria. In early 2014, SAFCA plans to have identified specific improvements necessary for meeting FEMA standards for levee certification, will make recommendations to its Board, and then develop a plan for implementation.[19] FEMA Flood Zone Designations at the Downtown project site and offsite digital billboard sites have not been changed as a result of the expiring levee certifications. FEMA currently does not have a schedule for remapping these areas.

Within the Sacramento region, 30,000 acres are protected from the 100-year flood by levees, and 18,000 acres are within the 100-year floodplain. In February 1996, the City prepared the Comprehensive Flood Management Plan to better protect citizens and property from major flood events. The Comprehensive Flood Management Plan was conceived as an implementation tool for the City Council to use in planning for future modifications to policies and ordinances to enhance the level of flood protection in the City. Further, SAFCA has outlined a plan to provide a 200-year level of flood protection to the Sacramento area. Other floodplain planning efforts have been implemented by SAFCA and Reclamation District No. 1000 through a variety of joint agreements with federal, state, and local agencies. These agreements have resulted in the planning of improvements to flood protection structures (e.g., levees, canals), ecosystem protection and restoration, and the sharing and updating of floodplain management information with all involved parties to the agreements, including the City. In 2007, the passage of Senate Bill 5 effectively set a higher flood protection threshold for urban areas, including Sacramento, by requiring a minimum of 200-year protection.[20] Additional information about this requirement is provided under Regulatory Setting below.

The City of Sacramento has implemented a capital improvement program that includes improvement of stormwater drainage facilities within the City to improve localized flooding conditions and capacity in the system. Section 4.11, Utilities and Service Systems, includes a description of planned improvements.

Water Quality

Surface Water

Ambient water quality in the Sacramento and American rivers is influenced by numerous natural and artificial sources, including soil erosion, discharges from industrial and residential wastewater plants, stormwater runoff, agriculture, recreation activities, mining, timber harvesting

[19] Sacramento Regional Flood Control Agency, 2013. *Levee Certification*. http://www.safca.org/Levee_Certification.html#. Accessed October 24, 2013.

[20] California Water Code. *Central Valley Flood Protection, Section 9600 – 9651*.

in upper portions of the watersheds, flora, and fauna. Table 4.7-3 shows water bodies in the urbanized Sacramento area that are considered impaired because water quality standards are exceeded.[21] The reaches of the Sacramento and American rivers that flow through the Sacramento urban area are considered impaired for certain fish consumption and aquatic habitat and are listed on the U.S. Environmental Protection Agency (EPA) approved 2010 section 303(d) list of impaired water bodies. The Sacramento and American rivers are both listed as impaired under the 303(d) list for mercury and unknown toxicity. Other major creeks, drainage canals, and sloughs in the City boundaries are also listed for pesticides and copper.

TABLE 4.7-3
LOCAL WATERBODIES EXCEEDING WATER QUALITY STANDARDS

Waterbody	Reach	Estimated Size Affected	Pollutant/Stressor(s)
Sacramento-San Joaquin Delta	--	41,746 acres	Chlordane, DDT, Dieldrin, Dioxin Compounds, (including 2,3,7,8-TCDD), Exotic Species, Furan Compounds, Mercury, Nickel, PCBs (Polychlorinated biphenyls), PCBs (dioxin-like), Selenium
American River (Nimbus Dam to confluence with Sacramento River)	Lower	27 miles	Mercury
Arcade Creek	--	9.9 miles	Chlorpyrifos, Diazinon, Copper
Morrison Creek	Morrison Creek from Elk Grove-Florin Rd to Beach Lake	26 miles	Chlorpyrifos, Diazinon
Elder Creeek	--	11 miles	Chlorpyrifos, Diazinon
Elk Grove Creek	--	6.9 miles	Chlorpyrifos, Diazinon
Strong Ranch Slough	--	6.4 miles	Chlorpyrifos, Diazinon
Chicken Ranch Slough	--	8 miles	Chlorpyrifos, Diazinon
Lake Natoma	--	485 acres	Mercury
Steelhead Creek (Natomas East Main Drainage Canal)	(downstream of confluence with Arcade Creek)	3.5 miles	Diazinon, PCBs
Steelhead Creek (Natomas East Main Drainage Canal)	(upstream of confluence with Arcade Creek)	12 miles	PCBs
Sacramento River	Knights Landing to the Delta	16 miles	Mercury, Diazinon, Unknown Toxicity

SOURCE: City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024)*. Certified March 3, 2009. p. 6.7-6.

Constituents found in urban runoff vary as a result of differences in rainfall intensity and occurrence, geographic features, the land use of a site, as well as vehicle traffic and percent of impervious surface. In the Sacramento area, there is a natural weather pattern of a long dry period from May to October. During this seasonal dry period, pollutants contributed by vehicle exhaust, vehicle and tire wear, crankcase drippings, spills, and atmospheric fallout accumulate within the

[21] Impaired is defined as having chronic or recurring monitored violations of the applicable numeric and/or narrative water quality criteria.

urban watershed. Precipitation during the early portion of the wet season washes these pollutants into the stormwater runoff, which can result in elevated pollutant concentrations in the initial wet weather runoff if not properly intercepted and managed.

Beneficial uses are designated by the Central Valley Regional Water Quality Control Board CVRWQCB, are published in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins222, and define the resources, services, and qualities of aquatic systems that are the ultimate goals of protecting and achieving high water quality. The Sacramento and American rivers have been classified by the Central Valley Regional Water Quality Control Board (CVRWQCB) as having numerous beneficial uses, including providing municipal, agricultural, and recreational water supply. Other beneficial uses include freshwater habitat, spawning grounds, wildlife habitat, navigation on the Sacramento River, and industrial uses on the American River.[22]

In general, stormwater runoff within the City of Sacramento flows into either the City's Combined Sewer System (CSS), which is treated at the County's wastewater treatment plant or to the separated sewer system which conveys run-off to drainage system of pump stations which discharge run-off to the American, Sacramento Rivers and/or their respective tributaries The CSS is considered at or near capacity and requires all additional inflow into the system to be mitigated. Refer to section 4.11, Utilities and Service Systems, for more information on the City's sewage and stormwater drainage facilities. Water quality requirements included in the Sacramento County Municipal Separate Storm Sewer System (MS4) permit are discussed under Regulatory Setting below.

4.7.2 Regulatory Setting

Federal

Surface Water Quality

Water quality objectives for all waters of the United States are established under applicable provisions of section 303 of the federal Clean Water Act (CWA). The CWA prohibits the discharge of pollutants to navigable waters from a point source unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Because implementation of these regulations has been delegated to the State, additional information regarding this permit is discussed under the "State" subheading, below.

Standards for a total of 81 individual constituents have been established under the Safe Drinking Water Act, as amended in 1996. The U.S. Environmental Protection Agency (EPA) may add additional constituents in the future. Please see section 4.11, Utilities and Service Systems, for an analysis of effects related to potable water supply.

[22] Central Valley Regional Water Quality Control Board, 2011. *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. October 2011. pp. II-5.00-II-8.00.

National Pollutant Discharge Elimination System Permits

The NPDES permit system was established in the CWA to regulate municipal and industrial point discharges to surface waters of the U.S. Each NPDES permit for point discharges contains limits on allowable concentrations of pollutants contained in discharges. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants.

The CWA was amended in 1987 to require NPDES permits for non-point source (i.e., stormwater) pollutants in discharges. Stormwater sources are diffuse and originate over a wide area rather than from a definable point. The goal of NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of structural and non-structural Best Management Practices (BMPs). BMPs can include the development and implementation of various practices including educational measures (workshops informing public of what impacts results when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures, and structural measures (filter strips, grass swales and detention ponds). The NPDES permits that apply to activities in the City of Sacramento are described under local regulations below.

Floodplain Regulations

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR).[23] FEMA imposes building regulations on development within flood hazard areas depending upon the potential for flooding within each area. Building regulations are incorporated into the municipal code of jurisdictions participating in the NFIP. Section 15.104, Floodplain Management Regulations, of the Sacramento City Code includes requirements for compliance with Title 44, Part 60 of the CFR. FEMA does not regulate buildings or require flood insurance in areas designated Zone X, such as the project site. Regulations do apply to structures and development in Zone AE and are outlined in Sacramento City Code Section 15.104.050, Requirements for flood hazard reduction. While the offsite digital billboard sites I-5 at San Juan Road and I-5 at Bayou Road are in Zone AE, the floodplain management regulations in Section 15.104.050 of the Sacramento City Code would not apply because digital billboards are not structures with two or more rigid walls and a roof.[24]

State

Surface Water Quality

The State Water Resources Control Board (SWRCB) and CVRWQCB are delegated authority from EPA to implement portions of the CWA, and the State's water quality law, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). These agencies have established water quality standards that are required by section 303 of the CWA and the Porter-Cologne Act. The Porter-

[23] Code of Federal Regulations, 2002. *Title 44, Emergency Management and Assistance, Part 60, Criteria for Land Management and Use*. October 1, 2002.
[24] Federal Emergency Management Agency. 2011. *NFIP Manual, General Rules.* October 1, 2011. p. GR-3.

Cologne Act states that basin plans will consist of beneficial uses, water quality objectives, and a program of implementation for achieving water quality objectives. A Water Quality Control Plan, or Basin Plan, prepared by the CVRWQCB, establishes water quality numerical and narrative standards and objectives for rivers and their tributaries within the area subject to the Basin Plan. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria apply such as EPA water quality criteria developed under section 304(a) of the CWA.

Water quality objectives for the Sacramento River are specified in the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin (Basin Plan) prepared by the CVRWQCB in compliance with the federal CWA and the California Water Code (section 13240). The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Sacramento-San Joaquin River Basin. Because the City of Sacramento and the project site are located within the Sacramento River Basin, all discharges to surface water or groundwater fall under the CVRWQCB's jurisdiction and are subject to the Basin Plan requirements. The requirements outlined in the NPDES permits that regulate development within the City are based on the Basin Plan requirements.

Construction Dewatering

Where groundwater levels tend to be shallow, dewatering during construction is sometimes necessary to keep trenches or excavations free of standing water when improvements or foundations/footings are installed. Clean or relatively pollutant-free water that poses little or no risk to water quality may be discharged directly to surface water under certain conditions. The CVRWQCB has adopted a general NPDES permit for short-term discharges of small volumes of wastewater from certain construction-related activities (General Dewatering Permit). Permit conditions for the discharge of these types of wastewaters to surface waters are specified in "General Order for Dewatering and Other Low-Threat Discharges to Surface Waters" (Order No. 5-00-175, NPDES No. CAG995001). Discharges may be covered by the General Dewatering Permit provided they are (1) either four months or less in duration or (2) the average dry weather discharge does not exceed 0.25 million gallons per day. Construction dewatering, well development water, pump/well testing, and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the General Dewatering Permit. The General Dewatering Permit also specifies standards for testing, monitoring, and reporting, receiving water limitations, and discharge prohibitions. When project construction would exceed four months in duration or 0.25 million gallons per day, a project-specific permit from the CVRWQCB is required. Construction activities at the project site would include dewatering of 1 million gallons per day for up to 15 months. Therefore, a project-specific permit would be required. Impacts associated with construction dewatering and the South Plume are addressed entirely within section 4.6, Hazards and Hazardous Materials.

Construction Site Runoff Management

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the state requires that any construction activity affecting one acre or more obtain coverage under a General Construction Activity Stormwater Permit (General Construction Permit). The current General Construction Permit is the NPDES General Permit for

Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010. General Construction Permit applicants are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) which includes implementing BMPs to reduce construction effects on receiving water quality by implementing erosion and sediment control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs included in SWPPPs include, but are not limited to: using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment so as to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the City drainage system or receiving waters.

Construction activity that results in soil disturbances of less than one acre is subject to the General Construction Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board (RWQCB). The City review process in terms of construction management and water quality for projects on sites less than one acre mirrors the process for sites larger than one acre. The City of Sacramento requires an erosion and sediment control plan and standard construction BMPs for other pollutants are required for construction sites less than one acre.

Central Valley Flood Management

The Central Valley Flood Management Planning (CVFMP) Program was launched by DWR in 2008 to guide, manage, and implement integrated flood management actions for the Sacramento and San Joaquin valleys as required by Senate Bill 5, which was passed in 2007 (California Water Code Sections 9600 to 9651). Currently, the CVFMP is supporting the planning and coordination of major implementation actions of the 2012 Central Valley Flood Protection Plan (CVFPP), including State-led Basin-wide Feasibility Studies (BWFS), locally-led Regional Flood Management Planning, and the Central Valley Flood System Conservation Strategy. Each of these planning efforts will be incorporated into the next update of the CVFPP, which is scheduled for 2017. Implementation of CVFPP actions have already begun and will be expanded after the 2017 Plan is updated. The Downtown project site is located within the Lower Sacramento North / Delta North Regional Flood Management Planning region. The preparation of the Regional Flood Management Plan for the Sacramento North / Delta North is currently underway. As a part of the process, projects that would improve flood control within the region will be identified and ranked.[25] In addition, the passage of Senate Bill 5 effectively set a higher flood protection threshold for urban areas by requiring a minimum of 200-year protection by 2025.[26] The City must have a plan in place to achieve 200-year protection by July 2016.

[25] California Department of Water Resources, 2013b. *Central Valley Flood Management (CVFMP) Program.* http://www.water.ca.gov/cvfmp/. Accessed September 13, 2013.
[26] California Water Code. *Central Valley Flood Protection, Section 9600 – 9651.*

Local

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to hydrology and water quality.

Goal U 4.1 Adequate Stormwater Drainage. Provide adequate stormwater drainage facilities and services that are environmentally sensitive, accommodate growth, and protect residents and property.

Policies

- **U 4.1.1 Adequate Drainage Facilities.** The City shall ensure that all new drainage facilities are adequately sized and constructed to accommodate stormwater runoff in urbanized areas.

- **U 4.1.4 Watershed Drainage Plans.** The City shall require developers to prepare watershed drainage plans for proposed developments that define needed drainage improvements per City standards, estimate construction costs for these improvements, and comply with the City's National Pollutant Discharge Elimination System (NPDES) permit.

- **U 4.1.5 New Development.** The City shall require proponents of new development to submit drainage studies that adhere to City stormwater design requirements and incorporate measures to prevent on-or off-site flooding.

Goal ER 1.1 Water Quality Protection. Protect local watersheds, water bodies and groundwater resources, including creeks, reservoirs, the Sacramento and American rivers, and their shorelines.

Policies

- **ER 1.1.3 Stormwater Quality.** The City shall control sources of pollutants and improve and maintain urban runoff water quality through storm water protection measures consistent with the City's National Pollutant Discharge Elimination System (NPDES) Permit.

- **ER 1.1.4 New Development.** The City shall require new development to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, best management practices (BMPs), Low Impact Development (LID), and hydromodification strategies consistent with the City's NPDES Permit.

- **ER 1.1.5 No Net Increase.** The City shall require all new development to contribute no net increase in stormwater runoff peak flows over existing conditions associated with a 100-year storm event.

- **ER 1.1.6 Post-Development Runoff.** The City shall impose requirements to control the volume, frequency, duration, and peak flow rates and velocities of runoff from development projects to prevent or reduce downstream erosion and protect stream habitat.

- **ER 1.1.7 Construction Site Impacts.** The City shall minimize disturbances of natural water bodies and natural drainage systems caused by development, implement measures to protect areas from erosion and sediment loss, and continue to require construction contractors to comply with the City's erosion and sediment control ordinance and stormwater management and discharge control ordinance.

Goal EC 2.1 Flood Protection. Protect life and property from flooding.

Policies

- **EC 2.1.6 New Development.** The City shall require evaluation of potential flood hazards prior to approval of development projects.

The Proposed Project would be consistent with each of the 2030 General Plan goals and policies listed above. Consistent with Policy U 4.1.1 and as discussed below under Impact 4.7-2, project stormwater drainage infrastructure would be appropriately sized to accommodate runoff from the project site. Consistent with policies U 4.1.4 and U 4.1.5, the project applicant would submit a watershed drainage plan and drainage studies to the City for review and approval. As discussed under Impact 4.7-1 below, the project is subject to the City's NPDES permit and, therefore, would comply with policies ER 1.1.3 or ER 1.1.4. A SWPPP would be required, which would ensure consistency with Policy ER 1.1.7. The project would be designed to be consistent with policies ER 1.1.5 and ER 1.1.6 so that no net increase in 100-year peak stormwater flows would occur and all City requirements regarding the volume, frequency, duration, and peak flow rates and velocities of runoff would be met (see the discussion under Impact 4.7-2 below). An evaluation of potential flood hazards as a result of the Proposed Project is included below under section 4.7.3, Analysis, Impacts, and Mitigation, so the project would be consistent with Policy EC 2.1.6.

Stormwater Quality/Urban Runoff Management

The County of Sacramento and the cities of Sacramento, Folsom, Citrus Heights, Elk Grove, Rancho Cordova, and Galt have a joint Municipal Separate Storm Sewer System NPDES permit (MS4 Permit) (No. CAS082597) that was granted on September 11, 2008. Collectively, these jurisdictions are referred to as the Sacramento Stormwater Quality Partnership (Partnership). The MS4 Permit is intended to implement the Basin Plan through the effective implementation of BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. The permittees listed under the joint permit have the authority to develop, administer, implement, and enforce storm water management programs within their own jurisdiction.

Urban storm water runoff is defined in the MS4 Permit as including stormwater and dry weather flows from a drainage area that reaches a receiving water body or subsurface. The permit regulates the discharge of all wet and dry weather urban storm water runoff within the City of

Sacramento and requires the City to implement a stormwater management program to reduce pollutants in stormwater to the maximum extent practicable. In response, the City of Sacramento and the other Permittees created the Stormwater Quality Improvement Plan (SQIP) to address the MS4 permit requirements and reduce the pollution carried by stormwater into local creeks and rivers. The program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The program also includes an extensive public education effort, target pollutant reduction strategy and monitoring program. The SQIP also outlines the priorities, key elements, strategies, and evaluation methods of the program.[27]

The specific BMPs that are appropriate for a project to meet the requirement of reducing the discharge of pollutants to the maximum extent practicable are site specific. During the design process, the appropriate required measures and Low Impact Development (LID)[28] strategies are selected and incorporated into project plans. The County of Sacramento and the cities of Sacramento, Folsom, Citrus Heights, Elk Grove, Rancho Cordova, Galt, and Roseville collaboratively published the Stormwater Quality Design Manual for Sacramento and South Placer Regions (May 2007) to meet MS4 Permit requirements and to provide clear guidance for project applicants on how to incorporate BMPs that achieve permit compliance.[29] The manual provides locally-adapted information for design and selection of three categories of stormwater quality control measures: source control, runoff reduction, and treatment control. The second edition of the Stormwater Quality Design Manual is expected to be available by the end of 2014 and will include LID standards. The following are required items for each of the local permitting agencies as specified in the new development element provisions of the MS4 permit:

- the types of projects subject to the development standards and thresholds for determining what types of control measures apply to the project;
- maintenance agreements or covenants are required for selected control measures; and
- sizing methodology for water quality flow (WQF) -based measures (e.g., vegetated swale) and water quality volume WQV-based measures (e.g., water quality detention basin).

The Sacramento Stormwater Quality Partnership Hydromodification Management Plan (HMP) was released in July 2011 to provide an additional resource for stormwater management strategies. The HMP was subsequently revised in February 2013 to address CVRWQCB comments and is anticipated to be approved in early 2014. The HMP includes hydromodification management exemption criteria that apply to this project, but has not been approved by the CVRWQCB yet. The Partnership is also currently working on the development of LID standards,

[27] County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, 2009. *Stormwater Quality Improvement Plan.* April 2009. pp. 1-1–1-16.

[28] Low Impact Development uses site design and stormwater management to maintain pre-development runoff rates and volumes through the use of decentralized design techniques that infiltrate, filter, store, evaporate, and detain runoff.

[29] Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, Roseville, Sacramento and the Sacramento County. *Stormwater Quality Design Manual for the Sacramento and South Placer Regions.* pp. 1-1 - 1-8.

which will be incorporated in the second edition of the Stormwater Quality Design Manual and take effect a year after the HMP is approved by the CVRWQCB.

Dewatering

All groundwater discharges to the CSS or separated sewer system are regulated by the City of Sacramento Department of Utilities pursuant to Department of Utilities Engineering Services Policy No. 0001, adopted as Resolution No. 92-439 by the Sacramento City Council. Groundwater discharges to the City's sewer system are defined as construction dewatering discharges, foundation or basement dewatering discharges, treated or untreated contaminated groundwater cleanup, discharges, and uncontaminated groundwater discharges.

Project construction would include dewatering at the Downtown project site. In addition to the State requirements described above, the City requires that any short-term discharge be permitted, or an approved Memorandum of Understanding (MOU) for long-term discharges be established, between the discharger and the City. Short-term limited discharges of seven days or less must be approved through the City Department of Utilities by an approval letter. Long-term discharges of greater than seven days must be approved through the City Department of Utilities and the Director of the Department of Utilities through an MOU process. The MOU must specify the type of groundwater discharge, flow rates, discharge system design, a City-approved contaminant assessment of the proposed groundwater discharge indicating tested levels of constituents, and a City-approved effluent monitoring plan to ensure contaminant levels remain in compliance with state standards or Sacramento Regional County Sanitation District (SRCSD)- and CVRWQCB-approved levels. All groundwater discharges to the sewer must be granted an SRCSD discharge permit. If the discharge is part of a groundwater cleanup or contains excessive contaminants, CVRWQCB or Sacramento County approval is also required. Impacts associated with construction dewatering and the South Plume are addressed within section 4.6, Hazards and Hazardous Materials.

Combined Sewer System Discharges

Section 13.080.030 of the Sacramento City Code prohibits the discharge of any substances, materials, waters, or waste if the discharge would violate any sewer use ordinance enacted by the SRCSD. Section 13.08.040 of the Sacramento City Code identifies specific waters, wastes, and substances that may not be discharged to the sewer.

Discharges to the CSS are regulated under a separate NPDES permit (NPDES No. CA007911). Any discharger into the CSS must have a completed Sewer Use Questionnaire on file with the SRCSD, which would apply to the Downtown project site. The SRCSD has adopted a Sewer Use Ordinance that regulates the use of public sewers connected to the Sacramento Regional Wastewater Treatment Plant (SRWTP). The wastewater discharged from the SRWTP to the Sacramento River is regulated under another NPDES permit issued by the CVRWQCB (NPDES No. CA0077682). Discharge limitations are specified in the permit to limit water quality impacts in the Sacramento River. Categorical Pretreatment Standards have also been established for the pretreatment of certain classes of industrial wastes discharged to publicly owned treatment works, such as the SRWTP. The purpose of these standards is to protect the SRWTP and the

environment by regulating potentially harmful discharges to the sewer from industrial and commercial businesses.

City of Sacramento Construction Site Stormwater Controls

The City's Grading, Erosion and Sediment Control Ordinance requires project applicants to prepare erosion, sediment and pollution control plans for both during and after construction of a project, and grading plans. The Ordinance applies to projects where 50 cubic yards or more of soil is excavated and/or disposed and requires BMPs that must be approved of by the City's Department of Utilities. In addition, the City's Stormwater Management and Discharge Control Ordinance minimizes or eliminates sediment and pollutants in construction site stormwater discharges.

4.7.3 Analysis, Impacts, and Mitigation

Significance Criteria

The Proposed Project would result in a significant effect if it would:

(1) substantially degrade water quality;

(2) violate any water quality or waste discharge objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the project;

(3) substantially increase the exposure of people and/or property to the risk of loss, injury, damage, or death in the event of a 100-year flood or as a result of the failure of a levee or dam;

(4) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

(5) place within a 100-year flood hazard area structures which would impede or redirect flood flows;

(6) substantially deplete groundwater supplies or interfere with groundwater recharge resulting in a net deficit in the aquifer volume, a lowering of the groundwater table, or subsidence;

(7) substantially alter the existing site drainage or substantially increase the rate or amount of surface runoff which would result in flooding on or off-site.

The first portion of significance criterion (4), "create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems" is addressed in section 4.11, Utilities and Service Systems. The remainder of significance criterion (4) is addressed below. With regard to significance criterion (5), the project site is not located within a 100-year flood hazard area as described above under section 4.7.1, Environmental Setting. Therefore, significance criterion (5) does not apply to the Proposed Project, and no further analysis is required.

Methodology and Assumptions

The following impact analyses are qualitative and based on existing hydrologic and water quality information. It is assumed that all aspects of the Proposed Project would comply with all applicable laws, regulations, design standards, and plans. Impacts on water quality were evaluated by considering the type of pollutants the project would generate during construction and operation and whether meeting the requirements of applicable regulations would reduce potential impacts to a less-than-significant level. Onsite drainage impacts were evaluated in the same manner as water quality impacts. Potential impacts related to flooding were analyzed by comparing the 100-year floodplain boundary as defined by FEMA with the location of the project site. The analysis of impacts to groundwater considers how redevelopment of the Downtown project sites and installation of offsite digital billboards at the 10 potential locations would influence groundwater recharge based on increases in impervious surfaces as a result of the project and the existing and projected condition of the groundwater basin. An analysis of impacts to water supply, sewer, and stormwater infrastructure is included in section 4.11, Utilities and Service Systems. Impacts associated with the South Plume are addressed entirely within section 4.6, Hazards and Hazardous Materials.

Impacts and Mitigation Measures

Impact 4.7-1: The Proposed Project could degrade water quality.

Downtown Project Site

Construction

The use of construction equipment and other vehicles could result in spills of oil, grease, gasoline, brake fluid, antifreeze, or other vehicle-related fluids and pollutants. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. Regarding construction dewatering, sediment impairment of receiving waters could result if dewatering discharge is sediment laden. The effects of construction dewatering and the South Plume are addressed in section 4.6, Hazards and Hazardous Materials.

As discussed in the Regulatory Setting, above, the Proposed Project is required to comply with a number of regulations designed to reduce or eliminate construction-related water quality effects, including the NPDES General Construction Permit; SQIP; Grading, Erosion and Sediment Control Ordinance; and project-specific dewatering discharge permit. Before the onset of any construction activities, an application for coverage under the General Construction Permit and an erosion and sediment control plan must be submitted to the City. Before construction may begin, a SWPPP would be developed and a Notice of Intent (NOI) filed with the CVRWQCB. After approvals of coverage under the General Construction Permit, the erosion and sediment control plan, and the SWPPP are obtained, construction would commence and include all BMPs outlined in the erosion and sediment control plan and SWPPP. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. The City would complete inspections to verify that the erosion and sediment control plan and SWPPP are implemented correctly.

The City would also require erosion and sediment control plans to include BMPs to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors. Implementation of these measures would comply with state and federal water quality regulations. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that:

- violates applicable water quality standards;
- causes a film or sheen on, or discoloration of, the water surface or adjoining shoreline; or
- causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill occurs, the contractor's superintendent would notify the City, and the contractor would take action to contact the appropriate safety and clean-up crews to ensure that a Spill Prevention and Control Program (SPCP) is followed. In addition, the City would respond and investigate any spills reported. A written description of reportable releases would be submitted to the CVRWQCB and the Department of Toxic Substances Control (DTSC) by the contractor or land owner. If an appreciable spill occurs and results determine that construction activities have adversely affected surface water or groundwater quality, a detailed analysis would be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis would include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, contractors would select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures would be subject to approval by the City and/or the CVRWQCB.

Prior to discharge of dewatered effluent, the contractor would be required to obtain a project-specific permit from the CVRWQCB that includes specific requirements and establishes discharge limits. A project-specific permit is required because the Downtown project site is located above a portion of the South Plume. Impacts associated with construction dewatering and the South Plume are addressed entirely within section 4.6, Hazards and Hazardous Materials.

In light of the existing developed conditions, compliance with the SQIP, Land Grading and Erosion Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction. These regulatory instruments are designed to ensure that construction projects result in water quality discharges that are not in violation of SWRCB objectives. This impact would be ***less than significant***.

Operation

During operation, runoff from the project site would contain pollutants common in urban runoff including metals; oils and grease; pesticides; herbicides; nutrients; pet waste; and garbage/litter. Without BMPs to remove these pollutants, stormwater leaving the Downtown project site could degrade the quality of receiving waters. The City of Sacramento currently implements the SQIP, which is designed to reduce stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges through a NPDES municipal stormwater

discharge permit. The City of Sacramento also provides direction on post-construction BMPs in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions. The Proposed Project would be subject to City of Sacramento General Plan policies U 4.1.4, ER 1.1.3, ER 1.1.4, and ER 1.1.7; the City's ordinances; the SQIP; the Stormwater Quality Design Manual for Sacramento and South Placer Regions; and the MS4 Permit and NPDES permit for the CSS, and would meet the state water quality discharge criteria. Specifically, the project would be required to comply with the following permits and plans:

- Sacramento-area Phase I NPDES Municipal Separate Storm Sewer System Permit (No. CAS082597);
- NPDES Permit for City of Sacramento Combined Wastewater Collection and Treatment System Sacramento County (No. CA0079111);
- Stormwater Quality Design Manual for the Sacramento and South Placer Regions (Design Manual) BMPs, and LID measures to reduce pollutants in storm water and nonstormwater discharges to the Maximum Extent Practicable;
- City of Sacramento Stormwater Management and Discharge Control Code; and
- City of Sacramento General Plan policies related to hydrology and water quality, and the protection and preservation of natural resources.

Permanent onsite water quality treatment meeting the requirements specified in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions will be required for any surface drainage from the project that flows to the City's separated drainage system. The Proposed Project would also be designed to comply with the regulatory requirements listed above and to obtain certification under the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) program. Specific BMPs have not been identified because project design is in an early phase. The project development process includes identification of BMPs that respond to the design and construction methods of the project. The BMPs are implemented to ensure that water quality would not be degraded and the violation of water quality or waste discharge objectives set by the SWRCB would not occur. City review would confirm that BMP implementation complies with all applicable regulations. The LEED certification process also requires extensive coordination with the USGBC, and through that coordination, identifies measures that ensure that water pollutant removal would be implemented in full compliance with the program and certification requirements. Given that regulations are in place to ensure that the project would not result in an impact to water quality, this impact would be ***less than significant***.

Operational dewatering currently occurs at the Downtown project site and the pumped groundwater is discharged to the CSS. Metals, diesel- and oil-range organics (DROs and OROs), and Volatile Organic Compounds (VOCs) were detected in groundwater samples taken below the Downtown project site in October 2013 (see Appendix I). Antimony, arsenic, barium, chromium, copper, molybdenum, vanadium and zinc were detected in the samples, and antimony, arsenic, and vanadium were detected at concentrations that exceed the Environmental Screening Levels (ESLs) and Maximum Contaminant Levels (MCLs). At three sampling locations, DROs were

detected at concentrations exceeding the ESL for drinking water. Four samples contained OROs at concentrations greater than the ESL for drinking water. The VOC vinyl chloride was also detected at levels higher than the ESL and MCL. The Proposed Project would incrementally eliminate the seasonal dewatering system by constructing buildings with waterproof foundations. As the project is implemented and groundwater dewatering is phased out at the Downtown project site, water quality in the CSS may improve given the constituents found during recent groundwater monitoring. Therefore, this impact would be ***less than significant***. An analysis of the capacity of the CSS to convey pumped groundwater from the site during project operation is included in section 4.11, Utilities and Service Systems.

Offsite Digital Billboards

The offsite digital billboard sites are each less than one acre in size. Sites that are less than one acre are required to submit an erosion and sediment control plan to the City for approval prior to the commencement of installation activities. Standard construction BMPs would also need to be outlined by the applicant for City review and approval prior to billboard installation. Additional requirements, including a formal wetland delineation for review and approval by the USACE, would apply to the SR 99 at Calvine Road site because of its proximity to wetlands and to the I-5 at San Juan Road site because of its proximity to a drainage basin. Those requirements are addressed in section 4.3, Biological Resources. As with the project components at the Downtown project site, regulatory compliance would prevent the substantial degradation of water quality during project construction. During operation, the offsite digital billboards would not represent a new source of polluted runoff and, therefore, would not substantially degrade water quality. This impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.7-2: Implementation of the Proposed Project could increase the risk of flooding on- or off-site.

Downtown Project Site

Construction

The project site is located within FEMA Flood Zone X, which applies to areas of minimal flood hazard outside of the 100-year flood hazard zone. Generally, the southern half of the site is within the 500-year floodplain but protected from the 500-year flood by a levee, and the remainder of the site is outside of the 500-year floodplain. The project would, therefore, not expose people or property to the risk of loss, injury, damage, or death in the event of the 100-year flood nor would it place structures that could impede or redirect flood flows within the 100-year floodplain during construction. This impact would be ***less than significant***.

Pursuant to the requirements of state law, in the future, flood protection in downtown Sacramento will be increased to a minimum of 200-year protection (exposure to no greater than the 0.5 percent flood). In acknowledgement of that requirement, this analysis also considers effects related to the 200-year flood. As described above, 200-year floodplain maps have not yet been finalized for the Sacramento area. While not expected, it is possible that when maps are developed they will indicate that a part of the southern portion of the project site is in the 200-year floodplain. The northern portion of the Downtown project site is located outside of the 500-year floodplain and, therefore, would not be within the 200-year floodplain. While it is possible that people and property could be exposed to the 200-year flood during project construction in the southern portion of the site, it is not anticipated given the location of the 100- and 500-year floodplain boundaries.

Regarding the alteration of site draining that could result in on- or off-site flooding, BMPs implemented in compliance with the SQIP, Land Grading and Erosion Control Ordinance, and NPDES General Permits must also control the rate or amount of surface runoff from the project site such that flooding on or off-site would not occur. Additionally, construction of the project would not involve activities that would affect levee maintenance or regional flood management planning, nor would ongoing flood planning and maintenance efforts conflict with the construction of the Proposed Project. This impact would be ***less than significant***.

Operation

As described above, the project site is located within FEMA Flood Zone X, which applies to areas of minimal flood hazard outside of the 100-year flood hazard zone. During operation, the project would, therefore, not expose people or property to the risk of loss, injury, damage, or death in the event of the 100-year flood nor would it place structures that could impede or redirect flood flows within the 100-year floodplain during construction. This impact would be ***less than significant***.

The project site and vicinity are fully developed with intense residential and non-residential uses. The Proposed Project would introduce residential uses to the site and increase the intensity of non-residential uses, and would, therefore, increase the number of people and value of property at the project site. Proposed residential uses would be located within the northern portion of the project site, and would, therefore, not be exposed to the 200-year flood. Proposed uses within the southern portion of the site that could potentially be exposed to the 200-year flood include the southern arena structure and the player parking lot below the practice facility. Given that it is uncertain whether any portion of the project site is in the 200-year floodplain boundary; that by law, 200-year protection will be provided in the future; and that the uses that are potentially at risk are parking and the event level of the arena structure, which are non-residential, this impact is considered ***less than significant***.

The project site is currently impervious with the exception of a half-acre area at the southeast corner of 4th and J streets. After project implementation, the site would become completely impervious. The half-acre increase in impervious area that would result from project implementation would not cause substantial alteration of onsite drainage, particularly because the parcel at the southeast corner of 4th and J streets slopes toward a connection with the storm drain

system and minimal percolation currently occurs. In terms of potential for onsite flooding, the onsite drainage system would be designed to comply with all City design requirements, General Plan Policies ER 1.1.4 and ER 1.1.5, and NPDES permit requirements such that onsite flooding would not occur.

As discussed in section 4.11, Utilities and Service Systems, the CSS and Storm Drainage Basin 52 flood during storms due to insufficient capacity. If the Proposed Project resulted in a greater volume of stormwater than is currently discharged to the CSS and Storm Drainage Basin 52 systems during a storm, the impact to these systems would be considered significant. Several BMPs and other stormwater management strategies exist that would prevent such impacts. The project would incorporate LID measures, and the project applicant would coordinate with City staff on designing the measures to be consistent with the LID standards that the City is currently developing. However, the potential for any increase in flows to the CSS and Basin 52 is ***significant.***

Offsite Digital Billboards

As shown in Table 4.7-2, offsite digital billboard locations 1 through 7 and 10 are either outside of any flood hazard zone or mapped within Zone X. The two proposed billboard sites in Natomas, I-5 at Bayou Road and I-5 at San Juan Road, are located within Zone AE, which is the zone that applies to the 100-year floodplain (area with a 1 percent chance of flooding in a given year). None of the offsite digital billboard sites are located within a designated floodway.

The placement of signs at locations 1 through 7 and 10 would not substantially increase the exposure of people and/or property to flood risk during installation or operation because they are would be located outside of areas of high flood hazard potential.

If a 100-year flood event were to occur during the installation of offsite digital billboards at either of the locations in Natomas, the crew and equipment would be at a higher flood risk; however, because installation would occur over five days, this would not be considered a substantial increase in the exposure of people and/or property to the risk of flooding. During operation and in the event of a 100-year flood, the sign posts within Zone AE would minimally affect overland water flow, but this would be very localized at the base of the 3-foot-wide sign post and would not substantially increase the exposure of offsite people and/or property to flood risk. The offsite digital billboards within Zone AE would themselves be at risk of damage due to flooding. Installation and operation of the proposed offsite digital billboards would not involve activities that would affect levee maintenance or regional flood management planning, nor would ongoing flood planning and maintenance efforts conflict with installation or operation of the proposed signs. This impact would be ***less than significant***.

Mitigation Measure

The following mitigation measure is included in section 4.11, Utilities and Service Systems, of this EIR. Mitigation Measure 4.11-5 applies to wastewater, stormwater drainage, and dewatered groundwater. The actions related to stormwater drainage are applicable to the impacts associated with increases in discharge to the CSS and Basin 52.

4.7-2 (ESC/SPD)

Implement Mitigation Measure 4.11-5.

Mitigation Measure 4.11-5 requires that the project applicant manage wastewater, drainage and dewatered groundwater from the Proposed Project such that they do not exceed existing CSS and Basin 52 system capacity.

Impact Significance After Mitigation: With implementation of Mitigation Measure 4.11-5, the onsite drainage system would be designed so that during storm events, impacts to the CSS and Storm Drainage Basin 52 would be avoided. Therefore, with implementation of Mitigation Measure 4.7-2, this impact would be ***less than significant***.

Impact 4.7-3: The Proposed Project could substantially deplete groundwater supplies.

Downtown Project Site

Construction

Project construction would involve dewatering of approximately 1 million gallons per day for up to 15 months for a maximum volume of 450 million gallons or 1,381 acre-feet. Dewatering activities would be temporary and take place in an area that is hydraulically connected to the Sacramento River. The groundwater withdrawn during dewatering would be very small relative to the calculated groundwater storage capacity of the South American Subbasin (4,816,000 acre-feet). A volume of 1,381 acre-feet is not sufficient to substantially deplete groundwater supplies in the basin. Groundwater recharge does not occur currently at the project site with the exception of the half-acre area at the southeast corner of 4th and J streets where very minimal infiltration occurs due to site slope. Therefore, project demolition, excavation, construction, and landscaping would not interfere with groundwater recharge.

One potential effect of dewatering is subsidence, which can result when groundwater is removed from the aquifer to the extent that the aquifer collapses and overlying land subsides. Subsidence can also result in ground collapse, and building foundations can be damaged or fail. The potential for subsidence depends in part on the soil profile. The Proposed Project includes a dewatering monitoring program that would avoid any potential subsidence. The program would include soil borings prior to construction, which would identify any areas susceptible to subsidence during dewatering. The Proposed Project would also install a system of wells in areas up to three-quarters of a mile around the Downtown project site prior to construction to develop historical data that would be used to identify subsidence parameters. For specific areas, such as the loading dock on the 5th Street side of event level, and also along the Hotel Marshall parcel on 7th Street, “shallow well point” systems would be used to reduce the “cone of influence” that typically occurs with dewatering systems of any type. Groundwater levels would continue to be monitored during construction, and dewatering rates would be adjusted to meet the subsidence parameters.

Because the Proposed Project would not directly withdraw groundwater for potable water supply, would not increase impervious surface over the aquifer, and would monitor and adjust dewatering rates to prevent subsidence, this impact would be ***less than significant***.

Operation

The Proposed Project would not directly withdraw groundwater during operation for water supply because water would be supplied from the City's system. Please see section 4.11, Utilities and Service Systems, for a discussion of project impacts related to water supply, including groundwater.

The Downtown project site is located within Downtown Sacramento, which is not an important groundwater recharge area due to the extent of impervious surfaces. The Downtown project site is currently impervious with the exception of a half-acre area at the southeast corner of 4th and J streets. After project implementation, the project site would become completely impervious; and the project would result in a very small decrease in the amount of water that percolates to underlying aquifers. This decrease would not be of a sufficient magnitude to result in a net deficit in the aquifer volume or lowering of the groundwater table. Furthermore, current seasonal dewatering at the Downtown project site would be phased out as the Proposed Project builds out, reducing the amount of groundwater that is removed from the aquifer due to dewatering. For these reasons, this impact would *be* ***less than significant***.

Offsite Digital Billboards

Temporary pumping of groundwater could be required during drilling of foundation holes up to 32-foot-deep for one or more of the offsite digital billboards. If groundwater pumping is deemed necessary at any of the offsite digital billboard locations, it would occur for no more than 24 hours. The amount of groundwater that would be removed during this period would not be of a sufficient volume to result in a net deficit in the aquifer volume or lowering of the groundwater table. Some of the proposed offsite digital billboards would be anchored in place with a 576 square-foot impervious concrete pad instead of a sign post that extends underground. Given the small area that the pads would cover, the introduction of these concrete pads would not interfere with groundwater recharge such that a net deficit in the aquifer volume of lowering of the groundwater table would result. This impact would be ***less than significant***.

Mitigation Measure

None required.

Cumulative Impacts

Project effects on water quality and hydrology must be considered in light of other past, present, and future projects that could add to the effects of the project, creating cumulative effects. These effects may be contributed to by development within the Sacramento River watershed, which extends well beyond the City of Sacramento limits. The cumulative context for water quality considers the geographic scope of the Basin Plan and, therefore, development within the larger

Sacramento River watershed and the Sacramento–San Joaquin Delta (Delta). The Sacramento River watershed covers 27,000 square miles. The Delta extends for 24 miles from east to west and 48 miles from north to south where the Sacramento and San Joaquin rivers meet before discharging into the San Francisco Bay. The cumulative context for flooding impacts is also the Sacramento River watershed and Delta. With respect to groundwater, the cumulative context is the Central Sacramento County Groundwater Basin and North American Subbasin of the Sacramento Valley Groundwater Basin. Because impacts to stormwater infrastructure are more local in nature, the cumulative setting for impacts to stormwater conveyance is the City of Sacramento.

Impact 4.7-4: The Proposed Project could contribute to the cumulative degradation of water quality.

Non-point source water pollution from the combination of past, present, and future projects in the Sacramento River watershed and Delta, including residential, commercial, and industrial land development; agriculture; parks; transit; infrastructure; and other land uses could result in the degradation of water quality in the Sacramento River watershed and Delta. Cumulative land development in the City of Sacramento, in addition to other development in the Sacramento River watershed and Delta, would result in an increase in impervious surfaces and potentially an increase in urban runoff and water pollutants, if not properly mitigated. For example, as outlined in the Sacramento 2030 General Plan Master Environmental Impact Report (MEIR), planned development in the Greenbriar, Panhandle, Camino Norte, and Delta Shores specific plans alone would result in an additional 2,256 acres of impervious cover.[30] In addition to these specific plans, there are many more potential development projects within the Sacramento River watershed and Delta that may contribute to increases in urban runoff volume and pollutants. Older land development that was constructed without BMPs to control the transport of water pollutants continues to represent a non-point source of polluted stormwater runoff. While agricultural runoff is regulated, it is a major non-point source of a variety of water pollutants. While new development is less likely to significantly degrade water quality because of existing regulations, older development, agriculture, and other non-point sources could impair receiving water quality. This is considered a ***significant cumulative impact***.

The City of Sacramento currently implements the SQIP, which is designed to reduce stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges through a NPDES municipal stormwater discharge permit. The City of Sacramento also provides direction on post-construction BMPs in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions. The Proposed Project would be subject to City of Sacramento General Plan Policies U 4.1.4, ER 1.1.3, ER 1.1.4, and ER 1.1.7; the City's ordinances; the SQIP; the Stormwater Quality Design Manual for Sacramento and South Placer Regions; and the General Permit, General Dewatering Permit, MS4 Permit, and NPDES permit for the CSS, and would meet the state water quality discharge criteria. As discussed under Impact 4.7-1 above, through compliance with these permits and plans, the Proposed Project

[30] City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024)*. Certified March 3, 2009. p. 6.7-30.

would reduce project generation of water pollutants to the maximum extent practicable consistent with the goal of NPDES stormwater regulations through the use of structural and non-structural BMPs as well as measures to meet the requirements for LEED certification. Therefore, the project's contribution to the significant cumulative impact would not be considerable. This impact would be ***less than significant***.

Mitigation Measure

None required.

Impact 4.7-5: The Proposed Project could contribute to cumulative increases in the risk of flooding.

Cumulative development within the City of Sacramento and other portions of the Sacramento River watershed and Delta could substantially increase the exposure of people and/or property to flood risk, particularly if development is located within a FEMA flood hazard zone or the 200-year floodplain. The population within the lower Sacramento watershed is expected to include an additional 1.36 million people in the next 30 years. Accommodating this growth in population would require an additional 306 square miles of development or an increase in density within existing urbanized areas of 40 percent.[31] This growth would likely increase exposure to flood risk. This is considered a ***significant cumulative impact***.

As described above, the project site is located within FEMA Flood Zone X, which applies to areas of minimal flood hazard outside of the 100-year flood hazard zone. During operation, the project would, therefore, not expose people or property to the risk of loss, injury, damage, or death in the event of the 100-year flood nor would it place structures that could impede or redirect flood flows within the 100-year floodplain during construction. Proposed uses within the southern portion of the project site that could potentially be exposed to the 200-year flood include the southern arena structure and the player parking lot below the practice facility. Given that it is uncertain whether any portion of the project site is in the 200-year floodplain boundary; that by law, 200-year protection will be provided in the future; and that the uses that are potentially at risk are parking and the event level of the arena structure, which is non-residential, the project's contribution to the significant cumulative impact would not be considerable. This impact would be ***less than significant***.

Two of the offsite digital billboard sites are located within the 100-year flood hazard zone, or FEMA Zone AE. Given the dimensions of the sign posts and concrete slabs (as applicable), a substantial increase in flood risk exposure would not occur offsite. Further, both the arena space and the offsite digital billboards could be used as emergency management resources in the event of severe flooding in the region. The project's contribution to the significant cumulative impact would not be considerable. This impact would be ***less than significant***.

[31] City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024).* Certified March 3, 2009. p. 6.7-35.

The project site is currently impervious with the exception of a half-acre area at the southeast corner of 4th and J streets. After project implementation, the site would become completely impervious. The half-acre increase in impervious area that would result from project implementation would not cause substantial alteration of site drainage, particularly because the parcel at the southeast corner of 4th and J streets slopes toward a connection with the storm drain system and minimal percolation currently occurs. As discussed under Impact 4.7-2 above, with implementation of Mitigation Measure 4.7-2, the onsite drainage system would be designed to comply with all City design requirements, General Plan Policies ER 1.1.4 and ER 1.1.5, and NPDES permit requirements such that runoff from the project site would not result in flooding due to capacity deficiencies in the CSS and Storm Drainage Basin 52 systems. The project's contribution to the significant cumulative impact would be considerable. This is considered a ***significant impact***.

Mitigation Measure

4.7-5 (ESC/SPD)

Implement Mitigation Measure 4.7-2.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.7-2 would ensure that the onsite drainage system could accommodate project flows so that they would not be considerable. With mitigation, the impact would be ***less than significant***.

Impact 4.7-6: The Proposed Project could contribute to cumulative depletion of groundwater supplies.

The Central Sacramento County Groundwater Management Plan includes groundwater supply and demand projections through 2030. The comparison of supply and demand shows that supplies should be sufficient to meet demands through 2030. The plan acknowledges that there are more factors than just supply and demand that determine whether a groundwater basin is managed sustainably, and groundwater management objectives are identified in the plan.[32] Because supply would be sufficient to meet demand and the groundwater basin would be managed sustainably so as to not exceed the calculated long-term average annual sustainable yield of 273,000 acre-feet per year, the Proposed Project would not increase use of groundwater beyond anticipated projections; therefore this cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

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[32] Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. pp. 2-22 – 2-23.

4.8 Noise

This section describes the existing noise environment in the area of the Proposed Project site, and the potential of construction and operation of the Proposed Project to significantly increase noise and vibration levels. The analysis included in this section was developed based on field investigation to measure existing noise levels, noise standards provided in the *City of Sacramento 2030 General Plan*,[1] information in the *City of Sacramento 2030 General Plan Master Environmental Impact Report*,[2] the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*,[3] and the Federal Highway Administration (FHWA) Noise Prediction Model with traffic data provided by Fehr & Peers.

Public comments received in response to the Notice of Preparation (see Appendix A) covered a range of noise issues, including vibration impacts to historic buildings and noise impacts to nearby residences and businesses associated with arena event crowds and traffic. All of these issues and concerns have been addressed in this section.

4.8.1 Environmental Setting

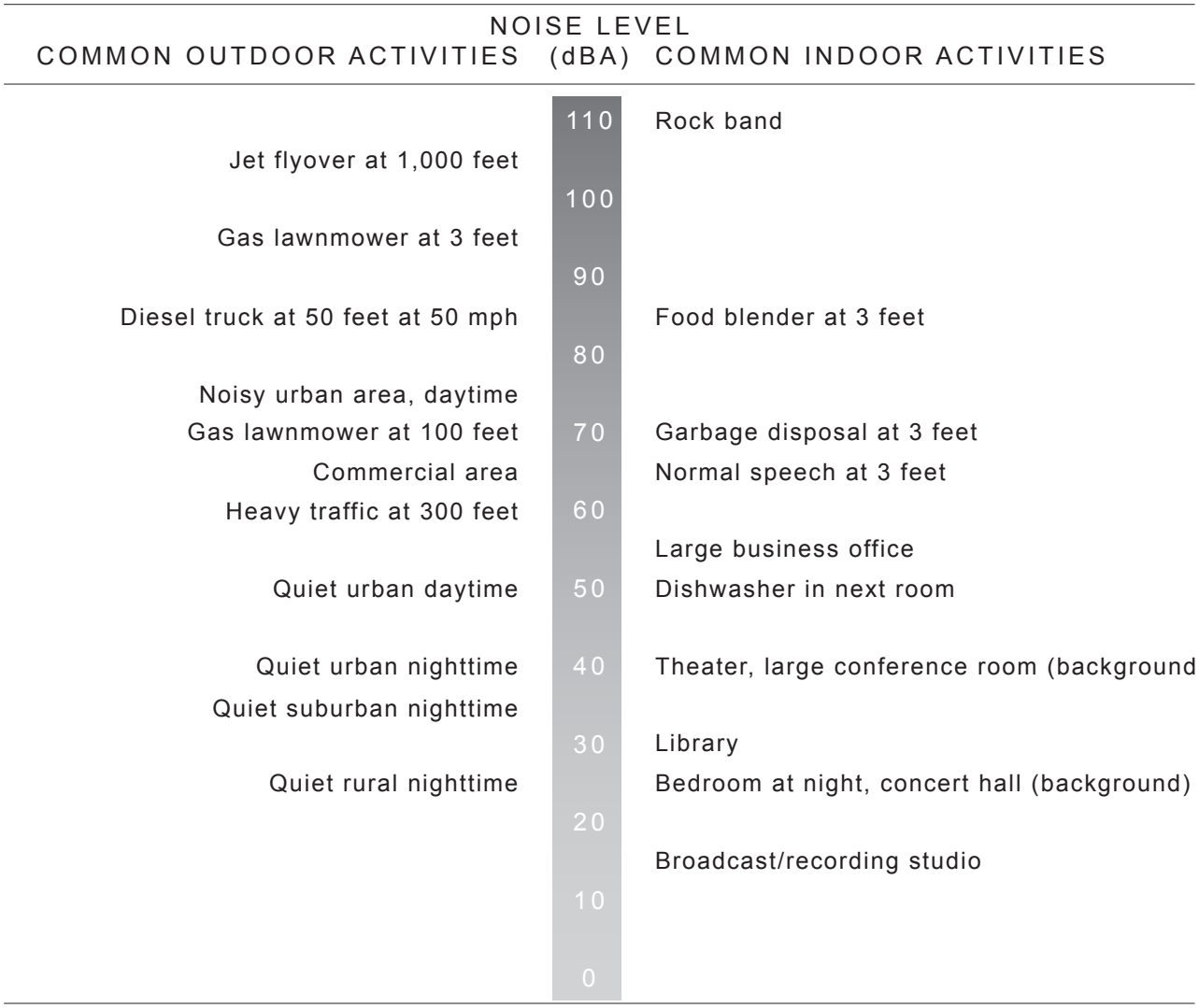
Technical Background

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in Figure 4.8-1.

1 City of Sacramento, 2009a. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009.
2 City of Sacramento, 2009b. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009.
3 Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006.



Sacramento Entertainment and Sports Center & Related Development EIR . 130423

SOURCE: CaSIL, 2013

Figure 4.8-1
Typical Noise Levels

Noise Exposure and Community Noise

Noise *exposure* is a measure of noise over a period of time. Noise *level* is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

Leq: the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

Lmax: the instantaneous maximum noise level for a specified period of time.

L_{50}: the noise level that is equaled or exceeded 50 percent of the specified time period. The L_{50} represents the median sound level.

L_{90}: the noise level that is equaled or exceeded 90 percent of the specific time period. This is considered the background noise level during a given time period.

DNL: also abbreviated Ldn, it is a 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night (“penalizing” nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: similar to DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the Leq during the peak-hour is generally within one to two decibels of the Ldn at that location.

Effects of Noise on People

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the *ambient* noise level, which is the existing noise level comprised

of all sources of noise in a given location. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:[4]

- except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.[5]

Noise levels may also be reduced by intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source. According to the U.S. Department of Housing and Urban Development (HUD) *Noise Guidebook*,[6] standard building construction results in an exterior-to-interior noise reduction of 20 dBA with windows closed.

4 Caltrans, 2009. *Technical Noise Supplement*. November 2009. p. 2-48 to 2-49.
5 Caltrans, 2009. *Technical Noise Supplement*. November 2009. p. 2-32.
6 U.S. Department of Housing and Urban Development, 2009. *Noise Guidebook*. March 2009. p. 14.

Fundamentals of Vibration

As described in the FTA's *Transit Noise and Vibration Impact Assessment*[7] ground-borne vibration can be a serious concern for nearby neighbors, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, sheet pile-driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the affect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and sheet pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance can be well below the damage threshold for normal buildings.

Existing Noise Setting

Downtown Project Site

The noise environment surrounding the Downtown project site is influenced primarily by truck and automobile traffic on local streets. Light rail, stationary sources, and landscape maintenance equipment also contribute to the ambient noise environment. To quantify the existing noise environment, 10 short-term (ST) ten-minute and two long-term (LT) 48-hour noise level measurements were taken near noise sensitive uses around the site. Noise measurements locations are shown in Figure 4.8-2. Results of the noise measurements are presented in Table 4.8-1.

7 Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006. p. 7-1.

SOURCE: Microsoft, 2012; ESA, 2013

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 4.8-2

Short- and Long-Term Noise Measurement Locations

TABLE 4.8-1
EXISTING NOISE ENVIRONMENT IN THE DOWNTOWN PROJECT SITE VICINITY

Location		Time Period	Noise Level (dBA)	Noise Sources	
LT-1:	Wong Center. Southeast corner of building, along J Street, 3rd floor.	24– hour CNEL measurements were: Wed. Sept 11: 73 dBA Thurs. Sept 12: 73 dBA	Hourly Average Leq range: Sept 11: 60 – 73 6-7pm[a]: 69 10-11pm[a]: 67 Sept 12: 60 – 72 6-7pm[a]: 69 10-11pm[a]: 67	Unattended noise measurements do not specifically identify noise sources.	
LT-2:	US Bank Tower. Along L Street, 4th level of parking garage.	24– hour CNEL measurements were: Wed. Sept 11: 69 dBA Thurs. Sept 12: 70 dBA	Hourly Average Leq range: Sept 11: 54 – 69 6-7pm[a]: 66 10-11pm[a]: 62 Sept 12: 54 – 75 6-7pm[a]: 67 10-11pm[a]: 64	Unattended noise measurements do not specifically identify noise sources.	
ST-1:	6th and I St (35’ to center of intersection)	10 Minutes (Tuesday September 10, 2013 at 4:15 pm)	Leq: 73 Lmax: 93	• Cars and diesel trucks • Pedestrians talking	• Bus and motorcycle pass by
ST-2:	J and 6th St (30’ to center of intersection)	10 Minutes (Tuesday September 10, 2013 at 4:34 pm)	Leq: 71 Lmax: 89	• Cars and motorcycle on roadways • Bus stop, air brakes/warning signal	• Pedestrians talking • Car stereo
ST-3:	K and 7th St (Ice rink area, 130’ to center of intersection)	10 Minutes (Tuesday September 10, 2013 at 4:48 pm)	Leq: 66 Lmax: 79	• Car horn • Pedestrians talking and whistle • Sirens	• Light Rail • Bus • Wind
ST-4:	4th and J St (50’ to center of intersection)	10 Minutes (Tuesday September 10, 2013 at 5:09 pm)	Leq: 71 Lmax: 82	• Cars and diesel truck • * Pedestrians talking	• Car stereo • Bus and motorcycle pass-by
ST-5:	J and 5th St Plaza (250’ to J St CL)	10 Minutes (Tuesday September 10, 2013 at 5:21 pm)	Leq: 57 Lmax: 68	• Cars and bus • Pedestrians talking • Cellphone ringing and a radio	• Car door closing • Wind and birds
ST-6:	J and 4th St (Grass area near mall, 60’ to center of intersection)	10 Minutes (Tuesday September 10, 2013 at 5:35 pm)	Leq: 68 Lmax: 81	• Cars, motorcycle, bus at stop • Pedestrians laughing	• Car horn and radio
ST-7:	Outside Holiday Inn at west end of Downtown Plaza	10 Minutes (Tuesday September 10, 2013 at 5:48 pm)	Leq: 64 Lmax: 68	• Radio, music	• Pedestrians talking, laughing

TABLE 4.8-1 (Continued)
EXISTING NOISE ENVIRONMENT IN THE DOWNTOWN PROJECT SITE VICINITY

Location		Time Period	Noise Level (dBA)	Noise Sources	
ST-8:	Plaza West Garage along 3rd St (65' to 3rd St CL)	10 Minutes (Thursday September 12, 2013 at 4:01 pm)	Leq: 77 Lmax: 84	• Freeway traffic • Motorcycle	• Semi Trucks
ST-9:	Along L St b/t 6th and 7th, in front of US Bank Tower parking garage	10 Minutes (Thursday September 12, 2013 at 4:24 pm)	Leq: 69 Lmax: 82	• Cars, motorcycle, bus and warning signal • Pedestrians talking	• Light rail
ST-10:	N St, at end where 6th St would meet (15' to N St CL)	10 Minutes (Thursday September 12, 2013 at 4:42 pm)	Leq: 67 Lmax: 80	• Cars and bus • Pedestrians talking	• Light rail

NOTES: CL = centerline; LT = long-term; ST = short-term
a. Existing peak-hour noise levels that represent future pre-event (6-7 p.m.) and post-event (10-11 p.m.) peak hours

SOURCE: ESA, 2013

Offsite Digital Billboards

The potential sites for the offsite digital billboards would be in close proximity to major highways for maximum billboard exposure. As such, the existing noise environment would be dominated by substantial roadway noise.

Existing Vibration Setting

Downtown Project Site

The background vibration level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans, which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.[8] The primary source of existing ground-borne vibration in the vicinity of the Downtown project site would be the light rail track on the east side of the site.

Offsite Digital Billboards

The potential sites for the offsite digital billboards would be in close proximity to major highways for maximum billboard exposure. Several sites are in the vicinity of rail lines as well. These would be the primary sources of existing vibration near the digital billboards.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas are land uses with users that are generally more sensitive to noise than are the users of commercial (other than lodging facilities), industrial, and other non-residential land uses.

Additional sensitive receptors of ground-borne vibration would be historic buildings, which are more susceptible to structural damage from vibration.

Downtown Project Site

The nearest sensitive receptors to the Downtown project site would be residents of the historic Hotel Marshall (adjacent to project site), at the Jade Apartments (about 30 feet east of the project site), the Wong Center across J Street (approximately 115 feet north of the project site), and the Riverview Plaza residential building at 6th and I Street (approximately 270 feet north of the project site). In addition, the Proposed Project would include construction of up to 550 multi-family residential units, likely in two or more towers on the project site, as well as a hotel in one

8 Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006. p. 7-5.

of the towers. There is also an existing Holiday Inn (approximately 50 feet from the project site) and the Church of Scientology located in the historic Ramona Hotel building (approximately 30 feet from the project site). The University of San Francisco is an educational use that has a satellite campus in the 630 K Street building adjacent to the project site. Finally, St. Rose of Lima Park, located at 7th and K Streets (approximately 60 feet east of the project site), would be considered a noise sensitive land use.

Several other historic buildings in the Proposed Project vicinity include the Traveler's Hotel (428 J Street) and the California Fruit Building (4th and J Street). Existing uses in these buildings are office and other commercial, and therefore, would be less noise-sensitive than those uses listed above. However, along with the Hotel Marshall and Ramona Hotel, these historic buildings would be vibration sensitive and are analyzed as such below.

Offsite Digital Billboards

The Proposed Project would include the construction and operation of up to six offsite digital billboards. Sensitive receptors at each of these potential locations are described below.

- **I-5 at Water Tank.** Sensitive receptors in the vicinity of this site are residents of homes on El Morro Court and El Rito Way to the northwest and west, the nearest of which is approximately 85 feet northwest of the potential site.

- **US 50 at Pioneer Reservoir.** The closest sensitive receptors in the vicinity of this site are users of Leiva Park (approximately 600 feet northeast) and residents of homes on 3rd Street (approximately 1,750 feet northeast).

- **Business 80 at Sutter's Landing Regional Park.** The nearest sensitive receptors in the vicinity of this site are users of Sutter's Landing Regional Park (adjacent) and residents of homes on B Street in East Sacramento (approximately 1,350 feet south).

- **Business 80 at Del Paso Regional Park/Haggin Oaks.** The nearest sensitive receptors in the vicinity of this site are the golfers on the adjacent Alister MacKenzie Golf Course (especially holes 3, 4, 8 and 9), guests at a Hampton Inn motel (about 265 feet south), Quest Diagnostics Medical Laboratory (approximately 275 feet south), residents at the Ladi Senior Apartments (approximately 325 feet south), and guests at a Holiday Inn Express (about 465 feet south).

- **Business 80 at Sutter's Landing Regional Park/American River.** Sensitive receptors in the vicinity of this site are residents of homes on the west side of Erlewine Circle in the River Park neighborhood, the nearest of which is approximately 250 feet southeast of the potential site.

- **I-80 at Roseville Road.** Sensitive receptors in the vicinity of this site are residential uses off Winters Street, approximately 1,850 feet to the west, and the golfers playing the Arcade Creek and Alister MacKenzie Golf Courses, approximately 750 feet south of the potential site.

- **SR 99 at Calvine Road.** Sensitive receptors in the vicinity of this site are residents of the Coppertown Village multi-family residential development on West Stockton Boulevard, approximately 550 feet south of the potential site.

- **I-5 at Bayou Road.** Sensitive receptors in the vicinity of this site are residents of homes across Bayou Road on Gresham Lane, Rynders Way, and Lanfranco Circle, the nearest of which is approximately 550 feet south of the potential site.

- **I-5 at San Juan Road.** Sensitive receptors in the vicinity of this site are residents of homes across San Juan Road, the nearest of which is approximately 100 feet southwest of the potential site.

- **I-5 at Sacramento Railyards.** Sensitive receptors in the vicinity of this site are residents at the Wong Center, approximately 530 feet south of the potential site and the Ping Yuen Apartments, approximately 650 feet east of the potential site. In addition, a Vagabond Inn motel is located about 375 feet south of the site.

4.8.2 Regulatory Framework

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.8 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

State

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State pass-by standard for light trucks and passenger cars (less than 4.8 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dBA. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local

City of Sacramento 2030 General Plan

The following goals and policies from the *Sacramento 2030 General Plan*[9] are relevant to noise.

Goal EC 3.1 Noise Reduction. Minimize noise impacts on human activity to ensure the health and safety of the community.

Policies

- **EC 3.1.1 Exterior Noise Standards.** The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table 4.8-2 (Table EC 1 in the General Plan), to the extent feasible.

TABLE 4.8-2
EXTERIOR NOISE COMPATIBILITY STANDARDS FOR VARIOUS LAND USES

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"[a] (L_{dn}[b] or CNEL[c])
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBA[d,e]
Residential—Multi-family	65 dBA
Urban Residential Infill[f] and Mixed-Use Projects[g]	70 dBA
Transient Lodging—Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

a. As defined in the *State of California General Plan Guidelines*, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."
b. Ldn or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.
c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.
d. dBA or A-weighted decibel scale is a measurement of noise levels.
e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.
f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).
g. All mixed-use projects located anywhere in the City of Sacramento.

SOURCE: City of Sacramento, 2009a. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009. p. 2-338.

9 City of Sacramento, 2009a. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009. pp. 2-337 to 2-341.

- **EC 3.1.2 Exterior Incremental Noise Standards.** The City shall require noise mitigation for all development that increases existing noise levels by more than the allowable increment shown in Table 4.8-3 (Table EC 2 in the General Plan), to the extent feasible.

TABLE 4.8-3
EXTERIOR INCREMENTAL NOISE IMPACT STANDARDS FOR NOISE-SENSITIVE USES (dBA)

Residences and Buildings where People Normally Sleep[a]		Institutional Land Uses with Primarily Daytime and Evening Uses[b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

a. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
b. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

SOURCE: City of Sacramento, 2009a. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009. p. 2-339.

- **EC 3.1.3 Interior Noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA Ldn for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA Leq (peak hour) for office buildings and similar uses.

- **EC 3.1.4 Interior Noise Review for Multiple, Loud Short-Term Events.** In cases where new development is proposed in areas subject to frequent, high-noise events (such as aircraft over-flights, or train and truck pass-bys), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.

- **EC 3.1.5 Interior Vibration Standards.** The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or Federal Transit Administration (FTA) criteria.

- **EC 3.1.6 Vibration Screening Distances.** The City shall require new residential and commercial projects located adjacent to major freeways, hard rail lines, or light rail lines to follow the FTA screening distance criteria.

- **EC 3.1.7 Vibration.** The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites and require all feasible mitigation measures be implemented to ensure no damage would occur.

- **EC 3.1.8 Operational Noise.** The City shall require mixed-use, commercial, and industrial projects to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded.

- **EC 3.1.9 Compatibility with Park and Recreation Uses.** The City shall limit the hours of operation for parks and active recreation areas in residential areas to minimize disturbance to residences.

- **EC 3.1.10 Construction Noise.** The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.

- **EC 3.1.11 Alternatives to Sound Walls.** The City shall encourage the use of design strategies and other noise reduction methods along transportation corridors in lieu of sound walls to mitigate noise impacts and enhance aesthetics.

- **EC 3.1.12 Residential Streets.** The City shall discourage widening streets or converting streets to one-way in residential areas where the resulting increased traffic volumes would raise ambient noise levels.

The Proposed Project would generate noise and vibration during short-term construction activities and long-term operations. The Proposed Project would also locate sensitive residential receptors in an urban environment, subject to noise (primarily from on-road transportation) and vibration (primarily from light rail). Consistent with Policy EC 3.1.1 and as discussed below under Impact 4.8-1, on-road traffic noise associated with the project would not result in noise levels that would exceed the normally acceptable Ldn for Urban Residential Infill and Mixed-Use Projects. Also as described under Impact 4.8-1, although the projected noise levels of the project plus existing traffic would exceed the allowable incremental noise levels of Policy EC 3.1.2, no mitigation measures are found to be feasible to reduce this impact. Consistent with policies EC 3.1.3 and EC 3.1.4, new development under the Proposed Project would be designed to meet the City interior standards, and interior noise from multiple loud, short-term events was analyzed. Construction and operational vibration impacts were assessed in Impacts 4.8-4 and 4.8-5 and were determined to be consistent with policies EC 3.1.5, EC 3.1.6, and EC 3.1.7. Operational noise of the Proposed Project and outdoor recreation events at the ESC were assessed and mitigated in Impact 4.8-1. The project would be consistent with policies EC 3.1.8 and EC 3.1.9. Consistent with EC 3.1.10, construction noise of the Proposed Project was analyzed and mitigated to the extent feasible in Impact 4.8-3. The project would not include sound wall construction, nor would it widen streets or convert streets to one-way in residential areas, and would thus be consistent with policies EC 3.1.11 and EC 3.1.12.

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*[10] does not contain goals and policies specific to noise.

City of Sacramento Municipal Code (Noise Ordinance)

The Sacramento Municipal Code includes noise regulations in Title 8 – Health and Safety, Chapter 8.68 – Noise Control (referred to generally as the Noise Ordinance). Of the regulations in Chapter 8.68, not all are applicable to the Proposed Project. The following regulations would apply to the Proposed Project:

- Section 8.68.060 sets standards for cumulative exterior noise levels at residential and agricultural properties, including exterior noise standards of 55 dBA from 7 a.m. to 10 p.m., and 50 dBA from 10 p.m. to 7 a.m. Per Section 8.68.060(b), the allowable decibel increase above the exterior noise standards in any one hour are:

  1. 0 dBA for cumulative period of 30 minutes per hour;

  2. 5 dBA for cumulative period of 15 minutes per hour;

  3. 10 dBA for cumulative period of 5 minutes per hour;

  4. 15 dBA for cumulative period of 1 minutes per hour; or

  5. 20 dBA not to be exceeded for any time per hour.

  In addition, per Section 8.68.060(c), each of the noise limits above shall be reduced by 5 dBA for impulsive or simple tone noises, or for noises consisting of speech or music. If the ambient noise level exceeds that permitted by any of the first four noise limit categories specified in subsection (b) above, the allowable noise limit shall be increased in five dBA increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.

- Section 8.68.160 establishes time frames and noise limits for outdoor recreational activities, including sporting and entertainment events and concerts. Amplified sound at these events (measured no more than 150 feet from the source) is limited to 96 dBA Leq during the months of September and October and 96 dBA Leq during the months of November through August. For outdoor recreational events on Sunday through Thursday, the amplified sound shall commence no earlier than 9 a.m. and shall be terminated no later than 10 p.m. For outdoor recreational events on Friday, Saturday, and the day a holiday, the amplified sound shall commence no earlier than 9 a.m. and shall be terminated no later than 11 p.m.

[10] City of Sacramento, 2009c. *Central City Community Plan.* Adopted March 3, 2009.

- 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 8.68.080 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 7 a.m. and 6 p.m. Monday through Saturday, and between the hours of 9 a.m. and 6 p.m. on Sunday. Section 8.68.080 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.

4.8.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR, impacts due to noise may be considered significant if construction and/or implementation of the Proposed Project would:

- Result in a substantial permanent increase in ambient exterior noise levels in the project vicinity that exceed standards in the City's General Plan or Noise Ordinance;

- Result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation;

- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;

- Permit existing and/or planned buildings (and persons within) to be exposed to significant vibration due to project construction; or

- Permit adjacent residential and commercial buildings (and persons within) to be exposed to significant vibration due to highway traffic and rail operations.

Methods and Assumptions

Construction Noise Levels

Construction noise impacts are assessed based on a comparative analysis of the noise levels resulting from operation of specified construction equipment and the noise levels of existing conditions. Analysis of temporary construction noise effects of the proposed ESC construction was based on specific estimates of construction equipment and duration from the project construction contractor, Turner Construction. Analysis of temporary construction noise effects of the development in the SPD area was based on typical construction phases and equipment noise

levels. In both cases, the analyses accounted for attenuation of those noise levels due to distances between the construction activity and the sensitive receptors in the site vicinity.

Construction noise levels for the Proposed Project were estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). The estimated construction noise levels resulting from the Proposed Project at the nearby off-site sensitive receptors were then compared to the City nighttime (10 p.m. to 7 a.m.) interior noise standard of 45 dBA Leq[11] and a daytime (7 a.m. to 10 p.m.) interior noise standard of 75 dBA Leq to protect against potential sleep disturbance and noise-induced hearing loss from prolonged noise, respectively. The National Institute on Deafness and Other Communication Disorders (NIDCD) of the National Institutes of Health, identified noise levels less than 75 dBA, even after long exposure, are unlikely to cause hearing loss.[12] Residents and workers in the nearby buildings would be exposed to the most prolonged noise, whereas pedestrians and other individuals outside of buildings in proximity to the project site could move elsewhere if adversely affected by construction noise.

Operational Noise Levels

Roadside noise levels were calculated for selected study street segments near sensitive receptors around the project site based on information provided in the traffic analysis presented in section 4.10, Transportation. The street segments selected for analysis are those expected to be most directly impacted by project-related traffic, which, for the purpose of this analysis, are the streets that are nearest to the project site that also experience the highest traffic volumes. These streets are forecast to experience the greatest percentage increase in traffic generated by the Proposed Project. The noise levels were calculated using the Federal Highway Administration's (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project's traffic study (see Appendix C).

In addition, non-transportation noise sources, such as loading docks, HVAC equipment, and ESC event noise, are assessed below. Significance is based on comparison of the project's operational noise levels to the City Noise Ordinance standards.

Ground-borne Vibration Levels

Short-term construction and long-term operational ground-borne vibration impacts are assessed in the EIR. Ground-borne vibration levels resulting from construction activities at the project site were estimated using data and equations published by the FTA in its *Transit Noise and Vibration Impact Assessment* document. Potential vibration levels resulting from project construction are identified for land uses that are sensitive to vibration, including existing residences and historical

[11] Per Section 8.68.070 of the City Noise Ordinance. Although this standard applies specifically to multi-family residential unit noise on the interior noise of neighboring units, it was applied to the construction analysis herein to identify potential sleep disturbance and appropriate interior noise levels.

[12] National Institute on Deafness and Other Communication Disorders, 2008. *NIDCD Fact Sheet: Noise-Induced Hearing Loss.* Publication No. 08-4233, updated December 2008. p. 1.

buildings located nearby, accounting for their distance from construction activities. In regards to operations, the annoyance impact from existing sources of vibration on proposed sensitive receptors is analyzed.

Building Damage

To determine the potential for building damage at off-site land uses resulting from vibration generated from the project's construction activities, the following vibration propagation equation is used:[13]

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Where PPV (equip) is the peak particle velocity in in/sec of the equipment adjusted for distance, PPV (ref) is the reference vibration level in in/sec at 25 feet, and D is the distance from the equipment to the receiver. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration and is often used in monitoring of vibration because it is related to the stresses experienced by structures. The FTA building damage thresholds typically applied and described in the *City of Sacramento 2030 General Plan Master Environmental Impact Report*[14] are 0.2 PPV for historic buildings and 0.5 PPV for non-historic buildings.

Human Annoyance

In order to determine the potential for human annoyance from exposure to the project's construction-related vibration levels, the following calculation was performed:[15]

$$L_v(D) = L_v(25\text{ ft}) - 30\log(D/25)$$

$L_v(D)$ represents the vibration level of the equipment in decibels (VdB), $L_v(25\text{ ft})$ represents the reference vibration level at 25 feet for the construction equipment, and D is the distance from the equipment to the receiver. Table 4.8-4 presents criteria for acceptable ground-borne vibration for different land uses.

13 Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006. p. 12-11.
14 City of Sacramento, 2009b. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009. p. 6.8-23.
15 Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006. p. 12-11.

TABLE 4.8-4
GROUND-BORNE VIBRATION (GBV) IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	GBV Impact Levels (VdB re 1 µ-inch/second)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

SOURCE: City of Sacramento, 2009b. *City of Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009. p. 6.8-22.

Impact and Mitigation Measures

Impact 4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.

Downtown Project Site

On-Road Transportation Noise

Vehicles traveling to and from the Proposed Project would create traffic-generated noise. As described in section 4.10, Transportation, the estimated incremental increase of daily vehicle trips for SPD land uses (i.e., residential, office, retail, and hotel) and the total daily vehicle trips for an ESC weekday evening Kings game would be 10,955 and 17,683 trips, respectively. These additional vehicle trips would result in higher noise levels along the downtown street network. Noise level projections were made using the FHWA Noise Prediction Model for those road segments that would experience the greatest increase in traffic volume and that are in proximity to sensitive receptors. The model is based on the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, street configuration, distance to the receiver, and the acoustical characteristics of the site. The segments analyzed and results of the modeling are shown in Table 4.8-5 (daily Ldn) and Table 4.8-6 (pre-event peak hour Leq).

The results of the Ldn modeling effort (see Appendix C) are summarized in Table 4.8-5 for Existing Conditions and Existing plus Project. Although the on-road traffic noise associated with the project would not result in noise levels that would exceed the normally acceptable Ldn for Urban Residential Infill and Mixed-Use Projects listed in Table 4.8-2 (except for the Wong Center, which already exceeds the 70 dBA standard due to its proximity to I-5), the Proposed Project would result in daily Ldn noise exposure that would exceed the allowable noise incremental increases detailed in Table 4.8-3 at residential uses along roadway segment 2 (7th Street south of I Street) and segment 8 (7th Street north of L Street).

TABLE 4.8-5
EXISTING AND PROJECTED LDN TRAFFIC NOISE LEVELS ALONG STREETS IN THE DOWNTOWN PROJECT VICINITY

	Ldn, dBA[1]			
Street Segment	**Existing [A]**	**Existing Plus Project [B]**	**Incremental Increase [B-A]**	**Significant? (Yes or No)[2]**
1. 7th St north of I St	63.2	64.1	0.9	No
2. 7th St south of I St	61.9	64.4	2.5	Yes
3. 9th St north of I St	62.0	63.3	1.3	No
4. 9th St south of I St	62.4	62.8	0.4	No
5. J St east of 4th St	73.0	73.4	0.4	No
6. J St west of 4th St	73.0	73.4	0.4	No
7. 6th St north of J St	60.3	60.3	0	No
8. 7th St north of L St	65.2	67.2	2.0	Yes
9. 7th St south of L St	64.6	66.2	1.6	No
10. L St west of 7th St	68.7	69.3	0.6	No
11. Garden St north of Tower Bridge Gateway[3]	57.8	58.2	0.4	No
12. Garden St south of Tower Bridge Gateway[3]	48.6	49.2	0.6	No
13. Tower Bridge Gateway east of Garden St[3]	65.7	65.9	0.2	No
14. Tower Bridge Gateway west of Garden St[3]	65.3	65.5	0.2	No

1. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108). Notably, a 3 dBA increase was included in the J St east and west of 4th St segments (segments 5 and 6) to calibrate the model based on the Ldn noise monitoring results at the Wong Building, likely due to the proximity to Interstate 5.
2. Traffic noise is considered significant if the daily Ldn exceeds the allowable noise increment at residences and buildings where people normally sleep, per Table 4.8-3 above.
3. West Sacramento intersection.

SOURCE: ESA, 2013

The daily Ldn impact at residences and buildings where people normally sleep along all other streets would be less than significant. Although the Ldn at residences along these roadways would be less than 70 dBA and would be considered normally compatible noise exposure, per Table 4.8-2 above, the incremental increase in noise levels along roadway segments 2 and 8 would be considered a ***significant impact***.

The results of the pre-event peak hour Leq modeling effort (see Appendix C) are summarized in Table 4.8-6 for Existing Conditions and Existing plus Project. The Proposed Project would result in peak hour noise exposure that would exceed the allowable noise increases detailed in Table 4.8-3 at institutional land uses along roadway segment 2 (7th Street south of I Street) and segment 3 (9th Street north of I Street). The pre-event peak hour impact at institutional land uses with primarily daytime and evening uses along all other streets would be ***less than significant***.

TABLE 4.8-6
EXISTING AND PROJECTED PRE-EVENT PEAK-HOUR TRAFFIC NOISE LEVELS ALONG STREETS IN THE DOWNTOWN PROJECT VICINITY

	Leq, dBA[1]			
Street Segment	**Existing [A]**	**Existing Plus Project [B]**	**Incremental Increase [B-A]**	**Significant? (Yes or No)[2]**
1. 7th St north of I St	60.0	65.0	5.0	No
2. 7th St south of I St	59.5	65.8	6.3	Yes
3. 9th St north of I St	57.4	64.5	7.1	Yes
4. 9th St south of I St	58.7	62.3	3.6	No
5. J St east of 4th St	69.0	70.7	1.7	No
6. J St west of 4th St	69.1	70.7	1.6	No
7. 6th St north of J St	57.8	59.6	1.8	No
8. 7th St north of L St	62.6	66.5	3.9	No
9. 7th St south of L St	61.5	66.5	5.0	No
10. L St west of 7th St	67.1	68.6	1.5	No
11. Garden St north of Tower Bridge Gateway (WS)	56.9	57.7	0.8	No
12. Garden St south of Tower Bridge Gateway (WS)	46.5	46.5	0.0	No
13. Tower Bridge Gateway east of Garden St (WS)	65.2	66.4	1.2	No
14. Tower Bridge Gateway west of Garden St (WS)	64.8	65.9	1.1	No

1. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108). Notably, a 1 dBA increase was included in the J St east and west of 4th St segments (segments 5 and 6) to calibrate the model based on the 6-7pm noise monitoring results at the Wong Building, likely due to the proximity to Interstate 5.
2. Traffic noise is considered significant if the peak-hour Leq exceeds the allowable noise increment at uses where it is important to avoid interference with speech, meditation, and concentration on reading material, per Table 4.8-3 above.
3. (WS) = West Sacramento intersection.

SOURCE: ESA, 2013

Non-Transportation Noise Sources

Non-transportation noise associated with the Proposed Project operations would include stationary sources (such as HVAC units), loading docks, and ESC event noise.

Heating, Ventilation, and Air-Conditioning Systems. The HVAC systems for maintaining comfortable temperatures within commercial or other buildings would consist of packaged air conditioning systems. Such HVAC units typically generate noise levels of approximately 55 dB at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations. HVAC units could possibly be as close as 10 feet from the nearest residential (Hotel Marshall) receptors. At this distance, the nearest residences would be exposed to levels of 75 dBA, which would exceed the City day (55 dBA from 7 a.m. to 10 p.m.) and nighttime (50 dBA from 10 p.m. to 7 a.m.) Noise Ordinance standards. This impact would be ***significant***.

Loading Docks. Noise associated with commercial or other workplace land uses is variable, depending on the type of facility, the size, layout, and operational activities. Loading docks for the ESC would be located underground and would not disturb nearby sensitive receptors. In regards

to uses in the SPD area, truck deliveries may be a source of elevated noise levels at sensitive receptors nearby truck loading docks, which are currently located in the alley behind the Traveler's Hotel building, on 6th Street south of J Street, and on the alley east of the Ramona Hotel building. It is anticipated that loading for development in the SPD area would remain in these general locations. Reference noise levels of 80 dB Lmax and 60 dB Leq at a distance of 50 feet could be generated. These data include noise generated by truck arrivals and departures from the unloading area, trucks backing into the docks (including backup beepers), air brakes, and other related truck unloading noise. However, since the SPD area development would replace existing commercial and retail uses in an urban environment, including existing loading docks, the noise levels associated with potential SPD loading docks would not result in a substantial increase in the noise. This impact would be ***less than significant***.

ESC Event Noise. The main entrance to the ESC would be located generally in the northwest quadrant of the ESC site, oriented toward the 5th and K Street entrance to the event plaza. The ESC would include the performance bowl with general and premium seating, suites, indoor standing viewing areas, and outdoor event plaza and terrace/balcony areas. A portion of the event plaza near the main entrance could be cordoned off and operated as part of the ESC space. When weather permits and when it would be conducive for the specific type of event, a portion of the perimeter wall of the ESC at the main concourse/plaza level facing the event plaza could be opened, providing the opportunity for ticketed patrons to flow freely between the main concourse and the cordoned portion of the event plaza. In addition, the upper concourse walls could be opened to an outdoor terrace overlooking the event plaza. For certain events, portions of the outdoor event plaza and outdoor terraces could be equipped with video screens and speakers, which would result in noise exposure of nearby noise-sensitive receptors during these open events.

Different types of events typically are presented on different days and at different times. Most events at the ESC would occur on weekday evenings or weekends; it is estimated that 141 of the 189 annual event days would occur during these time periods. These evening and nighttime events would also be of primary concern in regards to potential noise impacts. Typically weekday and Saturday Kings games start at approximately 7:00 p.m. and conclude between 9:30 p.m. and 10:00 p.m. On Sundays, Kings games typically start at 3:00 pm or 6:00 p.m. and conclude between 5:30 p.m. and 6:00 p.m., or 8:30 p.m. and 9:00 p.m., respectively. Earlier or later starting times could occur occasionally due to the requirements of national broadcasting companies, but would be extremely infrequent and are not reasonably predictable at this time. Peak attendance at Sacramento Kings games could be up to 17,500 attendees. Other major components of the attendance profile for the ESC would include concerts (estimated to be 27 concerts with up to 15,000 attendees for larger events) and other sporting events (estimated to be 16 events with up to 5,000 attendees per event). Typically concert events start at approximately 7:00 p.m. and conclude at approximately 11:00 p.m. or later. Other sporting events could include college and high school basketball, volleyball or similar events, professional boxing or mixed martial arts, indoor soccer or tennis, or similar such sporting events.

Exterior noise from amplified sources would not result in substantial noise exposure during events when the walls of the ESC are fully closed. For events where portions of the walls of the ESC would be open and outside speakers would be used on terraces and in the event plaza, these speakers would be the primary noise source during these events. The event plaza speakers could be approximately 550 feet from the existing Riverview Plaza residences, 550 feet from the Ping Yuen Apartments, 600 feet from the Wong Center residences, and potentially 60 feet from future SPD residences. Assuming an attenuation rate of 6 dBA and that the speakers would generate noise levels of 100 dBA Leq (measured five feet from the source), residences at the Riverview Plaza, Ping Yuen Apartments, and Wong Center could be exposed to exterior noise levels of approximately 59 dBA, 59 dBA, and 58 dBA Leq from the outdoor speakers, respectively. Future SPD residences could be exposed to exterior noise levels of approximately 78 dBA Leq from outside speakers located in the plaza. There may be a rooftop terrace on the practice facility near the Hotel Marshall and Jade Apartments. Outdoor speakers may be used but would not be amplified to the levels anticipated in the event plaza since the terrace would an enclosed space, except for the open-ceiling. The approximately 100 foot practice facility would completely block the line of site of the ESC from the Hotel Marshall and Jade Apartments residences, which would substantially reduce noise exposure at these receptors from plaza speakers.

Long-term noise measurements conducted in the proximity of the project site (Table 4.8-1) indicated that existing ambient noise levels during evening hours (6 p.m. to 11 p.m.) range between 62 to 69 dBA Leq, or an average of about 65 dBA Leq. Based on these ambient noise levels and the 5 dBA reduction in the standards due to the noise source being speech and music, the applicable Noise Ordinance daytime and nighttime exterior noise standards at nearby residences would be 60 dBA (from 7 a.m. to 10 p.m.) and 55 dBA (from 10 p.m. to 7 a.m.). The exterior amplified sound would exceed the daytime and nighttime exterior noise standards at the future SPD residences. For events that would involve exterior amplified sound after 10 p.m., noise levels at the Riverview Plaza, Ping Yuen Apartments, and Wong Center also may exceed the nighttime exterior noise standards depending on the specific orientation of the speakers and the amount of attenuation provided by intervening buildings. This impact would be **significant**. Other residential receptors in the vicinity would be located farther away and would have extensive intervening structures between the ESC and the residences.

Offsite Digital Billboards

Offsite digital billboards would be electrically powered and would not generate operational noise that would affect nearby sensitive receptors. This impact would be ***less than significant***.

Mitigation Measures

4.8-1(a) (ESC/SPD)

On-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks) shall be located as far as possible and/or shielded from nearby noise sensitive land uses to meet City noise standards.

4.8-1(b) (ESC)

The project applicant shall retain a qualified acoustical consultant to verify that the architectural and outdoor amplified sound system designs incorporate all acoustical features in order to comply with the City of Sacramento Noise Ordinance.

Impact Significance After Mitigation: No feasible mitigation strategies have been identified to reduce the on-road transportation noise impacts to less than significant. Alternative modes of transportation (i.e., walking, biking, and transit) are already accounted for in the above traffic noise estimates. The reduction in vehicular use needed to mitigate these roadway noise impacts is not feasible for the Proposed Project. In addition, typical measures to reduce roadway noise impacts, such as noise walls, setbacks, and rubberized asphalt, are not considered feasible mitigation for development in the urban core of the City. This impact would be considered ***significant and unavoidable***.

Impacts of non-transportation noise sources (HVAC and other area source equipment noise, excluding amplified exterior sound systems), with implementation of Mitigation Measure 4.8-1(a) and (b), would be reduced to less than significant. While it is likely that the outdoor amplified sound system could be designed to minimize noise exposure at off-site residences, such as speaker height, orientation and volume control, outdoor speaker operations during events would be expected to exceed the exterior daytime and nighttime noise standards of the Noise Ordinance at future SPD residences. As a result, impacts of amplified exterior sound systems would be considered ***significant and unavoidable***.

Impact 4.8-2: The Proposed Project could result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation.

Downtown Project Site

Table 4.8-6 shows the areas in which new residential uses are likely to be located (i.e., along J Street) that could be exposed to noise levels up to 73 dBA Ldn, due in part to proximity of the site to Interstate 5. Other residences developed farther east would be exposed to reduced noise. An exterior noise exposure of 70 dBA or greater would result in potentially incompatible interior noise for new urban infill sensitive receptors. The multi-family residences to be developed as part of the project would be subject to Title 24 of the California Code of Regulations, which requires an interior noise standard of 45 dBA Ldn in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard. To allow the project to meet the City and State interior noise requirement of 45 dBA Ldn, in habitable rooms of residential dwellings, the exterior facades of SPD area residential buildings would need to be designed to appropriately reduce sound transmission (i.e., exterior-to-interior noise).

Project operations would also result in noise exposure of residential receptors in the project vicinity, as described above in Impact 4.8-1. For on-road transportation sources, the total roadway noise from existing and Proposed Project traffic would not exceed the 70 dBA Ldn standard,

except at the Wong Center, which is already exposed to noise levels above the standard. However, crowd noise, loud voices and noise generated by departing patrons, and/or outdoor amplified sound systems in the plaza associated with certain events at the ESC could result in substantial noise during the evening and nighttime hours (depending on the event timing). Exterior speaker systems are anticipated to be the loudest noise generator outside the ESC, and could result in ***potentially significant*** interior noise at future SPD residences. The nearest existing residential receptors (in the Riverview Plaza, Ping Yuen Apartments, and Wong Center) would be exposed to interior noise levels less than 45 Ldn (assuming 20 dBA exterior-to-interior attenuation by the building structure). In addition, the approximately 100 foot tall practice facility would completely block the line of site of the ESC from the Hotel Marshall and Jade Apartments residences, which would substantially reduce noise exposure at these receptors and ensure interior noise levels less than 45 Ldn.

Offsite Digital Billboards

Offsite digital billboards would be electrically powered and would not generate long-term operational noise that would affect nearby sensitive receptors. This impact would *be **less than significant***.

Mitigation Measures

4.8-2(a) (SPD)

Prior to the issuance of building permits, the City shall require project applicants for residential development to submit a detailed noise study, prepared by a qualified acoustical consultant, to identify design measures necessary to achieve the City interior standard of 45 Ldn in the proposed new residences. The study shall be submitted to the City for review and approval. Design measures such as the following could be required, depending on the specific findings of the noise study: double-paned glass windows facing noise sources; solid-core doors; increased sound insulation of exterior walls (such as through staggered- or double-studs, multiple layers of gypsum board, and incorporation of resilient channels); weather-tight seals for doors and windows; or sealed windows with an air conditioning system installed for ventilation. This study can be a separate report, or included as part of the Noise and Vibration Reduction Plan for the SPD. The building plans submitted for building permit approval shall be accompanied by certification of a licensed engineer that the plans include the identified noise-attenuating design measures and satisfy the requirements of this mitigation measure.

4.8-2(b) (ESC)

Implement Mitigation Measure 4.8-1(b) to minimize noise from outdoor amplified sound systems.

Impact Significance After Mitigation: Implementation of the Mitigation Measure 4.8-2 (a) and (b) would ensure that future SPD residences are designed such that interior noise levels would not exceed the City standard of 45 Ldn. This impact would be considered ***less than significant***.

Impact 4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City standards.

Construction activity noise levels at and near the Proposed Project construction areas would fluctuate depending on the particular types, number, and duration of usage of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, and the amount of increase would depend on the number of haul trips made and types of vehicles used. Table 4.8-7 shows typical noise levels produced by various types of construction equipment.

TABLE 4.8-7
TYPICAL NOISE LEVELS FROM DEMOLITION/ CONSTRUCTION EQUIPMENT OPERATIONS

Construction Equipment	Actual Lmax, dBA @ 50 Feet
Dump Truck	76.5
Excavator	80.7
Mounted Impact Hammer (Hoe Ram)	90.3
Pile-driver (Vibratory)	100.8
Pile-driver (Impact)	101.3
Auger Drill	84.4

SOURCE: FHWA Roadway Construction Noise Model (RCNM), Version 1.1.

Downtown Project Site

Pile driving would be required for some development on the project site, specifically for the ESC and potential high-rise development in the SPD area. In addition, demolition and excavation activities could occur adjacent to some sensitive receptors in the project vicinity. Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling of distance. Based on the flat urban project site layout and terrain, an attenuation of 6 dBA is assumed. Noise associated with development at the Downtown project site is analyzed below for different phases of construction.

Demolition/Excavation. The nearest sensitive receptors to the demolition/excavation activities associated with the ESC site, the conservative distance to equipment use for demolition/excavation, and the resultant noise exposure are shown below in Table 4.8-8.

Foundation Pile Installation. The foundations of large buildings in downtown Sacramento typically require the installation of deep piles in order to support the weight of the building and to protect the building against uplift that could be created by shallow groundwater. There are several ways that foundation piles can be installed, including the more typical impact pile driving or some sort of pre-drilled method, including either cast-in-place or auger displacement. The nearest sensitive receptors to the potential pile installation activities associated with the Downtown project site, the conservative distance to between the sensitive receptor and the outer boundary of pile installation activity, and the resultant noise exposure for impact driven piles and for auger displacement piles are shown below in Table 4.8-9.

TABLE 4.8-8
NOISE EXPOSURE FROM DEMOLITION/EXCAVATION FOR ESC SITE CONSTRUCTION

Receptor	Type	Distance to Nearest Equipment (Feet)	Unmitigated Exterior Noise Level (dBA, Leq)[a]
Hotel Marshall	Residential	5	103
Jade Apartments	Residential	30	90
Wong Center	Residential	115	77
Ping Yuen Apartments	Residential	270	73
Riverview Plaza	Residential	270	73
Holiday Inn	Hotel	50	86
Ramona Hotel (Church of Scientology)	Church	30	90
630 K St USF Campus	School	5	103
St. Rose of Lima Park	Park	60	85
Proposed SPD Area Residential & Hotel	Residential/Hotel	125	79

a. Construction noise was modeled using RCNM and an assumed equipment mix of 1-mounted hoe ram, 8-excavators, and 2-dump trucks operating at varying distances from individual sensitive receptors. See Appendix C for the RCNM outputs.

SOURCE: ESA, 2013

TABLE 4.8-9
NOISE EXPOSURE FROM FOUNDATION PILE INSTALLATION FOR DOWNTOWN PROJECT SITE CONSTRUCTION

Receptor/Type		Distance to Closest Activity (Feet)	Impact Pile Driving Unmitigated Exterior Noise Level (dBA, Leq)[a]	Auger Displacement Pile Unmitigated Exterior Noise Level (dBA, Leq)[b]
Hotel Marshall	Residential	50	94	77
Jade Apartments	Residential	50	94	77
Wong Center	Residential	115	87	70
Ping Yuen Apartments	Residential	270	79	63
Riverview Plaza	Residential	270	79	63
Holiday Inn	Hotel	50	94	77
Ramona Hotel (Church of Scientology)	Church	50	94	77
630 K St USF Campus	School	50	94	77
7th and K St Plaza	Park	150	85	68
Proposed SPD Area Residential & Hotel	Residential/Hotel	125	86	69

a. Construction noise was modeled using RCNM for the use of an impact pile driver at the specified distance from the individual sensitive receptors. See Appendix C for the RCNM outputs.
b. Construction noise was modeled using RCNM for the use of an auger drill at the specified distance from the individual sensitive receptors. See Appendix C for the RCNM outputs.

SOURCE: ESA, 2013

Summary. The noise exposure described above represents the scenarios where demolition/ excavation or pile driving activities would potentially occur in the nearest proximity to a sensitive receptor. These values represent a conservative assessment because they do not account for any shielding from buildings that are either existing or could be built in the interim (which could result in an exposure decrease of approximately 5 dBA or more) nor any mitigation measures.

As depicted in Table 4.8-8 above, the Hotel Marshall, Jade Apartments, Holiday Inn, Church of Scientology, and 630 K Street building (containing the USF Sacramento Branch Campus, an educational use, and other offices) would be exposed to the highest noise levels during the demolition/excavation phase of construction. According to the HUD *Noise Guidebook*,[16] standard building construction results in an exterior-to-interior noise reduction of 20 dBA with windows closed. Information from the construction contractor indicates that demolition, excavation, and construction would likely require 16-hour shifts, from 7 a.m. to 11 p.m., including ongoing haul truck trips that would pass-by residential uses in the vicinity of the project site. Residences that would be proximate to inbound or outbound haul routes would include the Hotel Marshall, Jade Apartments, Wong Center, Ping Yuen Apartments, 630 I Street, Governor's Square Apartments and Townhomes on 3rd Street, and the new Mercy Housing project and other homes on 7th Street between F and G Streets. Although each truck pass-by would be very brief, the noise exposure would likely be noticeable by sensitive receptors along the haul routes. In addition, it is likely that some concrete pours and material delivery would be required to occur overnight due to the length of the activity or the need to avoid daytime traffic on downtown streets.

Interior daytime or nighttime noise at the sensitive receptors closest to the Downtown project site could be as high as 83 dBA during the demolition and excavation phases. These noise levels would exceed the applied noise standards during the day (75 dBA Leq, from 7 a.m. to 10 p.m.) and night (45 dBA Leq, from 10 p.m. to 7 a.m.). In addition, the nighttime construction for ESC development, including construction activities associated with improvements to adjacent utility systems by the City, SMUD, or other providers, may not comply with the City of Sacramento Noise Ordinance and could result in sleep disturbance for the nearest residential sensitive receptors. It is important to note, however, that construction at any particular area on or around the project site would be short-term and the noise levels would attenuate as construction activities move further from any particular sensitive receptor.

As depicted in Table 4.8-9, pile driving would result in the most noise at the Hotel Marshall, Jade Apartments, 630 K St building, Holiday Inn and Ramona Hotel building (Church of Scientology). Impact pile driving may be used for development of high-rise structures in the SPD area, and, thus, could cause exceedances of the daytime and nighttime interior noise standards at sensitive receptors around the project site. However, auger displacement piles are proposed to be used as the method of pile installation for the proposed ESC building. With auger displacement piles, a hole is drilled into the ground up to the required elevations and concrete is then cast into it. As shown in Table 4.8-7, auger drilling generally produces noise levels approximately 17 dBA lower than pile driving. Assuming a 17 dBA reduction from auger displacement pile installation, and a

[16] U.S. Department of Housing and Urban Development, 2009. *Noise Guidebook*. March 2009. p. 14.

20 dBA exterior-to-interior building noise reduction, interior noise from pile installation would be about 57 dBA the nearest sensitive receptors, which would exceed the nighttime noise standard (45 dBA Leq) but would be less than the daytime interior standard (75 dBA Leq). The use of auger displacement piles would materially reduce noise levels that would be created by impact pile driving. Nevertheless, construction noise at the projected levels would be substantially greater than existing noise levels at nearby sensitive receptor locations and would temporarily exceed the City's interior noise standards.

As described above, construction noise associated with development of the ESC site would be noticeable at residential, office, school, church, and commercial uses in the area. Daytime demolition, excavation, and construction activities would generate noise that could disturb people working in the surrounding commercial and retail uses, making it difficult to concentrate and potentially harming hearing. Nighttime demolition, excavation, and/or construction could result in sleep disturbance of the nearby sensitive residential receptors and hotel patrons. Construction activities would expose occupants of nearby buildings to high levels of noise during the day and night. Although mitigation measures specified below would reduce construction noise impacts and would eliminate any potential harm to hearing, surrounding residents and businesses could be annoyed by noise associated with construction activities at the project site. Therefore, this would be considered a ***short-term significant impact***.

Offsite Digital Billboards

The Proposed Project would include the construction and operation of six digital billboards at ten potential locations. The nearest sensitive receptors to the construction activities associated with the digital billboards, the conservative distance to heavy equipment installation, and the resultant noise exposure are shown below in Table 4.8-10.

TABLE 4.8-10
NOISE EXPOSURE FROM EXCAVATION FOR DIGITAL BILLBOARD CONSTRUCTION

Billboard Location	Nearest Sensitive Receptor Type	Distance to Activity (Feet)	Unmitigated Exterior Noise Level (dBA, Leq)[a]
I-5 at Water Tank	Residential	85	79
US 50 at Pioneer Reservoir	Park	600	62
Business 80 at Sutter's Landing Regional Park	Park	50	83
Business 80 at Del Paso Regional Park/Haggin Oaks	Golf Course	50	83
Business 80 at Sutter's Landing Regional Park/American River	Residential	250	69
I-80 at Roseville Road	Park	750	60
SR 99 at Calvine Road	Residential	550	62
I-5 at Bayou Road	Residential	550	62
I-5 at San Juan Road	Residential	100	77
I-5 at Sacramento Railyards	Hotel/Residential	375	66

a. Construction noise was modeled using RCNM for the use of an auger drill rig, backhoe, and grader at the specified distance from the individual sensitive receptors. See Appendix C for the RCNM outputs.

SOURCE: ESA, 2013

No pile driving would be required for digital billboard construction. As depicted above in Table 4.8-10, construction of digital billboards would expose nearby noise-sensitive uses to up to 83 dBA (park uses) during the assumed operation of an auger drill, backhoe, and grader, which would likely be noticeable even though the billboards would be located along major roadways. However, billboard construction at each site is expected to be five days, which would be very temporary. The Sacramento Municipal Code, Title 8 - Health and Safety, Chapter 8.68 – Noise Control, requires that construction activity take place between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday. The City 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. 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. Therefore, this would be considered a ***less than significant*** impact.

Mitigation Measures

4.8-3 (ESC/SPD)

Prior to the issuance of any building permit for each phase of project development, the project applicant shall develop a Noise and Vibration Reduction Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor, and submit the Plan to the City Chief Building Official for approval. The Plan shall include the following elements:

- *To mitigate noise, the Plan shall include measures such that off-road equipment will not exceed interior noise of 45 dBA Leq (between 10 p.m. and 7 a.m.) and 75 dBA Leq (between 7 a.m. and 10 p.m.) at nearby receptors.*
- *To mitigate vibration, the Plan shall include measures such that surrounding buildings will be exposed to less than 80 VdB and 83 VdB where people sleep and work, respectively, and less than 0.2 PPV for historic buildings and 0.5 PPV for non-historic buildings to prevent building damage.*

Measures and controls shall be identified based on project-specific final design plans, and may include, but are not limited to, some or all of the following:

- *Buffer distances and types of equipment selected to minimize noise and vibration impacts during demolition/construction at nearby receptors in order to meet the specified standards.*
- *Haul routes that affect the fewest number of people shall be selected and subject to preapproval by the City.*
- *Construction contractors shall utilize equipment and trucks equipped with the best available noise control techniques, such as improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible.*
- *Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered*

tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used to lower noise levels from the exhaust by up to about 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

- *Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.*
- *Erection of a six-foot or greater solid plywood construction/noise barrier, where feasible, around the outside perimeter of the project site where the demolition or construction activity area faces occupied uses (i.e., excluding parking garages). The barrier shall not contain any significant gaps at its base or face, except for site access and surveying openings.*
- *Use of "quiet" pile driving technology (such as auger displacement installation), where feasible in consideration of geotechnical and structural requirements and conditions.*
- *Erection of a scaffold with reinforced noise blankets to completely block the line of sight of the Jade Apartments and accessible faces of the Hotel Marshall prior to commencement of demolition, and shall extend the scaffold to screen the Hotel Marshall incrementally as access is provided by demolition of the adjacent Macy's building. Alternatively, residents of these two buildings could be temporarily relocated during demolition, excavation, and construction activities that could result in noise and vibration levels that exceed the above listed thresholds.*
- *Implement a vibration, crack, and line and grade monitoring program at existing historic and non-historic buildings located within 20 feet and 10 feet of demolition/construction activities, respectively. The following elements shall be included in this program:*
    - *Pre-Demolition and Construction:*
        - *To assist with measures regarding impacts to historical resources, the project applicant and construction contractor shall solicit input and review of plan components from a person(s) who meets the SOI Professional Qualification Standards for Architectural History, and, as appropriate, an architect that meets the SOI Professional Qualification Standard for Historic Architect. These qualification standards are defined in Title 36 Code of Federal Regulations Part 61.*
        - *Photos of current conditions shall be included as part of the crack survey that the construction contractor will undertake. This includes photos of existing cracks and other material conditions present on or at the surveyed buildings. Images of interior conditions shall be included if possible. Photos in the report shall be labeled in detail and dated.*
        - *The construction contractors shall install crack gauges on cracks in the walls of the historical and non-historical buildings to measure changes in existing cracks during project activities. Crack gauges shall be installed on multiple representative cracks, particularly on sides of the building facing the project.*

- *The construction contractor shall determine the number and placement of vibration receptors at the affected historic and non-historic buildings in consultation with the consulting architectural historian and/or architect. The number of units and their locations shall take into account proposed demolition and construction activities so that adequate measurements can be taken illustrating vibration levels during the course of the project, and if/when levels exceed the established threshold.*
- *A line and grade pre-construction survey at the affected historic and non-historic buildings shall be conducted.*

o *During Demolition and Construction:*

- *The construction contractor shall regularly inspect and photograph crack gauges, maintaining records of these inspections to be included in post-construction reporting. Gauges shall be inspected every two weeks, or more frequently during periods of active project actions in close proximity to crack monitors, such as during demolition of the Macy's Men's and Furniture Department Building near the Hotel Marshall.*
- *The construction contractor shall collect vibration data from receptors and report vibration levels to the City Chief Building Official on a monthly basis. The reports shall include annotations regarding project activities as necessary to explain changes in vibration levels, along with proposed corrective actions to avoid vibration levels approaching or exceeding the established threshold.*
- *With regards to historic structures, if vibration levels exceed the threshold and monitoring or inspection indicates that the project is damaging the building, the historic building shall be provided additional protection or stabilization. If necessary and with approval by the City Chief Building Official, the construction contractor shall install temporary shoring or stabilization to help avoid permanent impacts. Stabilization may involve structural reinforcement or corrections for deterioration that would minimize or avoid potential structural failures or avoid accelerating damage to the historic structure. Stabilization shall be conducted following the Secretary of Interior Standards Treatment of Preservation. This treatment shall ensure retention of the historical resource's character-defining features. Stabilization may temporarily impair the historic integrity of the building's design, material, or setting, and as such, the stabilization must be conducted in a manner that will not permanently impair a building's ability to convey its significance. Measures to shore or stabilize the building shall be installed in a manner that when they are removed, the historic integrity of the building remains, including integrity of material.*

o *Post-Construction*

- *The applicant (and its construction contractor) shall provide a report to the City Chief Building Official regarding crack and vibration monitoring conducted during demolition and construction. In addition to a narrative summary of the monitoring activities and their findings, this report shall include photographs illustrating the post-construction state of cracks and material conditions that were presented in the pre-construction assessment report, along with images of other relevant*

conditions showing the impact, or lack of impact, of project activities. The photographs shall sufficiently illustrate damage, if any, caused by the project and/or show how the project did not cause physical damage to the historic and non-historic buildings. The report shall include annotated analysis of vibration data related to project activities, as well as summarize efforts undertaken to avoid vibration impacts. Finally, a post-construction line and grade survey shall also be included in this report.

- *The project applicant (and its construction contractor) shall be responsible for repairs from damage to historic and non-historic buildings if damage is caused by vibration or movement during the demolition and/or construction activities. Repairs may be necessary to address, for example, cracks that expanded as a result of the project, physical damage visible in post-construction assessment, or holes or connection points that were needed for shoring or stabilization. Repairs shall be directly related to project impacts and will not apply to general rehabilitation or restoration activities of the buildings. If necessary for historic structures, repairs shall be conducted in compliance with the Secretary of Interior Standards Treatment of Preservation. The project applicant shall provide the City Chief Building Official and City Preservation Officer for review and comment both a work plan for the repairs and a completion report to ensure compliance with the SOI Standards.*

- *Designate a disturbance coordinator and conspicuously post this person's number around the project site, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any local complaints about construction activities. This disturbance coordinator shall receive all public complaints about construction noise disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem. The disturbance coordinator shall have the authority to halt noise- or vibration-generating activity if necessary to protect public health and safety.*

- *Adjacent noise-sensitive residents and commercial uses (i.e., educational, religious, transient lodging) within 200 feet of demolition and pile driving activity shall be notified of the construction schedule, as well as the name and contact information of the project disturbance coordinator.*

Impact Significance After Mitigation: Implementation of these mitigation measures would reduce construction noise at the Downtown project site to the extent feasible. Restricting heavy-duty equipment operations in close proximity to buildings would substantially reduce exterior and interior noise at adjacent buildings. Auger displacement pile installation could reduce associated noise by 17 dBA (compared to impact pile driving) and intervening noise barriers (i.e., fences or noise blankets) could reduce noise exposure at the nearest receptors by 10 to 15 dBA. These measures would minimize interior noise and associated sleep disturbance and any potential hearing loss effects at nearby receptors during demolition, excavation, and construction. However, even with implementation of these mitigation measures, it is likely that construction activities would result in increased levels of annoyance, interruption of conversation, and potential sleep disturbance at surrounding receptors during the day and occasionally at night. This

impact would be considered ***significant and unavoidable*** during the short-term duration of demolition and construction activities on the Downtown project site.

Impact 4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.

Downtown Project Site

Construction-related vibration has two potential effects: disturbance of people and damage to buildings. Ground-borne vibration at high enough levels can disturb people trying to sleep or work. The FTA has determined that infrequent events producing vibration levels in excess of 80 VdB and 83 VdB can result in a significant impact at places where people sleep or work (see Table 4.8-4). Varying degrees of ground-borne vibration can potentially damage the foundations and exteriors of buildings. The FTA building damage thresholds are 0.2 PPV for historic buildings and 0.5 PPV for non-historic buildings. Historic buildings and resources in the vicinity of the Downtown project site include the Marshall Hotel, Ramona Hotel, California Fruit Building, Travelers' Hotel, and Raised Streets and Hollow Sidewalk District (P-34-002358).

Ground-borne vibration from demolition, excavation, and pile driving activities at the Downtown project site could produce substantial vibration at nearby sensitive receptors. The extent to which these receptors would be affected depends largely on soil conditions, building design and materials, and the receptor's location in the building. Typical reference vibration levels for various pieces of equipment, including alternative foundation pile construction options, are listed below in Table 4.8-11. During demolition, potentially significant vibration impacts could occur within 15 feet of historic buildings and 10 feet of non-historic buildings with regard to structural damage. During foundation pile installation, potentially significant vibration impacts could occur within 50 feet from historic and 30 feet from non-historic buildings for impact pile driving, or 15 feet from historic and 10 feet from non-historic buildings for auger displacement drilling. In regards to human annoyance, potentially significant vibration impacts could occur within 45 feet of buildings where people sleep and 35 feet of buildings where people work during demolition. During foundation pile installation, potentially significant annoyance impacts could occur within 160 feet buildings where people sleep and 130 feet of buildings where people work for impact pile driving, or within 45 feet buildings where people sleep and 35 feet of buildings where people work for auger displacement drilling. While construction-related vibration would be limited to the duration of the construction schedule, as depicted in Table 4.8-11, due to the close proximity of existing receptors to demolition and construction activities, unmitigated vibration impacts could exceed the building damage and human annoyance thresholds and would be ***potentially significant***.

TABLE 4.8-11
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment/Activity	PPV at 25 ft (inches/second)[a]	PPV at nearest receptors to the Project	RMS at 25 ft (Vdb)[b]	RMS at nearest receptors to the Project
Large Bulldozer[c]	0.089	1.0	87	108
Hoe Ram[c]	0.089	1.0	87	108
Loaded Trucks[c]	0.076	0.85	86	107
Pile Driver (Impact)[d]	0.644	0.23	104	95
Pile Driver (Sonic)[d]	0.170	0.06	93	84
Caisson Drilling (represents Auger Drilling Pile Installation)[d]	0.089	0.03	87	78

a. Non-historical buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage.
b. The human annoyance response level is 80 Vdb.
c. The nearest historical and non-historical building to demolition/excavation activities would be the Hotel Marshall, the 630 K Street building, and the 24-hour fitness building, which are both adjacent to buildings to be demolished. Demolition/excavation activities of five feet from the adjacent buildings are incorporated above.
d. According to the construction contractor, pile driving could occur approximately 50 feet or further from the nearest historic and non-historic buildings. These distances are incorporated into the vibration results above.

SOURCE: ESA, 2013; FTA, 2006 (Table 12-2, p. 12-12).

Offsite Digital Billboards

The nearest vibration-sensitive receptor to the potential digital billboard locations would be a residence approximately 85 feet from the I-5/Water Tank site boundary. At this distance, assuming a large dozer would be needed during site preparation and excavation, the resultant vibration exposure at the residence would be 0.014 PPV and 71 VdB, which would not exceed the building damage or annoyance thresholds. Construction of digital billboards would result in ***less-than-significant*** vibration impacts.

Mitigation Measures

4.8-4 (ESC/SPD)

Implement Mitigation Measure 4.8-3.

Impact Significance After Mitigation: These measures would ensure that demolition/construction activities at the Downtown project site would not result in building damage at the nearest historic and non-historic building structures, and would reduce human disturbance to the extent feasible. However, the Proposed Project would still result in infrequent but substantial vibration during demolition and construction that would likely result in disturbance impacts at the nearest receptors that operate during the daytime hours (such as the 630 K Street building, and nearby commercial and office uses) and at residential receptors if demolition/construction activities were to occur within 50 feet of receptors at night. While implementation of the mitigation measures described above would avoid vibration-caused building damage and would reduce vibration impacts to surrounding receptors, it is likely that construction activities would still adversely affect surrounding receptors at times during

construction on the Downtown project site. Consequently, this impact would be ***significant and unavoidable*** during the short-term duration of demolition, excavation, and construction activities on the Downtown project site.

Impact 4.8-5: The Proposed Project would expose adjacent residential and commercial buildings, and persons within, to significant vibration due to rail operations.

Downtown Project Site

When residential or commercial uses are located in close proximity to highway or railway operations, there is the potential for exposure to ground-borne vibration that may cause structural damage to buildings and disrupt or annoy their occupants. Development of the Proposed Project at the Downtown project site would not locate proposed land uses in close proximity to major highway operations. The nearest source of potentially substantial vibration would be the RT light rail track on K Street, located about 50 feet from the project site boundary. It is assumed that mixed use development could eventually replace the existing 24 Hour Fitness Center and the 660 J Street building parallel to the light rail track, with office or commercial uses on the first few floors and potential residential dwelling units on the 3rd floor and above. Based on the 50 foot distance from the light rail track, assuming a light rail vehicle speed of 15 mph, and accounting for structural resonance, the vibration exposure at the potential elevated residences would be approximately 65 VdB. For office or commercial uses, estimated maximum vibration would be 69 VdB. According to Table 4.8-4, frequent light rail service would not exceed either the office/commercial or residential use vibration thresholds. This impact would be ***less than significant***.

Offsite Digital Billboards

Digital billboards would not be considered a vibration-sensitive land use. This impact would be ***less than significant***.

Mitigation Measures

None required.

Cumulative Impacts

The geographic context for changes in the noise and vibration environment due to development of the Proposed Project would be localized in the Central Business District of the City of Sacramento in the vicinity of the Downtown project site, as well as along roadways that would serve the Proposed Project. In order to contribute to a cumulative construction noise impact, another project in close proximity would have to be constructed at the same time as the Proposed Project. The only other active cumulative project in the vicinity is the proposed development on the 700 block of K Street. This development would renovate the existing buildings that face K

Street, and behind the existing buildings would add new multi-story residential buildings ranging in height from 60-70 feet for the entire length of the 700 block between 7th and 8th Streets. Development on the 700 block of K Street would be approximately 100 feet from future SPD uses along 7th Street and about 200 feet from the ESC practice facility.

Although there have been other projects proposed in the Capitol Mall corridor, including the Aura Condominiums at 6th Street and Capitol Mall (adjacent to the US Bank Tower) and the Towers on Capitol Mall project at 3rd Street and Capitol Mall, both of which were proposals for high-rise residential buildings that would have contributed new structures to Sacramento's skyline, these proposals are currently not active and the City is not aware of new proposals for projects on these sites.

The Railyards project, two blocks north on 5th and 6th Streets, would add numerous additional medium- and high-rise structures. The City and the developer of the Railyards have been incrementally constructing infrastructure to serve the site over recent years, and are currently completing the extension of 5th and 6th Streets north over the UP railroad tracks into the area around the Central Shops. Development in the new city blocks created by this development is anticipated to take place over the coming 20-30 years. There are no specific projects in that area that are currently proposed or under review by the City of Sacramento.

As described above (Impact 4.8-5), when residential or commercial uses are located in close proximity to highway or railway operations, there is the potential for exposure to ground-borne vibration that may impact buildings and their occupants. This impact would not be affected by cumulative development.

Impact 4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.

On-road traffic associated with the Proposed Project would be the primary source that would contribute to the cumulative noise environment. Although exterior amplified sound systems at the ESC could result in significant noise, no other existing or future stationary sources of substantial noise have been identified in the vicinity of the Proposed Project.

Noise projections were made using the FHWA Noise Prediction Model for cumulative roadway volumes provided by Fehr and Peers, for those road segments that would experience the greatest increase in traffic volume and that would pass by sensitive receptors. The segments analyzed and results of the modeling are shown in Table 4.8-12 (daily Ldn) and Table 4.8-13 (pre-event peak hour Leq) for the "Existing" and "Cumulative Plus Project" scenarios in order to determine cumulative significance, as well as the "Proposed Project Contribution" in order to determine the contribution of on-road vehicles associated with the Proposed Project to the cumulative roadway noise levels**.** Results of the cumulative traffic noise model are included in Appendix C.

As shown in Table 4.8-12, the Cumulative Plus Project on-road traffic noise would not result in noise levels that would exceed the normally acceptable Ldn for Urban Residential Infill and Mixed-Use Projects listed in Table 4.8-2 along the majority of modeled roadways, except at the Wong Center and along L St west of 7th St. The Wong Center already exceeds the 70 dBA standard and there are no residential uses along L St west of 7th. The Proposed Project in conjunction with existing and future cumulative traffic would result in daily Ldn noise exposure that would exceed the allowable noise incremental increases detailed in Table 4.8-3 at residential uses along roadway segments 1 through 4 and 7 through 14. However, the Proposed Project would not result in a cumulatively considerable contribution[17] to on-road traffic noise along most of these roadway segments. The Proposed Project would result in a cumulatively considerable contribution to the daily Ldn impact at residences along segments 1 (7th St north of I St), 2 (7th St south of I St), and 8 (7th St north of L St).

As shown in Table 4.8-13, the Proposed Project in conjunction with existing and future cumulative traffic would result in pre-event peak hour Leq noise exposure that would exceed the allowable noise incremental increases detailed in Table 4.8-3 at institutional uses along roadway segments 1 through 3, 7 through 9, and 12. However, the Proposed Project would not result in a cumulatively considerable contribution[18] to peak hour on-road traffic noise along most of these roadway segments. The Proposed Project would result in a cumulatively considerable contribution to the peak hour Leq impact at institutional uses along segments 1 (7th St north of I St), 2 (7th St south of I St), and 9 (7th St south of L St). These impacts are ***significant***.

Operation of digital billboards would not result in noticeable noise at nearby receptors, even if other projects would be operated concurrently in the vicinity of the digital billboards, and the impact is ***less than significant***.

Mitigation Measures

4.8-6 (ESC/SPD)

Implement Mitigation Measures 4.8-1(a) and 4.8-1(b).

Impact Significance After Mitigation: Mitigation Measure 4.8-6 would reduce noise from stationary sources and exterior amplified sound systems associated with the Proposed Project to the extent feasible. In regards to cumulative traffic, no feasible mitigation strategies have been identified to reduce the on-road transportation noise impact to less than significant. Alternative modes of transportation (i.e., walking, biking, and transit) are already accounted for in the above

[17] A 1-dBA increase, which cannot be perceived except in carefully controlled laboratory experiments, was used to determine if the Proposed Project would have a cumulatively considerable contribution to cumulatively significant exterior Ldn traffic noise at residences and buildings where people normally sleep.

[18] A 3-dBA increase, which is barely perceivable to the average healthy ear, was used to determine if the Proposed Project would have a cumulatively considerable contribution to cumulatively significant exterior peak hour Leq traffic noise at institutional uses with primarily daytime and evening uses.

TABLE 4.8-12
CUMULATIVE LDN TRAFFIC NOISE LEVELS ALONG STREETS IN THE PROJECT VICINITY

Street Segment	Ldn, dBA[1]					
	Existing [A]	Cumulative Plus Project [B]	Incremental Increase [B-A]	Cumulatively Significant? (Yes or No)[2]	Project Contribution to Cumulative Increase	Cumulatively Considerable? (Yes or No)[4]
1. 7th St north of I St	63.2	66.9	3.7	Yes	1.0	Yes
2. 7th St south of I St	61.9	65.9	4.0	Yes	2.0	Yes
3. 9th St north of I St	62.0	64.1	2.1	Yes	0.3	No
4. 9th St south of I St	62.4	65.3	2.9	Yes	0	No
5. J St east of 4th St	73.0	73.9	0.9	No	0.6	No
6. J St west of 4th St	73.0	73.9	0.9	No	0.6	No
7. 6th St north of J St	60.3	66.7	6.4	Yes	0.3	No
8. 7th St north of L St	65.2	69.2	4.0	Yes	1.1	Yes
9. 7th St south of L St	64.6	67.3	2.7	Yes	0.9	No
10. L St west of 7th St	68.7	70.7	2.0	Yes	0.5	No
11. Garden St north of Tower Bridge Gateway (WS)[3]	57.8	62.9	5.1	Yes	0.3	No
12. Garden St south of Tower Bridge Gateway (WS)[3]	48.6	64.3	15.7	Yes	0	No
13. Tower Bridge Gateway east of Garden St (WS)[3]	65.7	68.1	2.4	Yes	0.4	No
14. Tower Bridge Gateway west of Garden St (WS)[3]	65.3	67.5	2.2	Yes	0.2	No

1. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108). Notably, a 3 dBA increase was included in the J St east and west of 4th St segments (segments 5 and 6) to calibrate the model based on the Ldn noise monitoring results at the Wong Building, likely due to the proximity to Interstate 5.
2. Traffic noise is considered significant if the daily Ldn exceeds the allowable noise increment at residences and buildings where people normally sleep, per Table 4.8-3 above.
3. (WS) = West Sacramento intersection.
4. An allowable Ldn increment of 1-dBA was used to determine if the Project would have a cumulatively considerable contribution to cumulatively significant roadway noise at residences and buildings where people normally sleep. This level matches the scale of applied City standards (per Table 4.8-3) and equates to the allowable incremental exterior Ldn at residences and buildings where people normally sleep that have an existing exterior Ldn exposure of 65 or 70 dBA. Notably, except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived (Caltrans, 2009).

SOURCE: Caltrans, 2009. *Technical Noise Supplement*. November 2009. p. 2-48; ESA, 2013

TABLE 4.8-13
CUMULATIVE PRE-EVENT PEAK-HOUR LEQ TRAFFIC NOISE LEVELS ALONG STREETS IN THE PROJECT VICINITY

	Leq, dBA[1]					
Street Segment	**Existing [A]**	**Cumulative Plus Project [B]**	**Incremental Increase [B-A]**	**Cumulatively Significant? (Yes or No)[2]**	**Project Contribution to Cumulative Increase**	**Cumulatively Considerable? (Yes or No)[4]**
1. 7th St north of I St	60.0	67.3	7.3	Yes	3.1	Yes
2. 7th St south of I St	59.5	67.0	7.5	Yes	3.7	Yes
3. 9th St north of I St	57.4	63.9	6.5	Yes	0.6	No
4. 9th St south of I St	58.7	64.4	5.7	No	0.2	No
5. J St east of 4th St	69.0	70.6	2.6	No	0.8	No
6. J St west of 4th St	69.1	70.6	2.5	No	0.8	No
7. 6th St north of J St	57.8	65.9	8.1	Yes	0.7	No
8. 7th St north of L St	62.6	69.2	6.6	Yes	2.7	No
9. 7th St south of L St	61.5	68.1	6.6	Yes	3.2	Yes
10. L St west of 7th St	67.1	68.8	1.7	No	0.8	No
11. Garden St north of Tower Bridge Gateway (WS)[3]	56.9	62.3	5.4	No	0.3	No
12. Garden St south of Tower Bridge Gateway (WS)[3]	46.5	63.0	16.5	Yes	0	No
13. Tower Bridge Gateway east of Garden St (WS)[3]	65.2	67.3	2.1	No	0.7	No
14. Tower Bridge Gateway west of Garden St (WS)[3]	64.8	66.8	2.0	No	0.6	No

1. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108). Notably, a 1 dBA increase was included in the J St east and west of 4th St segments (segments 5 and 6) to calibrate the model based on the 6-7m noise monitoring results at the Wong Building, likely due to the proximity to Interstate 5.
2. Traffic noise is considered significant if the peak-hour Leq exceeds the allowable noise increment at uses where it is important to avoid interference with speech, meditation, and concentration on reading material, per Table 4.8-3 above.
3. (WS) = West Sacramento intersection.
4. An allowable peak hour Leq increment of 3-dBA was used to determine if the Project would have a cumulatively considerable contribution to cumulatively significant roadway noise at institutional uses with primarily daytime and evening uses. This level matches the scale of applied City standards (per Table 4.8-3) and equates to the allowable incremental exterior Leq at institutional uses that have an existing exterior peak hour Leq exposure of 65 or 70 dBA. Notably, the average healthy ear can barely perceive noise level changes of 3 dBA (Caltrans, 2009).

SOURCE: Caltrans, 2009. *Technical Noise Supplement*. November 2009. p. 2-48; ESA, 2013

traffic noise estimates. In addition, typical measures to reduce roadway noise impacts, such as noise walls, setbacks, and rubberized asphalt, are not considered feasible mitigation for development in the urban core of the City. This impact would be considered ***significant and unavoidable***.

Impact 4.8-7: Implementation of the Proposed Project would contribute to cumulative increases in residential interior noise levels of 45 dBA Ldn or greater.

On-road traffic associated with the Proposed Project would be the primary source that would contribute to the cumulative exterior, and thus interior, noise environment of existing and future residences. Table 4.8-12 shows the areas in which new residential uses are likely to be located (i.e., along J Street) that could be exposed to cumulative traffic noise levels up to 73 dBA Ldn, due in part to proximity of the site to Interstate 5. Other residences developed farther east would be exposed to reduced noise. L Street west of 7th Street is also projected to exceed 70 dBA Ldn, however, there are no residences proposed along this roadway segment. An exterior noise exposure of 70 dBA or greater would result in potentially incompatible interior noise for new urban infill sensitive receptors. The multi-family residences to be developed as part of the Project would be subject to Title 24 of the California Code of Regulations, sound-rated assemblies would be required at the exterior facades of Project buildings.

Cumulative traffic would also result in noise exposure of existing residential receptors in the Project vicinity, as described above in Impact 4.8-6. For on-road transportation sources, the total roadway noise from cumulative and Proposed Project traffic would not exceed the 70 dBA Ldn standard along the majority of roadway segments, except at the Wong Center and along L Street west of 7th Street. The Wong Center is already exposed to noise levels above the standard and there are no residences located along L Street west of 7th Street.

Exterior amplified sound systems at the ESC could result in ***potentially significant*** noise at future SPD residences. Existing residential receptors in the Riverview Plaza, Ping Yuen Apartments, and Wong Center would be exposed to interior noise levels less than 45 Ldn (assuming 20 dBA exterior-to-interior attenuation by the building structure). No other existing or future stationary sources of substantial noise have been identified in the vicinity of the Proposed Project.

Operation of digital billboards would not result in noticeable noise at nearby receptors, even if other projects would be operated concurrently in the vicinity of the digital billboards.

Mitigation Measures

4.8-7 (ESC/SPD)

Implement Mitigation Measures 4.8-2(a) and 4.8-2(b).

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.8-7 would ensure that future SPD residences are designed such that interior noise levels would not exceed the City standard of 45 Ldn. This impact would be considered ***less than significant***.

Impact 4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.

The only cumulative project that could add to project-related construction noise generated by the Proposed Project could be the proposed development on the 700 block of K Street. Development of the 700 block of K Street would probably expose the Hotel Marshall and Jade Apartments residences, as well as adjacent commercial and office uses, to substantial construction noise. The Proposed Project itself would generate substantial noise that would impact these receptors, which would be a significant nuisance impact even after mitigation. Although not known at this time, it is possible that other projects within the SPD area could be constructed at a time concurrent with other projects in the Capitol Mall, L, J, or I Street corridors.

Consequently, the Proposed Project's contribution to construction noise would be cumulatively considerable, resulting in a ***significant cumulative impact***.

Construction of digital billboards would be very short (about five days) per billboard, which would result in minimal exposure of nearby receptors to noticeable noise, even if other projects would be constructed concurrently in the vicinity of the digital billboards. Therefore, the offsite digital billboards would contribute to a ***less-than-significant cumulative impact***.

Mitigation Measures

4.8-8 (ESC/SPD)

Implement Mitigation Measure 4.8-3.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.8-8 would reduce construction noise to the extent feasible. However, even with implementation of these mitigation measures, it is likely that construction activities would still result in nuisance impacts at surrounding receptors during the day and occasionally at night. Consequently, this impact would be ***significant and unavoidable*** during the short-term duration of demolition, excavation, and construction activities on the Downtown project site.

Impact 4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.

The only cumulative project that could add to project-related construction vibration noise would be the proposed development on the 700 block of K Street (described above). Equipment on the

700 block of K Street site and truck pass-bys could result in increased vibration at the Hotel Marshall and Jade Apartments residences, as well as adjacent commercial and office uses. The Proposed Project itself would generate substantial vibration that would impact these receptors, which would be a significant impact even after mitigation. Although not known at this time, it is possible that other projects within the SPD area could be constructed at a time concurrent with other projects in the Capitol Mall, L, J, or I Street corridors.

Consequently, the Proposed Project's contribution to construction vibration would be cumulatively considerable, resulting in a ***significant cumulative impact***.

Construction of digital billboards would be very short and would result in minimal exposure of nearby receptors to noticeable vibration, even if other projects would be constructed concurrently in the vicinity of the digital billboards. Therefore, the offsite digital billboards would contribute to a ***less than significant cumulative im*pact**.

Mitigation Measures

4.8-9 (ESC/SPD)

Implement Mitigation Measure 4.8-3.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.8-9 would reduce construction vibration to the extent feasible. However, even with implementation of these mitigation measures, it is likely that construction activities would still result in nuisance impacts at surrounding receptors during the day and occasionally at night. Consequently, this impact would be ***significant and unavoidable*** during the short-term duration of demolition, excavation, and construction activities on the Downtown project site.

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4.9 Public Services

4.9.1 Introduction

This section discusses existing public services (including police, fire, schools, and parks) that would serve the Proposed Project, as well as potential impacts to those services resulting from the Proposed Project.

Comments related to public services received during the public comment period on the NOP for the EIR included concern over demand for increased police and fire demand, crowd control, emergency service, and the location of recreational activities (see Appendix A).

4.9.2 Police Protection

Environmental Setting

The Sacramento Police Department (Sacramento PD) is principally responsible for providing police protection services in the City of Sacramento. In addition to the Sacramento PD, the Sacramento County Sheriff's Department, California Highway Patrol (CHP), University of California, Davis (UC Davis) Medical Center Police Department, and the Regional Transit Police Department support the Sacramento PD to provide police protection in the greater Sacramento area. The Sacramento PD serves the community through a variety of facilities located throughout Sacramento. Police Headquarters, known as the Public Safety Administration Building, is home to Police Administration and Investigations, as well as several support functions such as Records, Information Technology, and Fiscal. There are three substations located in the North, Central, and South command areas. Patrol officers and specialized teams are deployed from these locations:

- *Police Headquarters*: Public Safety Center, Chief John P. Kearns Administration Facility (5770 Freeport Boulevard);
- *North Area Substation*: William J. Kinney Police Facility (3550 Marysville Boulevard);
- *South Area Substation*: Joseph E. Rooney Police Facility (5303 Franklin Boulevard); and
- *Central Command*: Richards Station (300 Richards Boulevard).

Central Command provides police response to the Downtown project site and has a service area bounded by the American River to the north, Highway 50 on the south, the Sacramento River on the west, and Watt Avenue on the east. Police Headquarters supports the North Area Substation, South Area Substation, and Central Command by providing administrative support, crime prevention education, and other law enforcement duties.

The Sacramento PD is staffed by 636 sworn full time police officers and 235 civilian staff.[1] The Sacramento PD does not have an adopted officer-to-resident ratio. The Department uses a variety of data that includes Geographic Information System (GIS) data, call and crime frequency information, and available personnel to rebalance its deployment on an annual basis to meet the changing demands of the City. The Sacramento PD maintains an unofficial goal of 2.0 to 2.5 sworn police officers per 1,000 residents and 1 civilian support staff per 2 sworn officers.[2] In 2012, the Department was funded for 1.38 officers per 1,000 residents. Based on 636 full time sworn officers and 235 civilian employees, the existing ratio of sworn officers per 1,000 residents is 1.34, which is below the Sacramento PD's unofficial goal[1]. According to the Sacramento PD's 2012 Annual Report, the hiring of police officers was significantly reduced from the end of 2007 through 2012 due to budget cutbacks, with no new officers being hired since 2009. Staffing levels and the ratio of officers per 1,000 residents continued to decline as retirements and attrition occurred. With recent police department budget improvements, the PD hiring new officers to increase staffing numbers.

Regulatory Setting

Local

Sacramento 2030 General Plan

The Sacramento 2030 General Plan contains the following goals and policies applicable to the Proposed Project:

Public Health and Safety

Goal PHS 1.1 Crime and Law Enforcement. Work cooperatively with the community, regional law enforcement agencies, local government and other entities to provide quality police service that protects the long-term health, safety, and well-being of our city, reduce current and future criminal activity, and incorporate design strategies into new development.

Policies

- **PHS 1.1.1 Police Master Plan.** The City shall maintain and implement a Police Master Plan to address staffing and facility needs, service goals, and deployment strategies. *(MPSP)*

- **PHS 1.1.2 Response Time Standards.** The City shall strive to achieve and maintain appropriate response times for all call priority levels to provide adequate police services for the safety of all city residents and visitors. (*MPSP*)

- **PHS 1.1.3 Staffing Standards.** The City shall maintain optimum staffing levels for both sworn police officers and civilian support staff in order to provide quality police services to the community. (*MPSP*)

1 City of Sacramento Police Department, 2013. *Sacramento Police Department 2012 Annual Report*. p. 17.
2 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024)*. Certified March 3, 2009. p. 6.10-5.

- **PHS 1.1.4 Timing of Services.** The City shall ensure that development of police facilities and delivery of services keeps pace with development and growth in the city. (*MPSP/SO*)

- **PHS 1.1.7 Development Review.** The City shall continue to include the Police Department in the review of development projects to adequately address crime and safety, and promote the implementation of Crime Prevention through Environmental Design principles. (*RDR*)

- **PHS 1.1.8 Development Fees for Facilities and Services.** The City shall require development projects to contribute fees for police protection services and facilities. (*RDR/FB*)

The Proposed Project would be consistent with each of the General Plan goals and policies listed above. Consistent with Policy PHS 1.1.7, an evaluation of potential police protection impacts resulting from the Proposed Project is included below under Impact 4.9-1. Also, consistent with Policy PHS 1.1.8, the Proposed Project would pay all required development impact fees in order to pay for the expansion of police services.

Impacts and Mitigation Measures

Significance Criteria

Implementation of the Proposed Project would have a significant impact related to police services if it would:

- require, or result in, the construction of new, or the expansion of existing, facilities related to the provision of police protection, the construction of which could cause significant environmental impacts.

Methodology and Assumptions

This impact analysis determines whether development of the Proposed Project would require new or expanded police facilities, the construction of which could result in physical environmental effects. Reductions in service levels can be indicative the potential need for additional staff and/or facilities. The Proposed Project would result in an increase in employment at the Downtown project site of approximately 2,084 jobs and would include up to 550 multi-family residential units which could house up to approximately 1,155 residents. These new residents and workers would require public services, including police protection, which could require the expansion of existing facilities or the construction of new facilities which could result in environmental impacts. The offsite digital billboards associated with the Proposed Project would not require police services or facilities and are therefore not analyzed further in this section.

Impacts and Mitigation Measures

Impact 4.9-1: The Proposed Project would increase demand for police protection services within the City of Sacramento.

The Sacramento Sheriff's Department currently provides interior and exterior security at Sleep Train Arena during events, and also manages ingress and egress traffic patterns before and after Sacramento Kings games.[3] The Sacramento PD would be responsible for interior and exterior security at the proposed ESC, and for implementation of the Proposed Project's traffic management plan (TMP) before, during, and after certain events.[4] As discussed in Chapter 2, Project Description, and as further required under Mitigation Measure 4.10-1, the TMP calls for a Transportation Management Center (TMC) in the ESC (which could be co-located with the ESC Security Office) that would allow for coordination of vehicular, transit and pedestrian traffic controls in concert with event activities and schedules under various event scenarios. The TMP calls for a series of pre- and post-game traffic controls, including post-game street closures during peak events. The TMP would also include transportation control strategies to facilitate transit boarding at the nearby 7th & K Street/St Rose of Lima light rail station, communication strategies, and wayfinding strategies.

As described in Chapter 2, Project Description, the Proposed Project would include up to 550 multi-family residential units, which could house up to approximately 1,155 residents.

This analysis conservatively assumes that residents in the project area would relocate from outside city limits, and therefore require expanded police services from the Sacramento PD. Using the Sacramento PD's unofficial goal of 2.0 to 2.5 sworn police officers per 1,000 residents and 1 civilian support staff per 2 sworn officers, the Proposed Project would require 2 new officers and 1 new civilian support staff in order to serve this additional population in the downtown area. Based on the available information, the addition of these positions would not result in the need to construct a new facility. In addition, new residences would pay taxes and fees as well as be required to contribute fees to fund additional police services.

The Sacramento PD does not anticipate that new police facilities would be required to ensure adequate police protection for the Proposed Project. Sacramento PD would adjust staffing levels as appropriate in order to ensure adequate service at the Proposed Project site.[5] The Proposed Project would not require the construction of new or altered police facilities, and the impact to police services would be ***less than significant***.

[3] Matthes, Dana, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Dana Matthes of the Sacramento Police Department. October 24, 2013.
[4] Matthes, Dana, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Dana Matthes of the Sacramento Police Department. October 24, 2013.
[5] Matthes, Dana, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Dana Matthes of the Sacramento Police Department. October 24, 2013.

Mitigation Measure

None required.

Cumulative Impacts

Because the Police Department service area is the City of Sacramento, the cumulative context for law enforcement impacts is growth within the City as reflected in the 2030 General Plan, and the associated increase in population is considered as the cumulative scenario.

Impact 4.9-2: The Proposed Project would contribute to cumulative increases in demand on police protection services in the City of Sacramento.

As described in the 2030 General Plan MEIR, an additional 195,000 people are anticipated with buildout of the 2030 General Plan. This increase in population combined with the Proposed Project, could result in an increased demand for police services. However, policies have been created to ensure adequate police facilities are provided to accommodate the increase in new residents. For example**,** Policy PHS 1.1.1 calls for the City to prepare a Police Master Plan to address staffing needs, facility needs, deployment strategies, and service goals. The Master Plan would be the guiding document for police services in the city and would consider all demands for police protection in the city, including those generated by the Proposed Project. Policy PHS 1.1.4 mandates that the City keep pace with all development and growth within the city to ensure facilities and staffing are available to serve residents prior to occupation of new development. Increased Sacramento PD staffing would be funded through the City's General Fund. Policies PHS 1.1.2 and PHS 1.1.3 require that the City maintain optimum staffing levels and response times in order to provide quality police services to the community. Should response times increase in certain areas of the city, the Sacramento PD has the ability to reallocate resources to ensure staffing levels and response times are at an acceptable level. Policies PHS 1.1.5 and PHS 1.1.12 also deal with the distribution and cooperative delivery of services to residents within the city to ensure optimal police response to all city residents. Reallocation of police resources throughout the city would reduce the need to construct new police facilities because police units are mobile. Policy PHS 1.1.6 seeks to co-locate police facilities with other City facilities, such as fire stations, when appropriate, to promote efficient use of space and efficient provision of police protection services within dense, urban portions of the city. Policy PHS 1.1.7 seeks to prevent crime by implementing Crime Prevention through Environmental Design (CPTED) strategies.

Growth and development in the downtown area, including the development of the Proposed Project, would require additional police staff and facilities, especially in the Central City area. The Sacramento Police Department's Master Plan identifies City-wide department needs and identifies new facilities and staffing necessary to maintain police protection services throughout the City. New facilities and staff are added to the Sacramento Police Department on an as-needed basis to continue to meet service goals. All new facilities and staff are part of the City-wide Master Plan and would be funded through the City's General Fund. Project development would

pay taxes that would contribute to the General Fund. For these reasons, this would be a ***less-than-significant cumulative impact***.

Mitigation Measure

None required.

4.9.3 Fire Protection

Environmental Setting

The Sacramento Fire Department (SFD) provides fire protection services to the entire city, which includes approximately 98 square miles within the existing city limits. In addition, the SFD serves three contract areas that include 47 square miles immediately adjacent to the city boundaries within the unincorporated county. Twenty-four fire stations are strategically located throughout the city to provide assistance to area residents. Each fire station operates within a specific district that covers an approximately 1.5 mile geographical radius area around the station. Two SFD stations are located in close proximity to the Downtown project site. Station #1 is located at 624 Q Street, less than 0.5-mile south of the Downtown project site. Station #2 is located at 1229 I Street approximately 0.5-mile west of the Downtown project site. Station #14, located at 1341 North C Street, approximately one mile north of the Downtown project site, also provides fire response services in the downtown area. Station #5, located at 731 Broadway, approximately one mile south of the Downtown project site, also provides fire response services in the downtown area.[6]

Two major factors are considered when defining response times for fire and emergency medical services (EMS): (1) the critical timeframe that responders have to successfully assist victims of cardiac arrest (i.e., chances of surviving a cardiac arrest deteriorate approximately 10 percent for each minute that passes before cardio-pulmonary resuscitation (CPR) and/or defibrillation is initiated), and (2) the critical timeframe that responders have to gain control of a fire, minimizing the impact on the structure and nearby structures. Based on these two critical issues, the SFD has a goal to have its first responding company, which provides for fire suppression and paramedic services, arrive within a 4 minute response time 90 percent of the time and medic units within 8 minutes 90 percent of the time. Locating fire stations according to 1.5-mile radius service areas typically allows responders to arrive on a call within these response time goals. In more densely populated areas and where call volumes are higher and occur simultaneously, a shorter radius is necessary.[7]

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6 Parrington, Desmond, 2013. Personal communication via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.

7 City of Sacramento, 2009. *Sacramento 2030 General Plan Master Environmental Impact Report (SCH No. 2007072024)*. Certified March 3, 2009. pp. 6.10-14 – 6.10-15.

The average response time is determined using the average duration from dispatch to arrival on scene of the first responding fire engine. In the five year period from 2008 to 2012, the SFD's average response time was 5:16 minutes. In 2012, the average response time for the SFD was 5:37 minutes.[8] The Fire Department does not have an official staffing ratio goal.

Regulatory Setting

State

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment", the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all fire fighting and emergency medical equipment.

Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The UFC contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

Local

Sacramento 2030General Plan

The Sacramento 2030 General Plan contains the following goals and policies applicable to the Proposed Project:

[8] Basurto, Michelle, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Michelle Basurto of the Sacramento Fire Department. September 11, 2013.

Public Health and Safety

Goal PHS 2.1 Fire Protection and Emergency Medical Services. Provide coordinated fire protection and emergency medical services that support the needs of Sacramento residents and businesses and maintains a safe and healthy community.

Policies

- **PHS 2.1.2 Response Time Standards.** The City shall strive to maintain appropriate emergency response times to provide optimum fire protection and emergency medical services to the community. (*MPSP*)

- **PHS 2.1.3 Staffing Standards.** The City shall maintain optimum staffing levels for sworn, civilian, and support staff, in order to provide quality fire protection and emergency medical services to the community. (*MPSP*)

- **PHS 2.1.4 Response Units and Facilities.** The City shall provide additional response units, staffing, and related capital improvements, including constructing new fire stations, as necessary, in areas where a company experiences call volumes exceeding 3,500 in a year to prevent compromising emergency response and ensure optimum service to the community. (*MPSP/SO/FB*)

- **PHS 2.1.5 Timing of Services.** The City shall ensure that the development of fire facilities and delivery of services keeps pace with development and growth of the city. (*MPSP/SO*)

- **PHS 2.1.6 Locations of New Stations.** The City shall ensure that new fire station facilities are located strategically throughout the city to provide optimal response times to all areas. (*MPSP*)

- **PHS 2.1.7 Future Station Locations.** The City shall require developers to set aside land with adequate space for future fire station locations in areas of new development. (*RDR*)

- **PHS 2.1.11 Development Fees for Facilities and Services.** The City shall require development projects to contribute fees for fire protection services and facilities. (*RDR/FB*)

Goal PHS 2.2 Fire Prevention Programs and Suppression. The City shall deliver fire prevention programs that protect the public through education, adequate inspection of existing development, and incorporation of fire safety features in new development.

Policies

- **PHS 2.2.2 Development Review for New Development.** The City shall continue to include the Fire Department in the review of development proposals to ensure projects adequately address safe design and on-site fire protection and comply with applicable fire and building codes. (*RDR*)

- **PHS 2.2.3 Fire Sprinkler Systems.** The City shall promote installation of fire sprinkler systems for both commercial and residential use and in structures where sprinkler systems are not currently required by the City Municipal Code or Uniform Fire Code. (*RDR*)

- **PHS 2.2.4 Water Supplied for Fire Suppression.** The City shall ensure that adequate water supplies are available for fire-suppression throughout the city, and shall require development to construct all necessary fire suppression infrastructure and equipment. (*RDR/MPSP/SO*)

- **PHS 2.2.5 High-Rise Development.** The City shall require that high rise structures include sprinkler systems and on-site fire suppression equipment and materials, and be served by fire stations containing truck companies with specialized equipment for high-rise fire and/or emergency incidents. (*RDR*)

The Proposed Project would be consistent with each of the General Plan goals and policies listed above. Consistent with Policy PHS 2.1.11, the Proposed Project would pay all required development impact fees in order to pay for the expansion of fire protection services. Consistent with Policy 2.2.2, the Proposed Project would go through development review in order to ensure it adequately addresses fire safety. Finally, consistent with Policies 2.2.3, 2.2.4, and 2.2.5, the project would include sprinkler systems and appropriate fire suppression equipment as required by City Code and the UFC.

Impacts and Mitigation Measures

Significance Criteria

The Proposed Project would have a significant impact related to fire protection services if it would:

- require, or result in, the construction of new, or the expansion of existing, facilities related to the provision of fire protection, the construction of which could cause significant environmental impacts.

Methodology and Assumptions

This impact analysis determines whether development of the Proposed Project would require new or expanded fire facilities, the construction of which could result in physical environmental effects. Reductions in service levels can be indicative of significant project impacts and the need for additional staff and/or facilities. The Proposed Project would increase employment at and visitors to the Downtown project site and would include up to 550 multi-family residential units, which could house up to approximately 1,155 residents. These new residents, visitors and workers would require public services, including fire protection which could require the expansion of existing facilities or the construction of new facilities which could result in environmental impacts.

The offsite digital billboards associated with the Proposed Project would not require fire services or facilities and are therefore not analyzed further in this section.

Impacts and Mitigation Measures

Impact 4.9-3: The Proposed Project would increase demand for fire protection services within the City of Sacramento.

The Proposed Project would result in new employees, residents, and visitors at the Downtown project site. These increases could result in an incremental increase in calls for fire and emergency medical services beyond that currently experienced at the Downtown project site. The SFD anticipates that call volume at the Downtown project site would increase by approximately 2,200 to 2,500 calls annually for medical aid, auto accidents, and similar situations.[9] SFD Station #2 currently experiences a call volume of approximately 6,000 calls per year and is already past its capacity for emergency response.[10] SFD Station #1 currently experiences a call volume of approximately 3,000 calls per year and has some additional capacity to respond to additional fire and medical service calls, but not enough capacity to respond to all of the call volume anticipated with buildout of the Proposed Project.[11] The increased demand for medical services would result from the increase in pedestrian activity and population density associated with events at the ESC; the potential increase in vehicle/pedestrian conflicts and accidents before, during and after events at the ESC; and the increased daytime and evening pedestrian and vehicular traffic anticipated with development of the SPD area.[12] Additional fire suppression response would be required to serve the increased density within the Downtown project site.[13]

Provision of emergency services to the Downtown project site can be accomplished through the relocation of existing equipment and personnel to other stations within the downtown area.[14] A fire company could be relocated to Station #1 from another SFD station, resulting in additional fire response coverage in the downtown area, including the Downtown project site.[15] In addition, Station #5 has physical capacity to accept an additional medic unit; however, there is not a medic

9 Ogan, Lloyd, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Lloyd Ogan of the Sacramento Fire Department. September 17, 2013.
10 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.
11 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.
12 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.
13 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.
14 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.
15 Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.

unit that could be relocated to Station #5 from an existing facility.[16] Development of the Downtown project site would therefore not require the construction of a new fire station.[17]

The Proposed Project would be required to meet SFD standards related to access, fire hydrants, automatic sprinkler systems, fire alarm systems, water flow, and other Uniform Fire Code requirements. The SFD would review project construction plans and inspect the construction work as it progresses to ensure that project meets State and local Building and Fire Code requirements. In addition, the site would be paved and surrounded by developed urban uses so the fire hazard is low.

Operation of the proposed ESC and development of the SPD area would result in the increased demand for an additional medic unit. There are a number of funding mechanisms in place, including the City's General Fund, which could be used to fund additional fire and medical equipment, vehicles, and personnel. The reallocation of existing resources between existing fire stations in the downtown area combined with securing additional equipment and resources placed at existing fire stations would result in sufficient emergency fire and medical response at the Downtown project site.[18] Construction of an additional fire station therefore would not be required to serve the Proposed Project. Because the Proposed Project would not require, or result in, the construction of new, or the expansion of existing facilities related to the provision of fire protection, this impact would be ***less than significant***.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for fire protection impacts is growth within the Fire Department's service area, primarily the City of Sacramento as reflected in the 2030 General Plan, and the associated increase in population is considered as the cumulative scenario.

Impact 4.9-4: The Proposed Project would contribute to cumulative increases in demand for fire protection services in the City of Sacramento.

An additional 195,000 people are anticipated with buildout of the 2030 General Plan. Additional growth could occur within the service area outside of the city limits. This increase in population combined with the Proposed Project, could result in an increased demand for fire services. However, policies have been created to ensure adequate fire facilities are provided to

[16] Tunson, King, 2013. Personal communication via e-mail between Desmond Parrington of the City of Sacramento City Manager's Office and King Tunson of the Sacramento Fire Department. October 30, 2013.
[17] Tunson, King, 2013. Personal communication via e-mail between Desmond Parrington of the City of Sacramento City Manager's Office and King Tunson of the Sacramento Fire Department. October 30, 2013.
[18] Tunson, King, 2013. Personal communication via e-mail between Desmond Parrington of the City of Sacramento City Manager's Office and King Tunson of the Sacramento Fire Department. October 30, 2013.

accommodate the increase in new residents. For example, Policy PHS 2.1.1 calls for the City to prepare a Fire Master Plan to address staffing needs, facility needs, and service goals. The Master Plan would be the guiding document for the provision of fire services in the city. Policies PHS 2.1.2 and PHS 2.1.3 require that the City maintain appropriate emergency response times and staffing levels to ensure optimum fire protection in the community. Policy PHS 2.1.4 further requires additional fire protection resources be supplied when a fire station/company experiences call volumes exceeding 3,500 in a year and Policy PHS 2.1.6 requires that new fire stations are located strategically throughout the city to provide optimal response times to all areas. Policies PHS 2.1.5 and PHS 2.1.7 require new development to set aside land for future fire stations and ensure that adequate fire protection and emergency medical response facilities, equipment, and staffing are available prior to occupation of new development and redevelopment areas. Policy PHS 2.2.4 ensures that adequate water supplies, pressure, and infrastructure are available in infill and newly developing areas. In addition, Policy PHS 2.1.10 requires that the City work with other agencies to provide regional cooperative delivery of fire protection and emergency medical services.

Due to the cumulative increase in development in the downtown area, it is anticipated that fire stations that serve the downtown area – Stations #1, #2, #5, and #14 – could experience reductions in service levels as much of the planned downtown development occurs. As the downtown area develops over time, the Railyards area north of the Proposed Project site is also expected to develop with a range of uses including residential, commercial, and office. Development of the Railyards area would also increase demand for fire protection and emergency medical services. The Railyards Specific Plan calls for a new fire station[19] that would serve the Railyards Specific Plan area and areas of downtown, including the Downtown project site.[20]

Future development anticipated under the 2030 General Plan would be required to comply with General Plan policies requiring adequate fire protection services to serve the anticipated increase in demand. Furthermore, the Master Plan being developed by the SFD will consider the needs for service in throughout the city, including the project area and determine when and where new facilities would be constructed as development occurs. Existing facilities would be used until such time any new facilities are operational. Any new fire station and staff would be part of the Master Plan and would be funded through the City's General Fund.[21] Project development would pay taxes that contribute to the General Fund. The fire station in the Railyards would be able to serve the Downtown project site. For these reasons, the contribution of the Proposed Project is not considerable and this impact is considered ***less than significant***.

[19] City of Sacramento, 2007. *Railyards Specific Plan Draft Environmental Impact Report (SCH No. 2006032058).* August 2007. pp. 6.10-18 – 6.10-20.

[20] Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.

[21] Parrington, Desmond. 2013. Personal correspondence via e-mail between Christina Erwin of ESA and Desmond Parrington of the City of Sacramento. December 7, 2013.

Mitigation Measure

None required.

4.9.4 Schools

Environmental Setting

The Sacramento City Unified School District (SCUSD) is the primary provider of primary and secondary education within the City. The SCUSD area covers the Central City, east to the city limits, including the Downtown project site. The SCUSD operates more than seventy schools throughout the city; the District includes traditional elementary, middle, and high schools, as well as alternative education and charter school facilities. Current enrollment at SCUSD schools is approximately 47,616 students (27,128 students in kindergarten through 6th grade; 7,007 students in 7th and 8th grade; and 13,411 students in 9th through 12th grade).[22]

The Proposed Project is within the attendance boundaries for William Land Elementary School, located at 2120 12th Street, Sutter Middle School located at 3150 I Street, and C.K. McClatchy High School located at 3066 Freeport Boulevard. Students in the project area may also attend Arthur Benjamin Health Professions High School, located at 451 McClatchy Way, or the MET Charter High School or the Success Academy Alternative School, both located at 810 V Street.

William Land Elementary School serves students in grades K-6. William Land has a design capacity of 641 students, and 294 students were enrolled as of June 2013 (see Table 4.9-1).

Sutter Middle School serves students in grades 7-8. Sutter has a design capacity of 1,403 students, and 1,215 students were enrolled as of June 2013 (see Table 4.9-1).

McClatchy High School serves students in grades 9-12. McClatchy has a design capacity of 2,775 students, and 2,157 students were enrolled as of June 2013 (see Table 4.9-1).

TABLE 4.9-1
SCUSD SCHOOLS AND CAPACITIES IN THE PROJECT VICINITY

School Name	Design Capacity	Current Enrollment	Excess Capacity
William Land Elementary School	641	294	347
Sutter Middle School	1,403	1,215	188
C.K. McClatchy High School	2,775	2,157	618

SOURCES: Hoff, Crystal, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Crystal Hoff of the Sacramento City Unified School District. September 24, 2013; Sacramento City Unified School District, 2013. *Enrollment and Attendance Report Month Ending Thursday, June 13, 2013, Traditional Schools*.

22 California Department of Education, 2013. *California Department of Education, Educational Demographics Unit, District Enrollment by Grade 2012-13*. http://data1.cde.ca.gov/dataquest/dataquest.asp. Accessed August 27, 2013.

Regulatory Setting

State

Proposition 1A/Senate Bill 50

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statues of 1998) is a school construction funding measure that was approved by the voters on the November 3, 1998 ballot. SB 50 created the School Facility Program where eligible school districts may obtain state bond funds. State funding requires matching local funds that generally come from developer fees. The passage of SB 50 eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability for school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. The old "Stirling" fees were incorporated into SB 50 and are referred to as Level 1 fees. As of January 2012, the State Allocation Board (SAB) authorized an adjustment in the Statutory School Fee amounts (Level 1 fees) for unified school districts pursuant to Government Code Section 65995(b)(3) to $3.20 per square foot for new residential development and $0.51 per square foot for commercial and industrial (non-residential) development. Districts meeting certain criteria may collect Level 2 fees as an alternative to Level 1 fees. Level 2 fees are calculated under a formula in SB 50. Level 3 fees are approximately double Level 2 fees and are implemented only when the State Allocation Board is not apportioning state bond funds. The passage of Proposition 1D on November 7, 2006 precludes the implementation of Level 3 fees for the foreseeable future. Although SB 50 states that payment of developer fees are "deemed to be complete and full mitigation" of the impacts of new development, fees and state funding do not fully fund new school facilities. The SCUSD collects Level 1 fees.

California Code of Regulations

The California Code of Regulations (CCR), Title 5, Education Code governs all aspects of education within the state.

California Education Code

The California Education Code authorizes the California Department of Education ("Department") to develop site selection standards for school districts. These standards are found in the California Code of Regulations and require that districts select a site that conforms to certain net acreage requirements established in the Department's 2000 “School Site Analysis and Development" guidebook. The Guide includes the assumption that the land purchased for school sites will be in a ratio of approximately 2 to 1 between the developed grounds and the building area. For example, for a school that houses kindergarten through sixth grade and has an enrollment of 600 children, the recommended acreage is 9.2 acres.

The Department's 2000 Guide includes exceptions to its recommended site size that allow smaller school sites. Additionally, the Department has the policy that if the "availability of land is scarce and real estate prices are exorbitant" the site size may be reduced. It is the Department's policy that if a school site is less than the recommended acreage required, the district shall demonstrate how the students will be provided an adequate educational program including physical education

as described in the district's adopted course of study. Through careful planning, a reduced project area school site could follow the recent trend of school downsizing and meet the Department's criteria.

Impacts and Mitigation Measures

Significance Criteria

The Proposed Project would have a significant impact related to school services if it would:

- generate students that would exceed the design capacity of existing or planned schools, resulting in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts.

Methodology and Assumptions

This impact analysis determines whether development of the Proposed Project would require new or expanded school facilities, the construction of which could result in physical environmental effects. The SPD portion of the Proposed Project would include up to 550 multi-family residential units, which could house up to approximately 1,155 residents. These new residents would require school facilities.

The offsite digital billboards associated with the Proposed Project will not require school services or facilities and are therefore not analyzed further in this section.

Impacts and Mitigation Measures

Impact 4.9-5: The Proposed Project would increase enrollment at SCUSD schools.

The residential and employee population associated with the Proposed Project could increase the number of residents in Sacramento and the surrounding area and, thus, increase the number of school age children attending SCUSD schools. It is anticipated that most employees would either be current residents of the City of Sacramento or would commute from other areas within Sacramento County, rather than relocating to Sacramento from a distant city or another state. Furthermore, the multi-family residential units will likely be built in phases over time, and as a result the growth in students added to SCUSD schools would be spread over a number years. Table 4.9-2 shows that the project is expected to add approximately 143 children to SCUSD schools once all 550 units have been constructed and occupied. As noted in Table 4.9-1 above, William Land Elementary School is 347 students below its design capacity and could therefore accommodate the approximately 105 elementary school students generated by the project. Sutter Middle School is 188 students below its design capacity and could accommodate the approximately 17 middle school students generated by the project. McClatchy High School is 618 students below its design capacity and could accommodate the approximately 22 high school students generated by the project. Because the schools that serve the Downtown project site have adequate capacity to serve project students, no new school facilities would be required.

TABLE 4.9-2
PROJECT STUDENT GENERATION

Type of School	Number of Multi-Family Dwelling Units	Multi-Family Generation Rate	Number of Students Generated
Elementary	550	0.19	104.5
Middle	550	0.03	16.5
High	550	0.04	22
Total			**143**

SOURCE: Hoff, Crystal, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Crystal Hoff of the Sacramento City Unified School District. September 24, 2013; ESA, 2013.

Also, pursuant to Senate Bill 50 (SB 50), the project applicant would be required to pay any applicable school impact fees. Therefore, although the Proposed Project is unlikely to result in substantial additional students within SCUSD facilities, payment of fees as may be applicable under SB 50 is deemed full and complete mitigation under state law. No further mitigation is required, and the potential impact is ***less than significant***.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for schools impacts is the area served by the SCUSD, particularly the schools that would serve the Downtown project site.

Impact 4.9-6: The Proposed Project would contribute to cumulative increases in school enrollment in SCUSD schools.

The effects of buildout of the 2030 General Plan and the associated increase in population is considered as the cumulative scenario. The General Plan is anticipating growth of approximately 97,000 new residences, of which approximately 75,000 units would be multi-family and 22,000 would be single-family. In accordance with the estimated number of residences, approximately 33,690 students would be generated through buildout of the 2030 General Plan (16,740 elementary, 8,100 middle, and 8,850 high school). This increase in school age children could increase enrollment at SCUSD schools beyond design capacity resulting in the need for new or modified facilities.

SCUSD uses a variety of temporary measures to respond to changes in student enrollment at city schools including splitting grade levels, temporarily transferring students to other schools, and

installing temporary facilities.[23] In addition, General Plan policies have been created to ensure adequate school facilities are provided to accommodate the increase in new school aged children. Furthermore, pursuant to SB 50, project applicants, including the Proposed Project applicant, are required to pay school impact fees established to offset potential impacts on school facilities. Therefore, the cumulative impact is considered less than significant.

As discussed under Impact 4.9-5, the payment of the fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of the fees is deemed full and complete mitigation. All new development in the SCUSD service area would be subject to these fees, including the Proposed Project. Therefore, this impact is ***less than significant***.

Mitigation Measure

None required.

4.9.5 Parks and Recreational Facilities

Environmental Setting

The City's Department of Parks and Recreation maintains more than 3,178 acres of parkland including 1,716 developed acres; manages 222 parks, recreation, parkway, and open space sites, maintains over 88 miles of bike trails, 14 miles of jogging and walking paths within City parks; and operates over 29 aquatic facilities (including swimming pools, play pools, and wading poolsor interactive spray areas), nine dog parks, thirteen skateboard parks, 18 community centers and neighborhood centers with numerous programs, rental uses, and leisure enrichment classes.[24] Several facilities within the City of Sacramento are owned or operated by other jurisdictions, such as the County of Sacramento and the State of California. The City of Sacramento Parks and Recreation Master Plan (PRMP) guides park development in the city.

The City's Department of Parks and Recreation is divided into four areas of services:

- Recreation and Community Services;
- Park Operations Services;
- Park Planning and Development Services; and
- Administrative Services.

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[23] Dobson, Jim, 2013. Personal communication via e-mail between Aaron Hecock of ESA and Jim Dobson of the Sacramento City Unified School District. October 15, 2013.

[24] City of Sacramento Department of Parks and Recreation, 2009. *City of Sacramento Parks and Recreation Master Plan 2005-2010; 2009 Technical Update*. Adopted April 21, 2009. Services chapter pp. 1-18. Updated by City of Sacramento Department of Parks and Recreation, November, 2013.

Of the City of Sacramento's 222 parks, 140 are neighborhood parks, 59 community parks, and 23 are regional parks and parkways.[25] The Central City Community Plan Area of the city contains 30 parks totaling approximately 297 acres.2 The City maintains a service level of approximately 8.7 acres per 1,000 residents[8]. As identified in the City's PRMP, the City-wide/Regionally serving park service level goal is to provide 8.0 acres per 1,000 persons. In addition, the City has a service level goal of 5 acres of neighborhood and community serving parkland for every 1,000 people, which is met through dedication during subdivision process. With the existing trails and bikeways located throughout the City, the current service level is 0.2 miles per 1,000 residents. The current service level goal is to provide 0.5 linear miles per 1,000 residents by 2010 as identified in the City's PRMP.

Regulatory Setting

State

State Public Park Preservation Act

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Quimby Act

California Government Code section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

Local

Sacramento 2030 General Plan

The Sacramento 2030 General Plan contains the following goals and policies applicable to the Proposed Project:

Goal ERC 2.2 Parks, Community and Recreation Facilities and Services. Plan and develop parks, community and recreation facilities, and services that enhance community livability; improve public health and safety; are equitably distributed throughout the city; and are responsive to the needs and interests of residents, employees, and visitors.

[25] City of Sacramento Department of Parks and Recreation, 2013. *City of Sacramento Department of Parks and Recreation Amenities and Statistics*. January 2013.

- **ERC 2.2.4 Meeting Service Level Goals.** The City shall require new residential development to dedicate land, pay in-lieu fees, or otherwise contribute a fair share to the acquisition and development of parks or recreation facilities to meet the service level goals in Table ERC 1. For development in urban infill areas were land dedication is not feasible, the City shall explore creative solutions in providing park and recreation facilities that reflect the unique character of the area it serves. (*RDR/MPSP*)

- **ERC 2.2.8 High-Density High-Rise.** The City shall require all large, high-density, high-rise residential projects (e.g., land use designations that include Central Business District, Urban Centers, Urban Corridors, and Urban Neighborhoods) to mitigate for the lack of private yards and access to nature through land dedication or payment of in-lieu fees for parkland and/or recreational facilities. (*RDR*)

- **ERC 2.2.9 Small Public Places for New Development.** The City shall allow new development to provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public, particularly in infill areas, to help meet recreational demands. (*RDR*)

- **ERC 2.2.10 Range of Experience.** The City shall provide a range of small to large parks and recreational facilities. Larger parks and complexes should be provided at the city's edges and along the rivers as a complement to smaller sites provided in areas of denser development. (*MPSP*)

- **ERC 2.2.11 On-Site Facilities.** The City shall promote and provide incentives such as density bonuses or increases in building height for large-scale development projects to provide on-site recreational amenities and gathering places that are available to the public. (*RDR*)

- **ERC 2.2.12 Compatibility with Adjoining Uses.** The City shall ensure that the location and design of all parks, recreation, and community centers are compatible with existing adjoining uses. (*RDR*)

- **ERC 2.2.13 Surplus or Underutilized Land.** The City shall consider acquiring or using surplus, vacant, or underutilized parcels or abandoned buildings for public recreational use. (*MPSP/FB*)

The Proposed Project would be consistent with each of the General Plan goals and policies listed above. Consistent with Policies ERC 2.2.4 and 2.2.8, the Proposed Project would pay in-lieu fees or otherwise contribute a fair share to the acquisition and development of parks or recreation facilities to meet City service level goals. Consistent with Policy ERC 2.2.9, the Proposed Project would provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public, particularly in infill areas, to help meet recreational demands. Finally, the Proposed Project would be consistent with Policy ERC 2.2.12 as all plazas and other public gathering places will be compatible with adjacent land uses.

City of Sacramento Municipal Code

Chapter 12.72 Park Buildings and Recreational Facilities

The City's Municipal Code includes regulations associated with building and park use, fund raising, permit procedures, and various miscellaneous provisions related to parks. Park use regulations include a list of activities that require permits for organized activities that include groups of 50 or more people for longer than 30 minutes; amplified sound; commercial and business activities; and fund raising activities. This code also includes a list of prohibited uses within parks such as unleashed pets; firearms of any type; and drinking alcoholic beverages, or smoking near children's playground areas. Activities such as golfing, swimming, and horseback riding are only permitted within the appropriate designated areas.

Chapter 16.64 Parks and Recreational Facilities

Chapter 16.64 of the Municipal Code provides standards and formulas for the dedication of parkland and in-lieu fees. These policies help the City acquire new parkland. This chapter sets forth the standard that five acres of property for each 1,000 persons residing within the city be devoted to local recreation and park purposes. Where a recreational or park facility has been designated in the general plan or a specific plan, and is to be located in whole or in part within a proposed subdivision to serve the immediate and future needs of the residents of the subdivision, the subdivider shall dedicate land for a local recreation or park facility sufficient in size and topography to serve the residents of the subdivision. The amount of land to be provided shall be determined pursuant to the appropriate standards and formula contained within the chapter. Under the appropriate circumstances, the subdivider shall, in lieu of dedication of land, pay a fee equal to the value of the land prescribed for dedication to be used for recreational and park facilities which will serve the residents of the area being subdivided.

Chapter 18.44 Park Development Impact Fee

Chapter 18.44 of the City's Code imposes a park development fee on residential and non-residential development within the city. Fees collected pursuant to Chapter 18.44 are primarily used to finance the construction of park facilities. The park fees are assessed upon landowners developing property in order to provide all or a portion of the funds which will be necessary to provide neighborhood or community parks required to meet the needs of and address the impacts caused by the additional persons residing or employed on the property as a result of the development.

City of Sacramento 2005-2010 Parks and Recreation Master Plan

The City of Sacramento Parks and Recreation Department prepared the 2005-2010 Parks and Recreation Master Plan, which was adopted by the City Council on December 7, 2004. The Master Plan is considered part of the City's General Plan, Conservation and Open Space Element. The Master Plan calls for a ratio of approximately ten park acres per thousand population, including all categories of parks. This Service Level Goal is intended to be implemented city-wide, and is not intended to be applicable or enforceable for every project proposed within the city. The categories of City Parks and Service Level Goals are as follows:

- *Neighborhood Park*: Developed to serve the recreation needs of a small portion of the City. A neighborhood park serves an area within a one half-mile radius of the park and is often situated adjacent to an elementary school. Improvements are usually oriented toward the recreation needs of children. The size is generally from two to ten acres, depending on the nature of the service area. The Service Level Goal for this type of park is 2.5 acres per thousand residents of the City.
- *Community Park*: Developed to meet the recreational needs of residents within a three mile radius. The size ranges from six to 60 acres. In addition to neighborhood park elements, a community park may have restrooms, large landscaped areas, a community center, a swimming pool, lighted sport fields, and specialized equipment not found in a neighborhood park. Some of the small sized community may be dedicated for one particular use. Some elements in the park maybe under lease to community groups. The Service Level Goal for this type of park is 2.5 acres per thousand residents of the City.
- *City Regional Park*: Contains a wide range of improvements usually not found in local community or neighborhood facilities. These parks serve an area within a 30-minute driving time radius and the size is generally larger than 75 acres. In addition to neighborhood and community park type improvements, a regional facility may include a golf course, a marina, amusement areas, a zoo, or nature areas. Some elements in the park may be under lease to community groups.
- *City Parkway*: A linear park or closely interconnected system of City or school parks located along a roadway, waterway, bikeway, or other common corridor. The size of parkways varies and the overall shape is generally elongated and narrow. The Service Level Goal for City Regional Park and City Parkway combined with other open space is eight acres per one thousand residents.

The Master Plan also sets Service Level Goals for recreation facilities. Those goals for neighborhood centers and community centers are as follows:

- *Neighborhood Center*: 1 per neighborhood as defined by service area of an elementary school.
- *Community Center*: 1 per 30,000 population.

Impacts and Mitigation Measures

Significance Criteria

The Proposed Project would have a significant impact related to parks and recreation if it would:

- cause or accelerate a substantial physical deterioration of existing area parks or recreational facilities; or
- create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.

Methodology and Assumptions

This impact analysis determines whether development of the Proposed Project would require new or expanded parks or recreational facilities, the construction of which could result in physical environmental effects. The project would result in a net increase in employment at the project site of approximately 2,084 jobs and would include up to 550 multi-family residential units which could house up to approximately 1,155 residents. These new residents and workers would require public services, including parks and recreational opportunities which could require the expansion of existing facilities or the construction of new facilities which could result in environmental impacts.

The offsite digital billboards associated with the Proposed Project would not create a demand for parks or recreational services or facilities and are therefore not analyzed further in this section. Two sites are located on the Sutter's Landing Regional Park and one is within the Del Paso Regional Park and could result in the loss of parkland. This impact is addressed below.

Impacts and Mitigation Measures

Impact 4.9-7: The Proposed Project would increase the use of existing parks and recreational facilities within the City of Sacramento.

Downtown Project Site

The ESC and SPD would include new employment and housing opportunities within the Central City area of downtown Sacramento which could incrementally increase the use of existing neighborhood and regional parks or other recreational facilities. Based on the City's park service level goal of 2.5 acres of Neighborhood and Community Parks per 1,000 residents, approximately 2.89 acres of Neighborhood Park and 2.89 acres of Community Park would be needed to adequately serve the Proposed Project's population, as shown in Table 4.9-3. It should be noted that the City's service level goal does not differentiate between urban and suburban projects or suggest that every project should contain its portion of every type of park. Rather the goals are citywide, and recognize that parkland will be distributed throughout the city. Due to the lack of available undeveloped area in the downtown urban area, it would be infeasible to require each project in the downtown area to provide large amounts of active and/or passive parkland.

TABLE 4.9-3
PARKLAND SERVICE GOALS

Type of Park	City Goal	Potential Project Population	New Park Acres Demand
Neighborhood Serving Parks	2.5 acres per 1,000 population	1,155	2.89 acres
Community Serving Parks	2.5 acres per 1,000 population	1,155	2.89 acres
Total			**5.78 acres**

SOURCE: City of Sacramento Department of Parks and Recreation, 2009. *City of Sacramento Parks and Recreation Master Plan 2005-2010; 2009 Technical Update*. Adopted April 21, 2009. Services chapter pp. 1-18. ESA, 2013.

Chapter 18.44 of the City Code imposes a park development fee on residential and non-residential development within the city. Fees collected pursuant to Chapter 18.44 are primarily used to finance the construction of park facilities. The park fees are assessed upon landowners developing property in order to provide all or a portion of the funds which will be necessary to provide neighborhood or community parks required to meet the needs of and address the impacts caused by the additional persons residing or employed on the property as a result of the development.

Any increased use of City parks or recreational facilities resulting from implementation of the Proposed Project would likely be distributed throughout the downtown area, and would not result in substantial physical deterioration of such facilities. Furthermore, the project applicant would be required to pay park development fees established to offset potential impacts on parks within the city. The City would determine how these fees would be used and what, if any, new facilities would be constructed. Should the City determine new parks facilities should be constructed, the City would conduct its own environmental analysis of such an action. Thus, the Proposed Project would not require the construction or expansion of additional parks or recreational facilities and the impact is ***less than significant***.

Digital Billboard Sites

Two of the Digital Billboard Sites are located within the boundaries of the Sutter's Landing Regional Park and one is located at the edge of Del Paso Regional Park. The Sutter's Landings Regional Park and the Del Paso Regional Park/Haggin Oaks sites are located on the periphery of the respective parks, in vegetated edges between the parks and the adjacent Business 80 freeway. The Sutter's Landing Regional Park/American River site is also located adjacent to Business 80 but it is located within an area designated in the Sutter's Landing Park Master Plan as a natural area and is immediately adjacent to the American River Parkway. If any one of these sites is selected, then approximately 5,000 square feet of parkland could be dedicated to each of the billboards. If all three were selected, then as much as 15,000 square feet of parkland could be converted to urban uses.

The Sutter's Landing Regional Park/American River digital billboard site is not yet developed with park uses, but planned to be a future natural area that could include disc golf, hiking trails, interpretive exhibits and viewing/overlook areas.[26] This would reduce the size of the 163-acre park by approximately one-twelfth of an acre, or under one-tenth of one-percent. The effects of the potential billboard site on the aesthetic and biological conditions in the park are addressed in Impacts 4.1-1 and 4.3-2, respectively. In addition, in Chapter 3.0, the potential for a digital billboard at this site to be determined to be inconsistent with the 2030 General Plan and the American River Parkway Plan is addressed. Because the digital billboard at this and other park sites would not result in a material loss of parkland, would not cause or contribute to increased use that would accelerate the deterioration of either Del Paso Regional Park or Sutter's Landing Regional Park, and would not create a need for construction or expansion of recreational facilities

[26] City of Sacramento Department of Parks and Recreation, 2003. *Overall Master Plan for Sutter's Landing Park.* September 2003.

beyond what was anticipated in the General and/or Community Plans, this is considered a ***less-than-significant*** impact.

Mitigation Measures

None required.

Cumulative Impacts

The cumulative context for parks impacts is buildout of the 2030 General Plan, because the City of Sacramento provides parks and recreational services within its boundaries.

Impact 4.9-8: The Proposed Project would contribute to cumulative increases in demand on City parks and recreational facilities in the City of Sacramento.

As described in the MEIR, an additional 195,000 people are anticipated with buildout of the 2030 General Plan. This increase in population combined with the Proposed Project, could result in an increased demand for parks and recreational services. However, General Plan policies have been created to ensure adequate parks and recreational facilities are provided to accommodate the increase in new residents. For example, Policy ERC 2.1.1 requires the City to develop and maintain a complete system of public parks and open space areas throughout Sacramento that provide opportunities for both passive and active recreation. Policy ERC 2.4.2 requires the City to work with regional partners, private land owners, and developers to manage, maintain, preserve, and enhance the Sacramento and American River Parkways. Policy ERC 2.5.4 requires the City to fund the costs of acquisition and development of neighborhood and community parks and community and recreation facilities through land dedication, in lieu fees, and/or development impact fees. Implementation of the policies proposed in the General Plan would ensure that increased demand associated with an increase in population would not significantly accelerate the deterioration of existing park areas or recreational facilities.

In addition, Policy ERC 2.2.3 identifies service level goals and Policy ERC 2.2.4 requires new residential development to dedicate land or payment of in-lieu fees for parks or recreation facilities. Therefore, new residential development, including the Proposed Project, would be required to ensure that adequate parkland is provided or applicable fees paid to the City to purchase additional park facilities. Policy ERC 2.4.1 also requires the City to maintain service levels to provide linear parks/parkways and trails/bikeways in accordance with PRMP adopted policies such 0.5 linear miles per 1,000 residents. The expansion, planning, development, and use of joint facilities are additional means to achieve required service levels and to offset needs of park and recreational facilities. The policies set forth in the 2030 General Plan are designed to ensure that future development within the Policy Area, including at the Downtown project site, would not create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.

Furthermore, the City of Sacramento Parks and Recreation Master Plan has been developed to ensure required service level ratios for parks and recreational facilities are met as population in the City increases. As described in the MEIR, cumulative impacts related to parks and recreational services are ***less than significant***.

Mitigation Measure

None required.

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4.10 Transportation

This section analyzes the potential impacts of the Proposed Project in relation to the surrounding transportation system including roadways, freeways, bicycle/pedestrian facilities, and transit facilities. This chapter identifies the significant impacts of the Proposed Project and recommends mitigation measures to lessen their significance. Calculations and additional technical information can be found in Appendix D of the Draft EIR.

Introduction

The City received a variety of transportation-related comments on the NOP. Many of these comments pertained to potential project effects on various intersections, freeways, and neighborhood streets. Comments also related to the potential impacts to bicycle and pedestrian facilities, parking, and overall circulation. Other comments related to transit system issues including ridership and station loading capacity (both light rail and bus service). Comments were made regarding effects of simultaneous special events occurring in downtown Sacramento and West Sacramento. To the extent these comments related to the project's potential effects on transportation, they are evaluated in this chapter.

This chapter relies on a variety of data sources and/or publicly available information to support the technical analysis. This information includes, but is not limited, to:

- Data from the 2030 City of Sacramento General Plan;
- Data from the Sacramento Area Council of Governments (SACOG) including travel model data from its 2035 MTP/SCS travel demand model;
- Data from The Sacramento Kings Organization on characteristics of the Entertainment and Sports Center (ESC) and Non-ESC land uses that comprise the project;
- Data from JMA Ventures on existing uses and occupancy levels at the Downtown Plaza uses;
- Travel behavior data collected in 2012 at Sacramento Kings games played at Sleep Train Arena in Natomas; and
- Data provided by public agencies including City of Sacramento, Caltrans, Sacramento Regional Transit (RT), and the Yolo County Transportation District (YCTD).

This study presents a comprehensive, multi-modal analysis of project impacts under existing and cumulative conditions for the following time periods and associated project/event scenarios:

- Weekday Morning (AM) Peak Hour – Non-ESC land uses and a 3,750-person civic event (e.g., convention, trade show, etc.) at the ESC;

- Weekday Evening (PM) Peak Hour – Non-ESC land uses and a 5,000-person family/special event (e.g., Disney on Ice, Graduation, etc.) at the ESC;

- Weekday Pre-Event Peak Hour – Non-ESC land uses and a 17,500-person Kings game (7 PM start) at the ESC; and

- Weekday Post-Event Peak Hour – Non-ESC land uses and a 17,500-person Kings game (7 PM start) at the ESC.

As indicated above, this study focuses on travel conditions during specific hours rather than average daily conditions. Analysis of facilities for daily conditions (other than for purposes of calculating daily vehicle miles of travel) could result in misleading conclusions because ESC events have specific "surges" in attendee arrival and departure travel patterns that would be masked if analyzed for daily conditions.

This study does not provide a quantitative analysis of weekend events because overall travel in Downtown Sacramento is lower on weekends compared to weekdays. Although concerts may occur at the ESC and could attract large crowds, this type of event is not studied because they begin later in the evening (i.e., lower background travel levels) than a basketball game. Data from concerts at other downtown arenas indicate that concert attendees are more likely to drive, have a substantially higher average auto occupancy rate, and are less likely to use transit than those attending NBA games. Available information also indicates that concerts that would be as large as sold out basketball games also are extremely infrequent, only occurring every few years.

Unlike transportation studies of more standard residential and non-residential land uses, the analysis of "plus project" conditions for a use like the proposed ESC necessarily relies on a number of unique estimates, approximations, and assumptions. To the extent possible, these inputs are based on empirical data and in all cases are considered reasonable and reliable in the professional judgment of the experts who prepared the technical analysis. The "Methodologies and Assumptions" discussion in Section 4.10.3 of this chapter describes these inputs and their data sources in detail. Where it was not possible to find comparable or empirical data to derive the inputs, reasonably conservative estimates were developed based on professional engineering judgment.

This study acknowledges the potential for ESC events to overlap/coincide with other community events such as a Sacramento River Cats baseball game, Old Sacramento events, and/or a Midtown event. The potential for an overlapping event in which the Kings and River Cats both play regular season games exists only in the month of April. In April 2014, two such overlapping events will occur. On April 13th and 16th, the River Cats play a day game (starting at 12:05 PM), and the Kings play a night game (starting at 7:00 PM). So even though both events will occur on the same day, one event will have ended well in advance of the second event starting. The potential for overlapping events also exists in late April or May should the Kings make the playoffs.

Major events in Old Sacramento occur during weekdays, weekends, and holidays. Midtown Sacramento hosts a "Second Saturday" evening art/entertainment event on the second Saturday of

each month. During the 2013-2014 basketball regular season, this event will overlap with one Kings home Saturday game. Due to the infrequent nature of such overlapping events, they are not analyzed in this study.

4.10.1 Environmental Setting

This section describes the environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. This section describes the existing condition of the roadway, bicycle, pedestrian, and transit networks. However, first a general assessment of travel conditions in downtown Sacramento is presented.

Travel Behavior

Travel in downtown Sacramento may be accomplished by a variety of travel modes including: auto, bus, light rail, heavy rail (Capitol Corridor), bicycling, and walking.

According to the Pre-Census Travel Behavior Report Analysis of the SACOG 2000 Household Travel Survey, non-work trips with destinations in downtown Sacramento had a walk share of 17 percent, a transit share of 3 percent, and a bike share of 1.8 percent.[1] Although the 2010 Census has been released, detailed data regarding mode share are not yet available at a regional level.

According to the 2000 Census, 62 percent of people working within the City of Sacramento lived outside the City Limits. Exhibit 3-19 in Chapter 3 of the Highway Capacity Manual displays the transit share of downtown commuters for several large metropolitan areas.[2] These data, derived from Commuting in America III adapted from Commuting to Downtown in America: Census 2000 report to the Transportation Research Board Subcommittee on Census Data for Transportation Planning 2005, show 12.3 percent of downtown commuters to Sacramento chose transit.[3]

Roadway Network

The roadway network includes local streets and intersections, plus State and federal highways and freeways.

Study Area

An extensive study area was developed based on collaboration between the EIR consultants, City of Sacramento staff, and input from NOP comment letters. The following factors were considered when developing the study area: project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes to/from downtown, anticipated parking locations, and other considerations.

1 Sacramento Area Council of Governments, 2001. *Pre-Census Travel Behavior Report Analysis of the SACOG 2000 Household Travel Survey*. July 25, 2001. Table A27.
2 Transportation Research Board, 2010. *Highway Capacity Manual*. December 2010. pp. 3-26.
3 Transportation Research Board, 2006. *Commuting in America III, The Third Report on Commuting Patterns and Trends.* p. 94.

Figure 4.10-1 displays the 52 intersections selected for analysis. Most are located within several blocks of the Downtown project site. However, study locations also radiate outward along travel corridors expected to be used to a significant degree by people traveling to/ from the Proposed Project (e.g., Tower Bridge). This list evolved over time in response to new data becoming available.

For instance, because preliminary "plus project" forecasts showed significant increases in traffic to/from SR 160, the SR 160/Richards Boulevard intersection (#52) was added.

The study area also includes the Interstate 5 (I-5) freeway between its system interchanges with US 50/Business 80 on the south and I-80 on the north. This four-mile freeway segment consists of numerous on/off ramps and "weaving" sections that result in 18 different analysis locations. In addition, the segment of SR 160 east of the American River was also studied.

Analysis Periods

This study evaluates the following analysis periods:

- Weekday AM Peak Hour – this occurred from 7:45 to 8:45 AM at the vast majority of study intersections.

- Weekday PM Peak Hour – this occurred from 4:45 to 5:45 PM at the majority of study intersections.

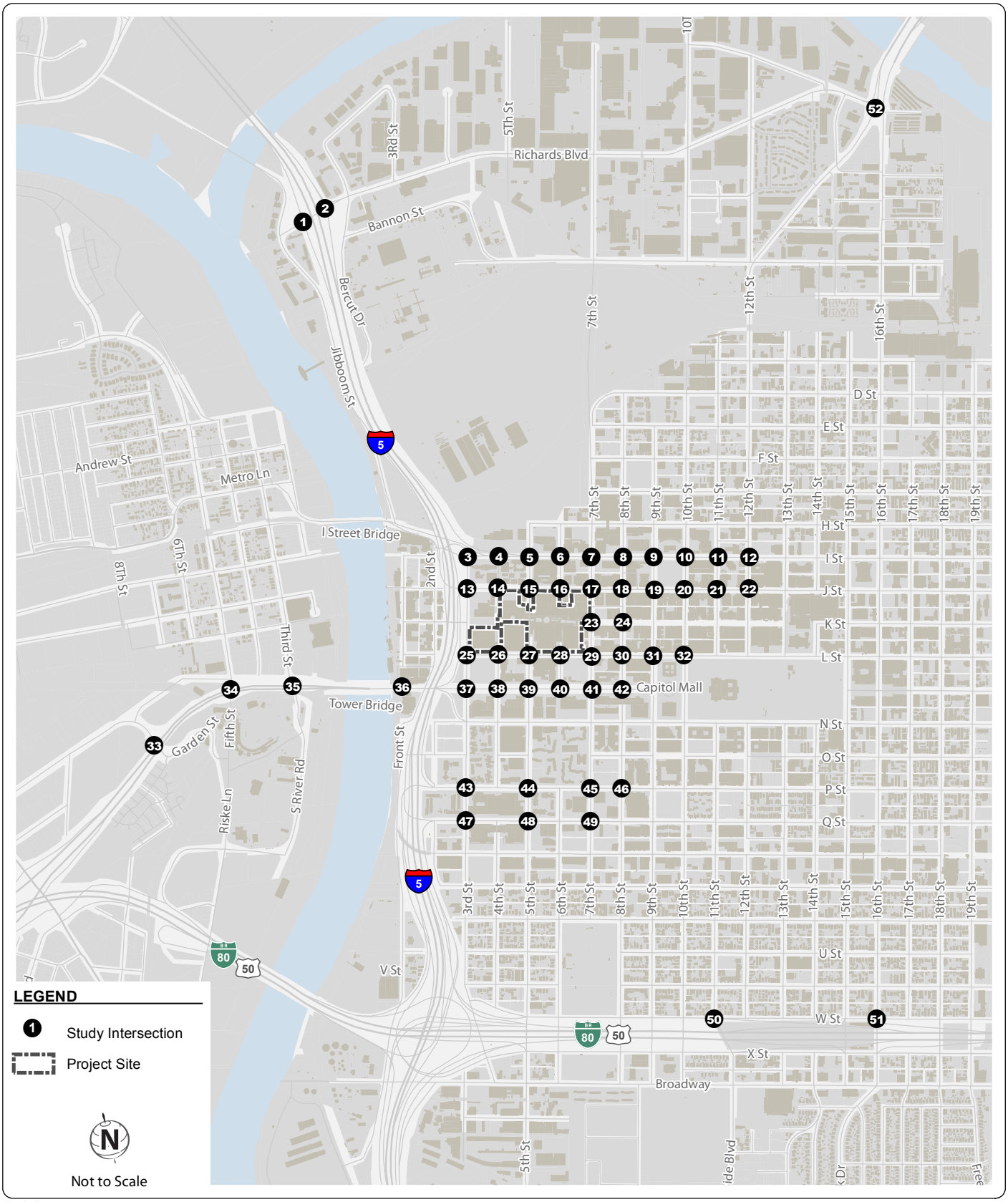
- Weekday Pre-Event (6-7 PM) Peak Hour – This hour was selected because studies (including counts at a Sacramento Kings game at Sleep Train Arena) have shown that the busiest pre-event hourly arrival occurs during the one-hour prior to the event start.

- Weekday Post-Event (9:30-10:30 PM) Peak Hour – This analysis period corresponds to the approximate one-hour in time after a Kings game ends at approximately 9:30 PM.

Surface Street System

Figure 4.10-2 displays the roadway network in the immediate project vicinity including the number and directionality of travel lanes and presence of traffic signals. As shown, many of the facilities heading toward and away from the site are one-way streets consisting of three or more lanes. A number of two-way streets also exist.

In urban environments such as the study area, roadway capacity is governed by the operations of intersections. For this reason and because roadway segments were included in the traffic analysis for the 2030 General Plan, the City of Sacramento determines impacts on the roadway system based upon the operations of intersections.



12/6/2013

Study Intersections

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FIGURE 4.10-1

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LEGEND

- Travel Lane (Represents Mid-Block Cross-Section)
- Traffic Signal
- Project Site

Not to Scale

12/6/2013

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Existing Roadway Network

FIGURE 4.10-2

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Truck Routes

All federal and State highways within the City of Sacramento have been designated as truck routes by Caltrans and are included in the National Network for Service Transportation Assistance Act (STAA) of 1982. Within the study area, segments of J Street, I Street, and 5th Street are considered truck routes. Richards Boulevard between I-5 and SR 160 is an STAA route.

Data Collection

Traffic counts were collected at the majority of the study intersections in May 2013. At some locations during the AM peak hour, counts taken in 2011 were used. During the counts, weather conditions were dry, and no unusual traffic patterns were observed. Traffic counts on I-5 were collected from the Caltrans PeMS database. The traffic data collection also included bicycles and pedestrians as described later in this chapter.

Intersections

Each study intersection was analyzed using the concept of Level of Service (LOS). LOS is a qualitative measure of traffic operating conditions whereby a letter grade from A to F is assigned based on the average delay per vehicle. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. Table 4.10-1 displays the delay range associated with each LOS category for signalized and unsignalized intersections.

TABLE 4.10-1
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersections	Unsignalized Intersections
A	0 – 10.0 secs/veh	0 – 10.0 secs/veh
B	10.1 – 20.0 secs/veh	10.1 – 15.0 secs/veh
C	20.1 – 35.0 secs/veh	15.1 – 25.0 secs/veh
D	35.1 – 55.0 secs/veh	25.1 – 35.0 secs/veh
E	55.1 – 80.0 secs/veh	35.1 – 50.0 secs/veh
F	> 80.0 secs/veh	> 50.0 secs/veh

NOTES: Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay.

SOURCE: Transportation Research Board, 2000. *Highway Capacity Manual.* pp. 16-2, 17-2.

A SimTraffic micro-simulation model was developed for the study intersections located in the vicinity of the Downtown Project site (i.e., bounded by I-5, L Street, I Street, and 8th Street). The use of SimTraffic at these locations is appropriate given the coordinated signal timing plans, spacing of signalized intersections, and levels of traffic in the corridor. Its use for "plus project" conditions is particularly important given the expected amount of project-added trips and the effects of large numbers of pedestrian crossings. Per standard practice, ten SimTraffic runs were conducted with the results averaged to yield the reported condition. SimTraffic provides outputs consistent with the Highway Capacity Manual (HCM). Per City of Sacramento Traffic Impact Study

guidelines, a peak hour factor of 1.0 was used. The study intersections outside this area listed above were less likely to be affected by these conditions. Therefore, they were analyzed using the Synchro (version 7) software program, which is consistent with HCM procedures.

The "plus project" scenarios include 95th percentile vehicle queues (both under no project and with project conditions) on the off-ramps at Caltrans' ramp terminal intersections under study.

Figures 4.10-3a, 3b, and 3c display the existing AM, PM, and pre-event peak hour traffic volumes, traffic controls, and lane configurations at the study intersections.

Table 4.10-2 displays the LOS and average delay at each study intersection for each peak hour.

As shown, all study intersections currently operate at LOS C or better with the exception of the following four locations, which operate at LOS D, E, or F:

- J Street/3rd Street/I-5 Off-ramps – LOS F during the AM peak hour and LOS E during the PM peak hour
- L Street/3rd Street – LOS D during the PM peak hour
- Tower Bridge Gateway/5th Street – LOS D during the PM peak hour
- Richards Boulevard/16th Street – LOS E during the AM peak hour

The two intersections that operate at LOS E or F are key "gateway" intersections into Downtown Sacramento. Given their importance and current operational performance, they are described in detail below.

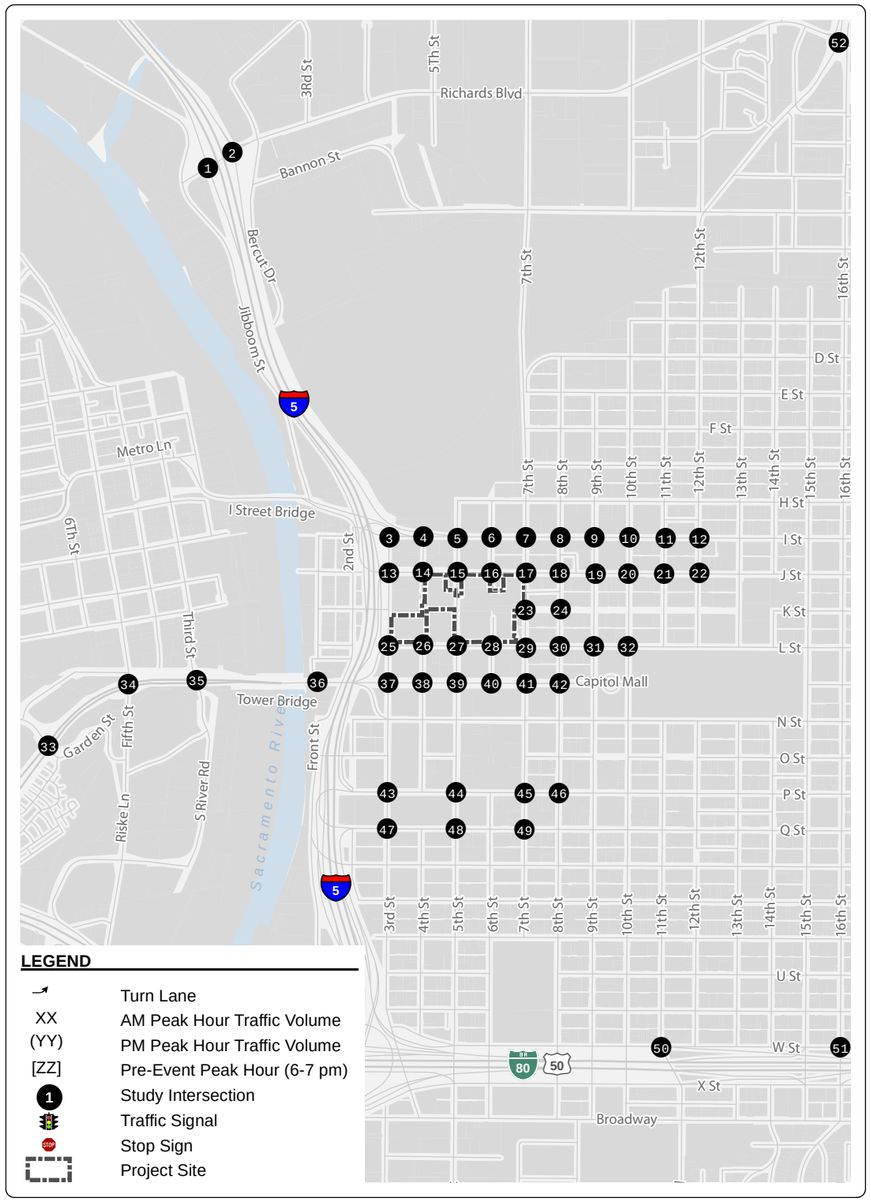
J Street/3rd Street/I-5 Off-Ramps Intersection

The J Street Southbound I-5 off-ramp and Northbound I-5 off-ramp intersect at this location, forming a large, complex intersection. It operates as a three-phase signalized intersection. During the AM peak hour, it operates in coordination with the downstream signalized intersections on J Street. During the PM and pre-event peak hours, it operates independently from downstream J Street signals.

During the AM peak hour, LOS F results due to heavy I-5 southbound off-ramp (1,940 vehicles in four lanes) and I-5 northbound off-ramp (1,918 vehicles in three lanes) traffic. Capacity is also affected by shared through/right lanes on both off-ramp approaches and (necessary) right-turn-on-red prohibitions.

Richards Boulevard/16th Street/SR 160 Intersection

During the AM peak hour, average delay is at 58 seconds per vehicle with the heavy westbound approach flow (approximately 3,200 vehicles) contributing to the delay. The intersection operates with five signal phases and is bisected by an at-grade light rail transit line. During train crossings (eight per hour during peak periods), crossing arms are activated and the traffic signal system is pre-empted to accommodate trains.



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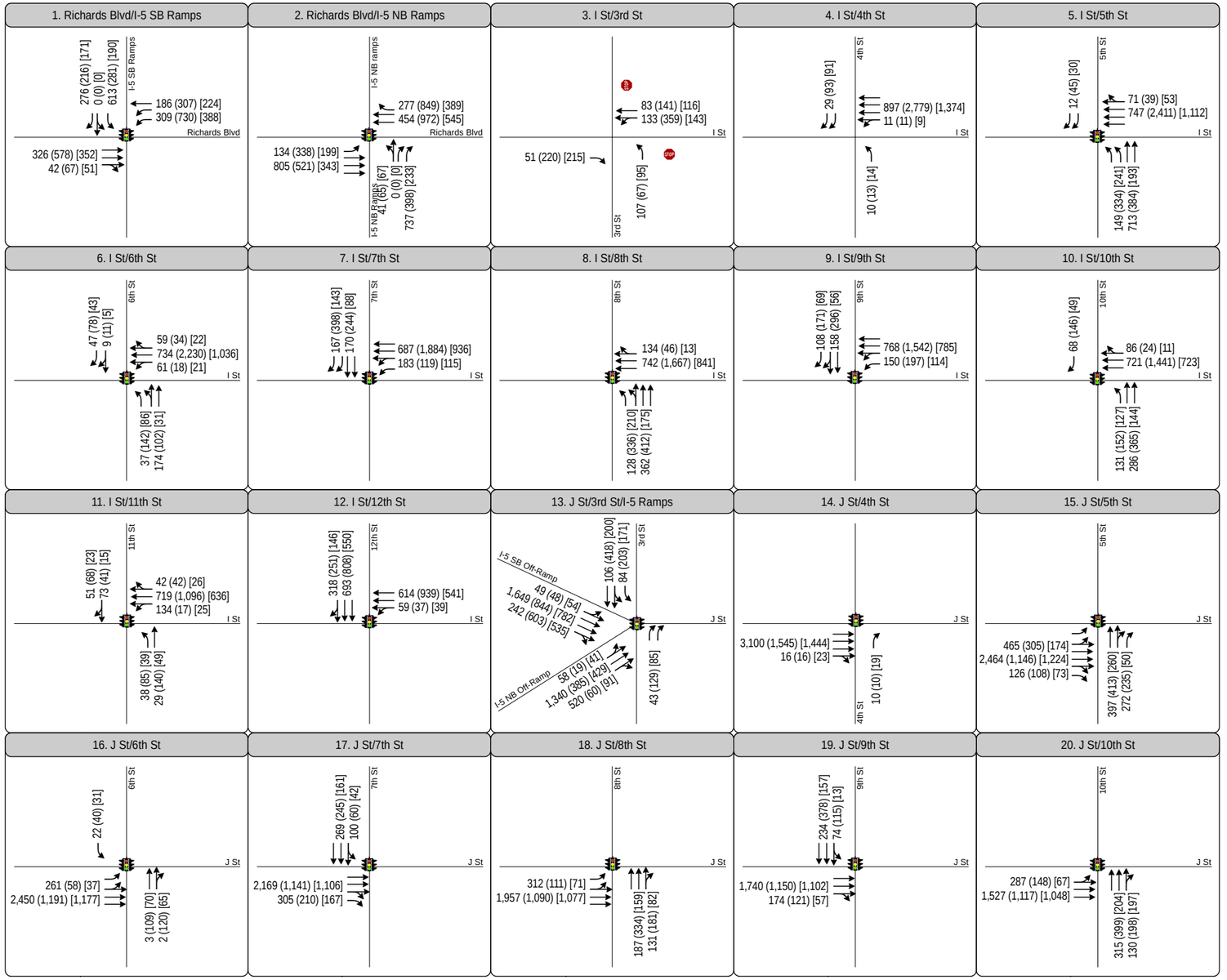

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

FIGURE 4.10-3A

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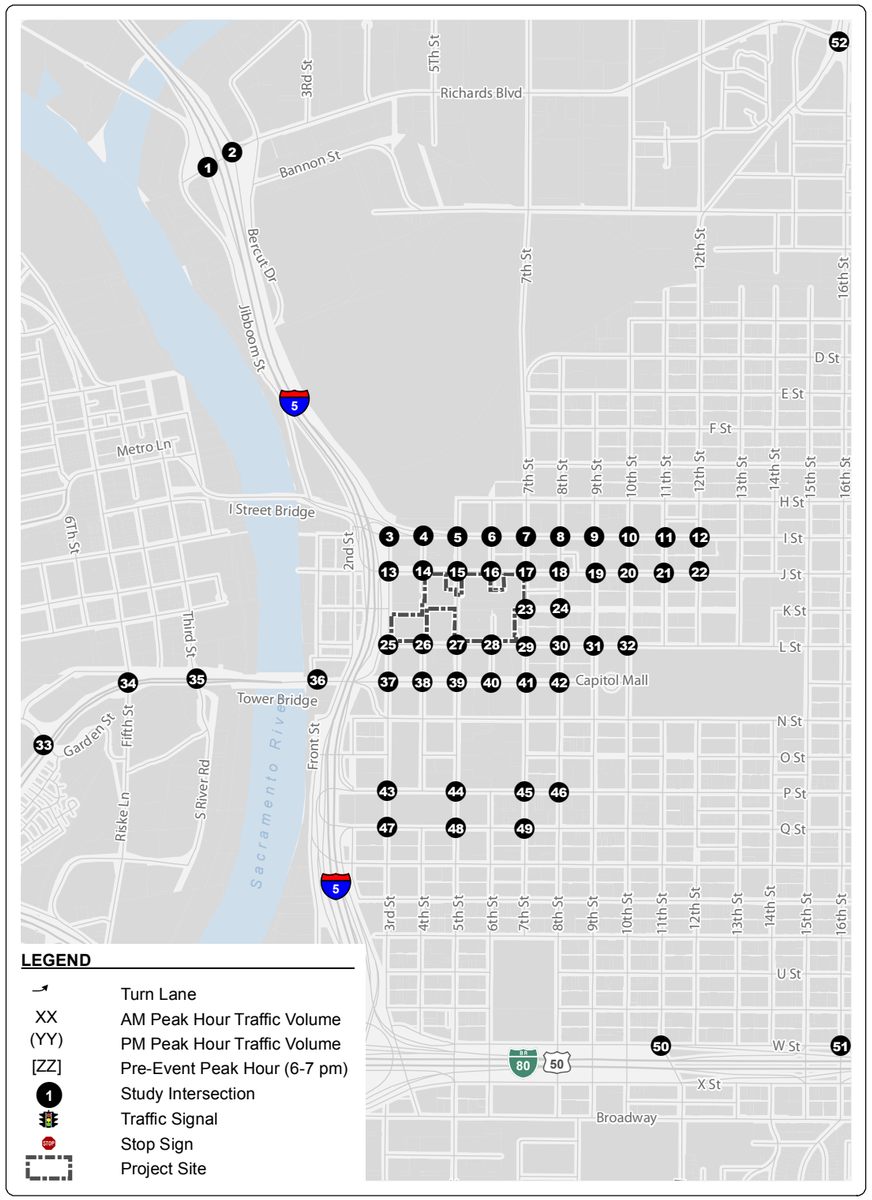
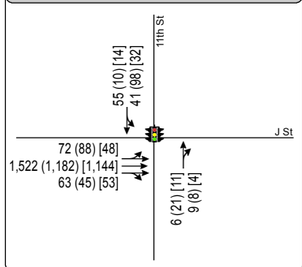


LEGEND

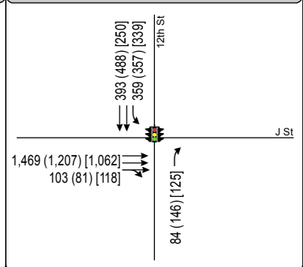
	Turn Lane
XX	AM Peak Hour Traffic Volume
(YY)	PM Peak Hour Traffic Volume
[ZZ]	Pre-Event Peak Hour (6-7 pm)
1	Study Intersection
	Traffic Signal
	Stop Sign
	Project Site

12/6/2013

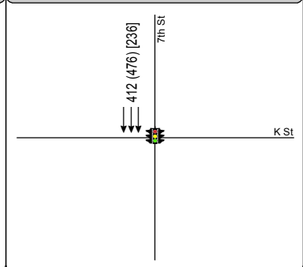
21. J St/11th St



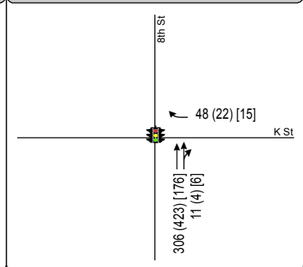
22. J St/12th St



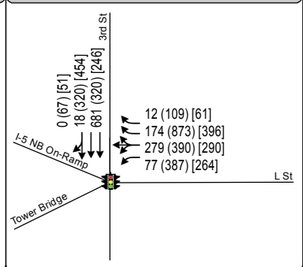
23. K St/7th St



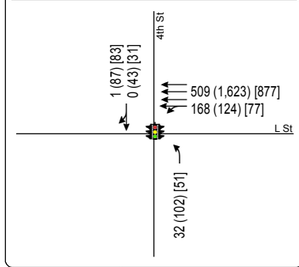
24. K St/8th St



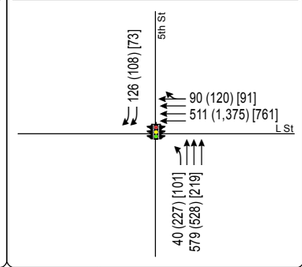
25. L St/3rd St



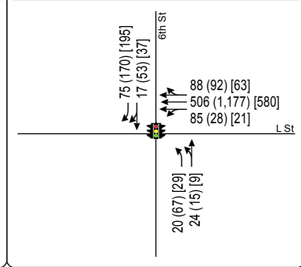
26. L St/4th St



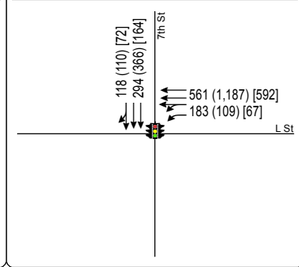
27. L St/5th St



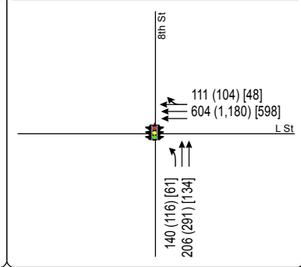
28. L St/6th St



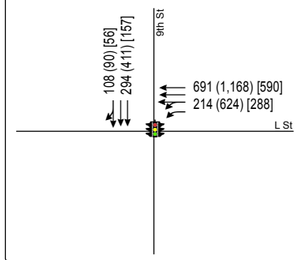
29. L St/7th St



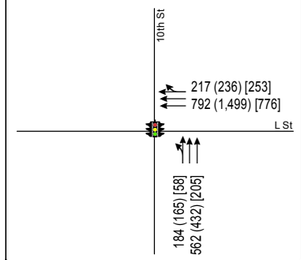
30. L St/8th St



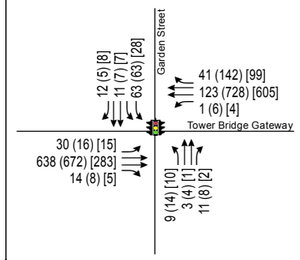
31. L St/9th St



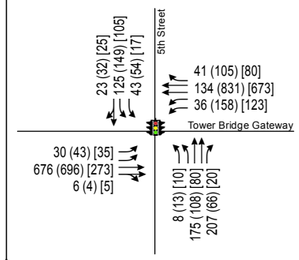
32. L St/10th St



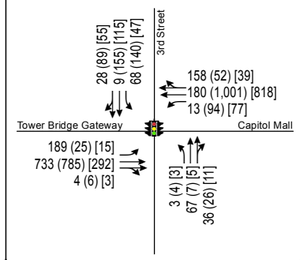
33. Tower Bridge Gateway/Garden St



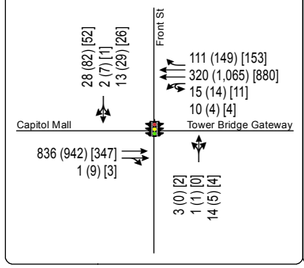
34. Tower Bridge Gateway/Fifth St



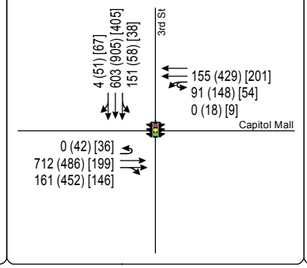
35. Tower Bridge Gateway/Third St



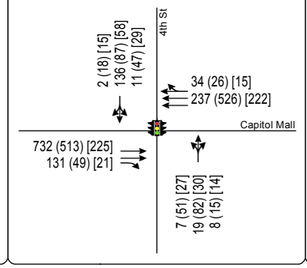
36. Capitol Mall/Neasham Cir



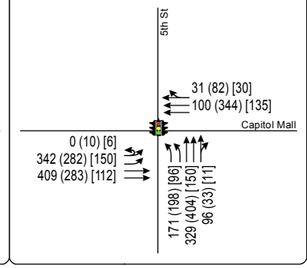
37. Capitol Mall/3rd St



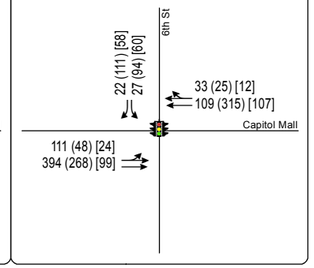
38. Capitol Mall/4th St



39. Capitol Mall/5th St



40. Capitol Mall/6th St



Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

FIGURE 4.10-3B

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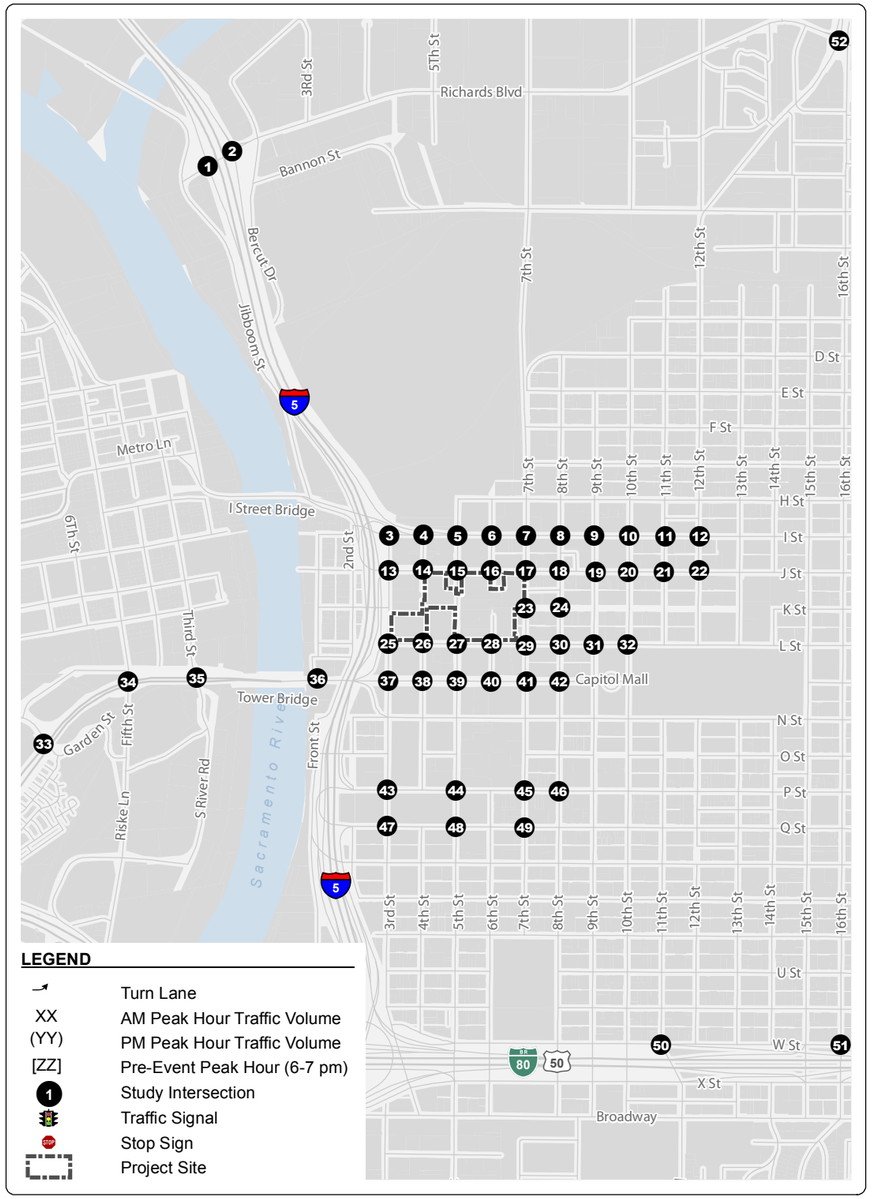
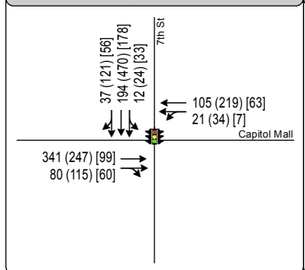


LEGEND

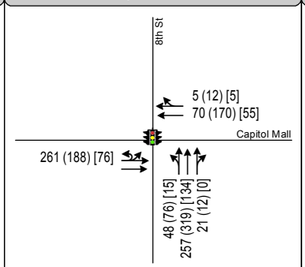
→	Turn Lane
XX	AM Peak Hour Traffic Volume
(YY)	PM Peak Hour Traffic Volume
[ZZ]	Pre-Event Peak Hour (6-7 pm)
1	Study Intersection
	Traffic Signal
STOP	Stop Sign
	Project Site

12/6/2013

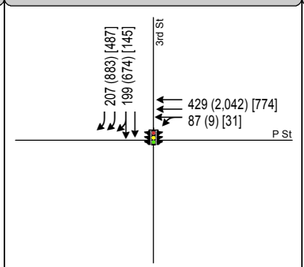
41. Capitol Mall/7th St



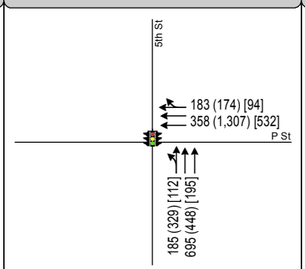
42. Capitol Mall/8th St



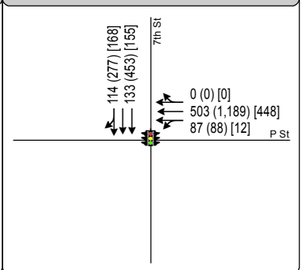
43. P St/3rd St



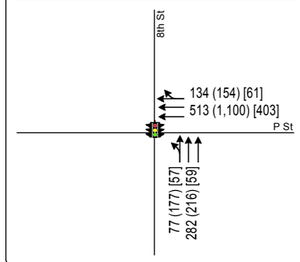
44. P St/5th St



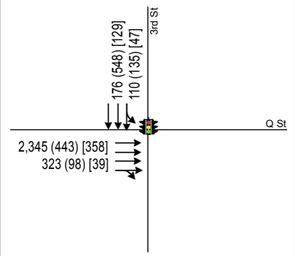
45. P St/7th St



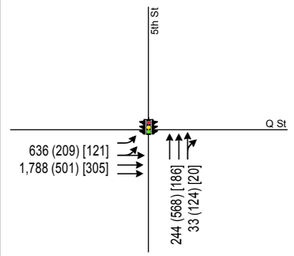
46. P St/8th St



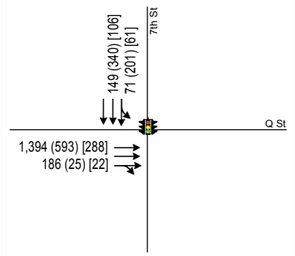
47. Q St/3rd St



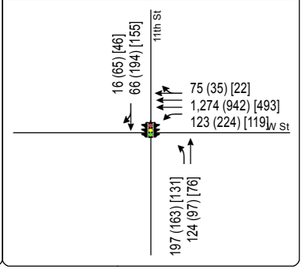
48. Q St/5th St



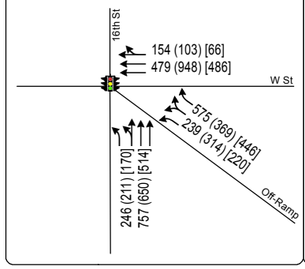
49. Q St/7th St



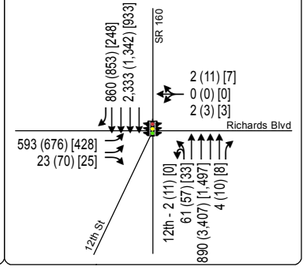
50. W St/11th St



51. W St/16th St



52. SR 160/Richards Blvd



Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

FIGURE 4.10-3C

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TABLE 4.10-2
INTERSECTION OPERATIONS – EXISTING CONDITIONS

Intersection		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS
1.	Richards Blvd/I-5 SB Ramps	22.2	C	22.7	C	20.9	C
2.	Richards Blvd/I-5 NB Ramps	16.9	B	20.2	C	15.6	B
3.	I St/3rd St	5.3	A	6.9	A	4.7	A
4.	I St/4th St	14.4	B	12.5	B	16.2	B
5.	I St/5th St	5.9	A	11.7	B	5.4	A
6.	I St/6th St	11.6	B	14.2	B	5.8	A
7.	I St/7th St	14.7	B	26.3	C	18.9	B
8.	I St/8th St	5.4	A	29.1	C	11.8	B
9.	I St/9th St	21.6	C	16.6	B	5.3	A
10.	I St/10th St	7.5	A	16.3	B	8.3	A
11.	I St/11th St	8.9	A	8.4	A	7.2	A
12.	I St/12th St	15.0	B	15.5	B	12.1	B
13.	J St/3rd St/I-5 Off-Ramps	74.8	E	55.7	E	31.2	C
14.	J St/4th St	9.5	A	18.6	B	16.6	B
15.	J St/5th St	13.3	B	8	A	5.9	A
16.	J St/6th St	6.4	A	9.7	A	8.9	A
17.	J St/7th St	11.2	B	6.3	A	4.5	A
18.	J St/8th St	21.6	C	3.8	A	3.0	A
19.	J St/9th St	17.8	B	9.0	A	6.0	A
20.	J St/10th St	6.2	A	19.4	B	21.9	C
21.	J St/11th St	14.0	B	3.5	A	2.6	A
22.	J St/12th St	18.6	B	15.6	B	17.7	B
23.	K St/7th St	6.8	A	6.7	A	3.7	A
24.	K St/8th St	15.5	B	15.0	B	12.5	B
25.	L St/3rd St	12.6	B	36.6	D	29.7	C
26.	L St/4th St	4.6	A	11.7	B	6.5	A
27.	L St/5th St	11.6	B	17.2	B	11.9	B
28.	L St/6th St	10.2	B	13.8	B	9.7	A
29.	L St/7th St	13.8	B	13.1	B	11.9	B
30.	L St/8th St	9.7	A	12.3	B	10.2	B
31.	L St/9th St	13.3	B	25.5	C	14.5	B
32.	L St/10th St	10.1	B	11.5	B	8.6	A
33.	Tower Bridge Gateway/W Capitol Ave	13.9	B	15.6	B	13.8	B
34.	Tower Bridge Gateway/5th St	33.5	C	36.8	D	29.9	C
35.	Tower Bridge Gateway/3rd St	16.9	B	19.4	B	13.9	B
36.	Capitol Mall/Neasham Circle	5.2	A	5.3	A	3.5	A
37.	Capitol Mall/3rd St	26.3	C	28.0	C	22.7	C
38.	Capitol Mall/4th St	12.7	B	8.9	A	9.1	A
39.	Capitol Mall/5th St	13.7	B	15.5	B	14.2	B
40.	Capitol Mall/6th St	11.8	B	22.2	C	14.7	B

TABLE 4.10-2 (Continued)
INTERSECTION OPERATIONS – EXISTING CONDITIONS

Intersection		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS
41.	Capitol Mall/7th St	20.2	C	21.2	C	18.4	B
42.	Capitol Mall/8th St	22.2	C	20.9	C	19.9	B
43.	P St/3rd St	8.5	A	24.2	C	7.3	A
44.	P St/5th St	9.0	A	8.5	A	8.2	A
45.	P St/7th St	4.8	A	6.0	A	5.3	A
46.	P St/8th St	11.5	B	14.7	B	11.1	B
47.	Q St/3rd St	10.6	B	3.0	A	6.1	A
48.	Q St/5th St	7.5	A	9.5	A	6.4	A
49.	Q St/7th St	14.4	B	8.5	A	10.1	B
50.	W St/11th St	23.2	C	17.8	B	12.5	B
51.	W St/16th St	23.7	C	28.1	C	25.5	C
52.	Richards Blvd/16th St/SR 160	57.5	E	27.8	C	17.1	B

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. For side-street stop controlled intersections, LOS and average delay for the movement with the most delay are reported in parentheses along with the overall intersection delay.

Freeways

Freeway facilities were analyzed using procedures described in the Highway Capacity Manual.[4] In accordance with Caltrans policies, weave segments were analyzed using the Leisch method, which is described in the latest edition of the Highway Design Manual.[5] Table 4.10-3 displays the density range associated with each LOS category for mainline segments and ramp merge/diverge movements. The Leisch method only reports LOS.

Traffic data for the I-5 mainline was collected from the Caltrans' PeMS database. AM and PM peak hour data was collected in May 2013. The pre-event peak hour data was chosen so as to include a Kings game at Sleep Train Arena (i.e., data were pulled for the 6-7 PM peak hour on November 12, 2012 when the Kings played a home game with reported attendance of 16,000). As described later in this section, it was necessary to include trips associated with this activity for the purposes of the "plus project" analysis.

4 Transportation Research Board, 2010. *Highway Capacity Manual*. December 2010.
5 Caltrans, 2012. *Highway Design Manual.* May 7, 2012. pp. 500-38 - 500-41.

TABLE 4.10-3
FREEWAY LEVEL OF SERVICE DEFINITIONS

Level of Service	Mainline (Density) [1]	Ramp Junctions (Density) [1]
A	≤ 11	≤ 10
B	> 11 to 18	> 10 to 20
C	> 18 to 26	> 20 to 28
D	> 26 to 35	> 28 to 35
E	> 35 to 45	> 35
F	> 45 or Demand exceeds capacity [2]	Demand exceeds capacity [2]

1. Density expressed in passenger car equivalents per hour per mile per lane.
2. Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.

SOURCE: Transportation Research Board, 2010. *Highway Capacity Manual*. December 2010. Exhibits 11-5 and 13-2.

On-ramp and off-ramp volumes were collected based on the peak hour intersection turning movement counts and other available count data. Similarly, volumes on the SR 160 mainline crossing of the American River were derived from the counts at the adjacent Richards Boulevard/16th Street/SR 160 intersection.

Table 4.10-4 displays the existing peak hour operations on the study freeway facilities. As shown, a number of study freeway facilities currently operate at LOS E or F during one or more peak hours. Operations at the following facilities are particularly notable given that the project may add (or reduce) traffic to these facilities during these peak hours.

Traffic operations results presented in Table 4.10-4 on I-5 between I Street/J Street and Garden Highway are consistent, both in terms of methodology and results, with the existing conditions analysis for the Revised Final Traffic Report for the Interstate 5/Richards Boulevard Interchange Project Study Report.[6]

AM Peak Hour

- I-5 northbound weave segment from P Street to J Street – LOS F
- I-5 southbound weave segment from Garden Highway to Richards Blvd. – LOS E

PM Peak Hour

- I-5 northbound weave segments from I Street to West El Camino Avenue – LOS E or F

Pre-Event Peak Hour

- I-5 northbound weave segments from Richards Blvd. to West El Camino Ave. – LOS E (operations are due, in part, to traffic traveling to existing Kings game at Sleep Train Arena)

6 Fehr & Peers, 2010. *Revised Final Traffic Report for the Interstate 5/Richards Boulevard Interchange Project Study Report*. April 2010. pp. 8 – 12.

TABLE 4.10-4
FREEWAY OPERATIONS – EXISTING CONDITIONS

Freeway Facility	Type	AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
1. I-5 Northbound – Off-ramp to Business 80/US-50	Major Diverge	-	F	18.5	B	19.8	B
2. I-5 Northbound – Off-ramp to Q Street	Diverge	24.9	C	10.5	B	14.5	B
3. I-5 Northbound – on-ramp from EB Business 80/US-50 connector	Merge	28.4	D	18.6	B	22.1	C
4. I-5 Northbound – on-ramp from WB Business 80/US-50 connector	Major Merge	37.4	E	24.9	C	25.3	C
5. I-5 Northbound – P street on-ramp to J Street off-ramp	Weave	-	F	-	D	-	D
6. I-5 Northbound – On-ramp from L Street	Merge	25.5	C	32.6	D	27.7	C
7. I-5 Northbound – I street on-ramp to Richards Boulevard off-ramp	Weave / Basic[2]	-	C	-	E	26.5	D
8. I-5 Northbound – Richards Boulevard on-ramp to Garden Hwy. off-ramp	Weave	-	C	-	F	-	E
9. I-5 Northbound –Garden Hwy. on-ramp to West El Camino off-ramp	Weave	-	C	-	F	-	E
10. I-5 Northbound – Off-ramp to I-80	Major Diverge	18.6	B	31.2	D	25.3	C
11. I-5 Southbound – On-ramp from I-80	Major Merge	24.2	C	18.3	C	13.0	B
12. I-5 Southbound – On-ramp from WB West El Camino	Merge	27.2	C	21.7	C	17.3	B
13. I-5 Southbound – Off-ramp to Garden Highway	Diverge	27.4	C	21.4	C	15.1	B
14. I-5 Southbound – Garden Hwy. on-ramp to Richards Blvd. off-ramp	Weave / Basic[2]	-	E	-	C	15.5	B
15. I-5 Southbound – Richards Blvd. on-ramp to J Street off-ramp	Weave	-	D	-	D	-	B
16. I-5 Southbound – On-ramp from I Street	Merge	25.8	C	32.4	D	22.9	C
17. I-5 Southbound – Off-ramp to Q Street	Diverge	29.0	D	27.5	C	21.2	C
18. I-5 Southbound – Off-ramp to Business 80/US-50	Major Diverge	20.2	C	26.0	C	17.3	B
19. Eastbound SR 160 – Richards Boulevard to Del Paso Blvd.	Mainline	9.8	A	26.7	D	14.8	B
20. Westbound SR 160 – Del Paso Boulevard to Richards Boulevard	Mainline	23.3	C	14.1	B	9.4	A

1. Density measured in passenger car equivalents per lane per mile. Density not calculated for weaving segments.
2. Under the Pre-Event scenario, ramp volumes are too low to constitute the segment as a weave. Therefore, the segment is analyzed as a basic segment.

Note: Segments 11 – 15 (i.e., Southbound I-5 from I-80 to J Street) are reported at LOS C, D or E during the AM peak hour based on HCM procedures. However, field observations indicate that queuing from the J Street off-ramp causes mainline slowing, which is not considered by HCM methods. Similarly, Segments 3 – 6 (i.e., Northbound I-5 from Business 80/US 50 to J Street) are reported at LOS C or D during the PM peak hour. Field observations indicate that downstream bottlenecks cause slowing in these segments, which is not considered by HCM methods. Thus, actual operations in these segments may be worse than reported above.

Bicycle Network

The following types of bicycle facilities exist within the City of Sacramento:

- Multi-use paths (Class I) – are paved trails that are separated from roadways, and allow for shared use by both cyclists and pedestrians.
- On-street bike lanes (Class II) – are designated for use by bicycles by striping, pavement legends, and signs.
- On-street bike routes (Class III) – are designated by signage for shared bicycle use with vehicles but do not necessarily include any additional pavement width.

Figure 4.10-4 displays existing bicycle facilities within the study area bounded by the Sacramento River, I Street, 16th Street, and Q Street. As shown, Class II bike lanes are present on a variety of roadways within the study area. In addition, the Sacramento River Parkway Bike Trail (Class I path) extends southwesterly from Discovery Park into Old Sacramento. A multi-use path extends under I-5 to connect Old Sacramento and the Downtown project site.

Traffic counts on streets along the project frontage included bicycle observations. I Street at 6th Street carried 10 AM peak hour bicyclists, and 27 PM peak hour bicyclists. J Street at 6th Street carried 6 AM peak hour bicyclists, and 20 PM peak hour bicyclists. L Street at 6th Street carried 11 AM peak hour bicyclists, and 17 PM peak hour bicyclists. Finally, 7th Street approaching L Street carried 11 AM peak hour bicyclists, and 20 PM peak hour bicyclists.

Pedestrian Network

Figure 4.10-5 displays existing pedestrian facilities within the project vicinity. Sidewalks are present on the majority of streets within the project vicinity. Crosswalks are present at most signalized study intersections. A pedestrian/bike undercrossing is present under I-5 to connect Old Sacramento with the Downtown project site.

Table 4.10-5 displays the existing peak hour pedestrian volumes observed along the project frontage. At nearly all locations, the PM peak hour pedestrian volumes were greater than either the AM peak hour or Pre-Event peak hour pedestrian volumes.

TABLE 4.10-5
PEDESTRIAN VOLUMES AT PROJECT SITE – EXISTING CONDITIONS

Segment	Direction	AM Peak Hour	PM Peak Hour	Pre-Event Peak Hour
South side of J Street between 6th and 7th St.	Eastbound Westbound	69 22	61 56	54 30
West side of 7th Street between J and K Streets	Northbound Southbound	33 69	125 82	72 73
7th Street crosswalk at K Street	Eastbound Westbound	85 88	237 255	153 128
West side of 7th Street between K and L Streets	Northbound Southbound	54 54	78 61	39 47
North side of L Street between 6th and 7th St.	Eastbound Westbound	24 47	39 88	22 39

Counts conducted on Tuesday, 7/23/13.

AM and PM peak hour pedestrian volumes represent busiest 60 minute flows during each peak period. Pre-Event peak hour occurs from 6 to 7 PM.

SOURCE: Fehr & Peers, 2013.

The following photos illustrate typical crosswalk and sidewalks in the site vicinity.

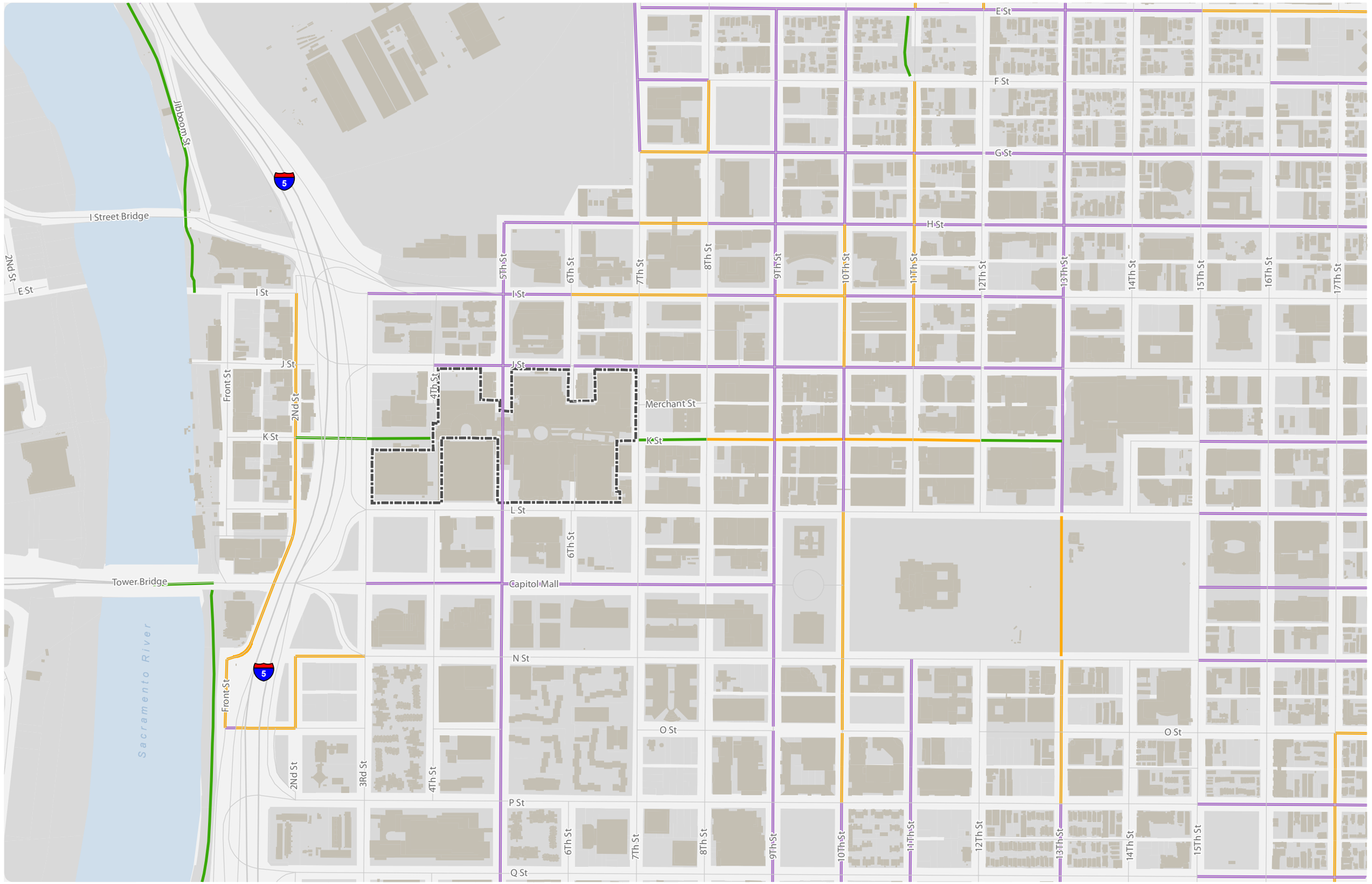
L **Street crosswalk at 7th Street**

7th Street sidewalk north of L Street.

Transit Network

The study area has a variety of transit services available including light rail service and bus service provided by Sacramento Regional Transit District (RT), as well bus services operated by other transit providers in the Sacramento region.

The Capitol Corridor services downtown Sacramento from the new Intermodal Terminal station located north of I Street. It operates between Auburn and the Bay Area. Currently, the latest eastbound and westbound trains depart the Intermodal Terminal Station at 9:10 PM on weekdays. This means that current service would not enable an ESC patron to stay for an entire basketball game (which ends at about 9:30 PM) while catching the train home.



LEGEND

Existing Bike Facilities

- Class 1 Bike Path
- Class 2 Bike Lane
- Class 3 Bike Route
- Project Site

Not to Scale

12/6/2013

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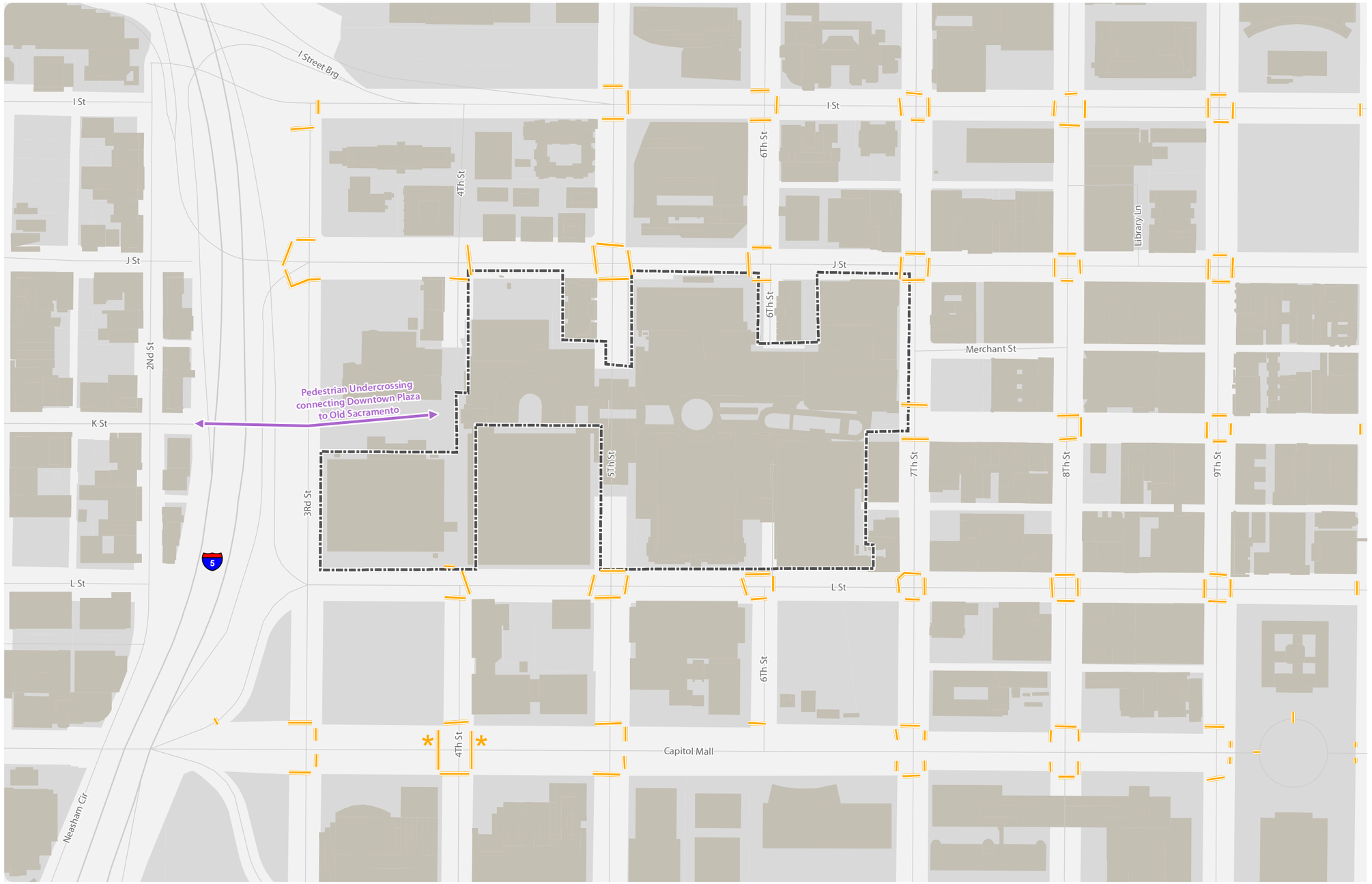
Existing Bicycle Network

FIGURE 4.10-4



LEGEND

- Crosswalk
- * Crossing features pedestrian signal heads, but not striped crosswalk.
- Project Site

Note:
Sidewalks exist along the majority of streets in the area.

N

Not to Scale

12/6/2013

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Existing Pedestrian Network

FIGURE 4.10-5

Transit service within the study area is too plentiful to list on a route-by-route basis. Instead, this information is illustrated on several exhibits. Figure 4.10-6 displays the light rail transit (LRT) routes and stops within the project vicinity. The following LRT stations are most likely to be used by LRT riders to access the Downtown project site:

- Blue Line North (to/from I-80/Watt)
    - Inbound: 7th/K transit station
    - Outbound: 9th/K transit station
- Blue Line South (to/from Meadowview)
    - Inbound: 8th/Capitol and 9th/K transit stations
    - Outbound: 7th/K and 7th/Capitol transit stations
- Gold Line (to/from Folsom)
    - Inbound: 8th/Capitol and 8th/K transit stations
    - Outbound: 7th/I, 7th/K and 7th/Capitol transit stations

The Green line also runs along 7th and 8th Streets with stops at 7th/Capitol, 7th/K, 8th/K, and 8th/Capitol. However, its relatively short line length (operates from Richards/7th to 13th Street) suggests it would not be used as frequently by the Proposed Project as the other lines. The Green Line only operates Monday through Friday with limited service hours.

Following is an overview of the frequency and capacity of LRT service:

- During the AM and PM peak hours, RT operates light rail trains with peak transit service, which consists of four-car trains on the Gold and Blue lines on 15-minute headways.
- During the pre-event peak hour, four inbound trains operate on the Gold and Blue (northbound) lines and three inbound trains operate on the Blue (southbound line) on 15-minute headways.
- During the Post-Event peak hour, RT operates under off-peak conditions, which consist of two-car light rail trains on 30-minute headways.
- The Blue and Gold lines operate with 30-minute headways and two-car trains on Saturdays and Sundays with the last trip leaving the project site between 9 PM and midnight depending on the day of the week and travel direction.

RT provided LRT average ridership for the Gold and Blue lines from September 2012 through March 2013. These data were used to identify each line's demand, both at the project site and along the busiest segment (i.e., maximum load point) along the line. Table 4.10-6 shows these data including number of riders, percentage of seats that are occupied, and overall system capacity for the AM (inbound), PM (outbound), pre-event (inbound), and post-event (outbound) peak hours.

Key findings from Table 4.10-6 include:

- The Gold line (inbound AM and outbound PM) between the 29th and 39th Street stations experiences the largest percentage of capacity utilization within the system (at 44 percent capacity during AM peak hour and 36 percent capacity during PM peak hour). Based on the number of riders and car seating capacity, all available seats are filled on the single busiest train during each hour. However, additional reserve capacity is available for riders willing to stand. Trains operating prior to and after the AM and PM peak hours are less crowded.
- Riders who board an outbound train (i.e., toward I-80/Watt, Meadowview, or Folsom) from a station near the Downtown project site during the PM peak hour initially find the train to be below capacity with seats available. However, additional passenger boardings along the route cause the majority (if not all) of the seats to be occupied by the time the train arrives at its busiest mid-station line segment.
- During the pre-event peak hour, each line has substantial reserve capacity with 15 percent or less of the hourly train capacity currently being used.
- During the post-event peak hour, ridership demand on each line has dropped to less than 10 percent of its demand during the PM peak hour. However, system capacity is also reduced (four-car trains replaced with two-car trains; 15-minute headways replaced with 30-minute headways). As a result, system capacity is reduced to 25 percent of the level present during the PM peak hour (i.e., capacity reduced from 2,000 to 500 riders per hour).

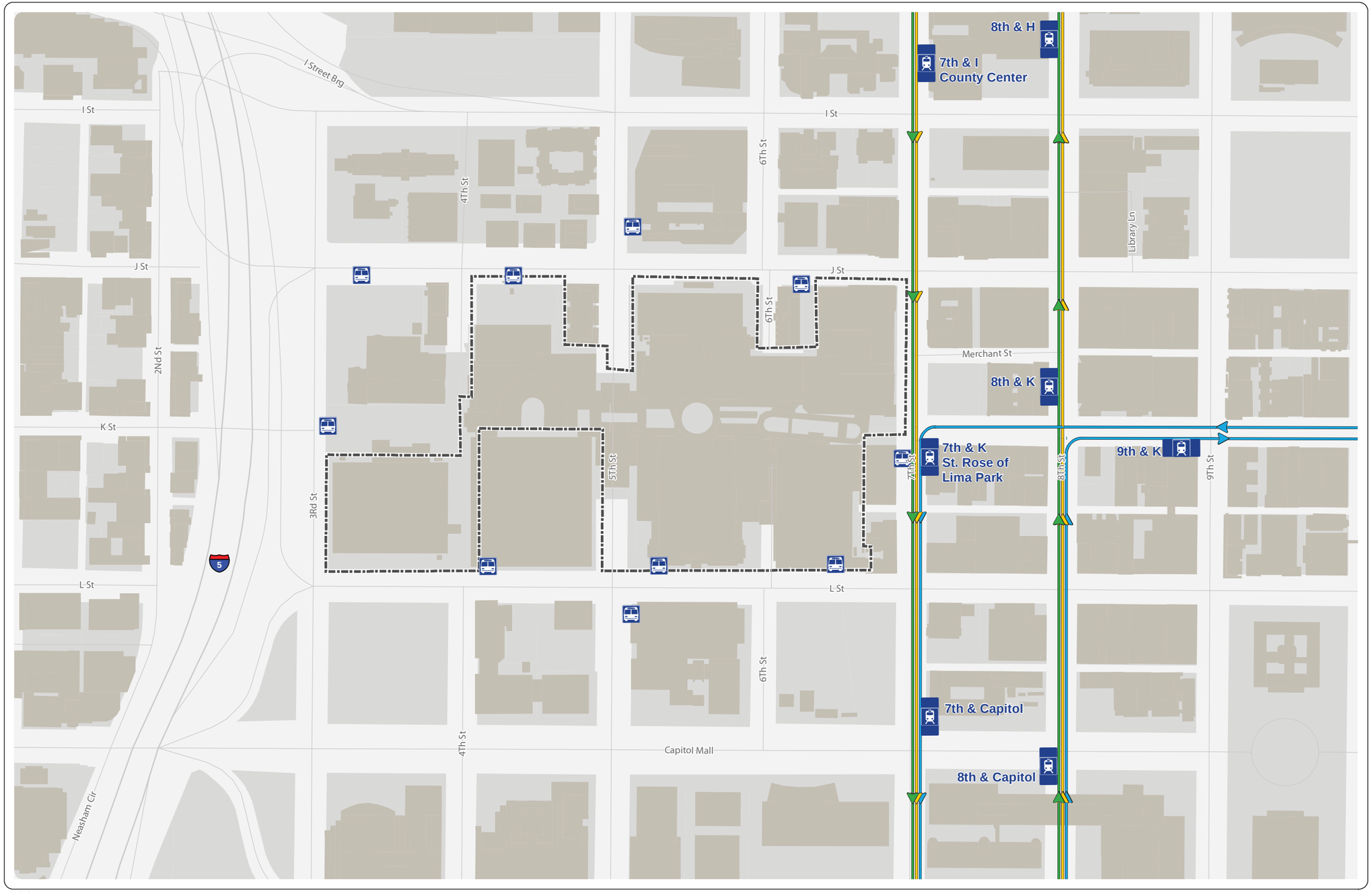
There are bus stops in the vicinity that are served by RT buses and buses from other transit service providers in the region. Figure 4.10-7 identifies bus stops in and around the project vicinity.

RT's transit network includes ADA-required complementary paratransit service within a three-quarter mile radius of all fixed-route RT service. This service is presently operated under contract by Paratransit, Inc. There is limited fixed-route RT bus service currently provided within a three-quarter mile radius of Sleep Train Arena, at least partially explaining the low use of paratransit service to the existing facility. The Downtown project site is located within a three-quarter mile radius of light rail service and multiple bus routes, which operate during all future ESC event hours. As a result, RT expects a greater demand for paratransit service at the Downtown project site.

Parking

Parking supply and availability is an important consideration in analyzing the effects of the Proposed Project on the surrounding transportation system. Although the availability of parking, in and of itself, is not considered an impact under CEQA, it is nevertheless important to understand the area's parking characteristics for the following reasons:

- The location, convenience, and price of parking can influence mode choice;
- The selection of one garage/lot over another determines traffic and pedestrian flows that impact intersection operations; and
- Parking location selection influences pedestrian walk flows to/from the project, which in turn, affects site design and frontage improvements.



LEGEND

- Bus Stop (In Immediate Project Vicinity)
- Light Rail Station

Light Rail Track

- Blue Line
- Gold Line
- Green Line
- Project Site

Not to Scale

12/9/2013

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Existing Transit Network

FIGURE 4.10-6

LEGEND

1 Bus Stop

N Not to Scale

Transit Authority	Routes That Pass By Stops at Downtown Plaza								
	1	2	3	4	5	6	7	8	9
Regional Transit	11 15 30 62 86 88	11 15 30 62 86 88	11 15 30 38 62 86 88	3 7 11 15 29 88 109	30 38 62 86 88	11 30 38 62 86 88	11 38 62 86 88	11 62 88	No Bus, Temporarily No Service
El Dorado County Transit Authority			1 AM & PM 4 AM & PM 5 AM & PM 8 AM & PM 12 AM & PM						
E-Tran				52 PM 57 PM 58 PM 59 PM 60 PM 66 PM					
Placer County Transit	AM & PM	AM & PM	AM & PM						
Yolobus		42A 45 AM	39 42A 42B 240 241 43 AM 44 AM 45 AM 230 AM 232 AM		39 40 41 42A 42B 240 241 43 PM 44 PM 45 PM 230 PM 232 PM 43R AM 231 340	39 40 41 42A 42B 240 241 43 PM 44 PM 45 PM 230 PM 232 PM 43R AM 231 340	42B 45 PM		
Yuba-Sutter Transit	99 70	99 70	99 70						
North Natomas TMA	Eastside Westside Central Square Route	Eastside Westside Central Square Route	Eastside Westside Central Square Route						
Amador Transit	1	1	1		1	1	1	1	
Fairfeild and Suisun Transit (FAST)			30						

12/6/2013

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Sacramento ESC
Existing Bus Stops
FIGURE 4.10-7

TABLE 4.10-6
LIGHT RAIL TRANSIT RIDERSHIP – EXISTING CONDITIONS

			AM Peak Hour Inbound		PM Peak Hour Outbound		Pre-Event Peak Hour Inbound		Post-Event Peak Hour Outbound	
LRT Line[1]	**Line Segment[2]**	**Data Type[3]**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**
Blue Line (to/from Watt/I-80)	Between Globe Avenue and Alkali Flat	Riders	571	194	708	211	111	37	40	23
		Trains Per Hour	4	--	4	--	3	--	2	--
		% Seats Occupied	--	76%	--	82%	--	29%	--	18%
		% of Capacity	29%	--	35%	--	10%	--	8%	--
	Approaching 7th/K (In) Departing 9th/K (Out)	Riders	418	147	576	183	148	47	39	22
		Trains Per Hour	4	--	4	--	3	--	2	--
		% Seats Occupied	--	57%	--	71%	--	37%	--	17%
		% of Capacity	21%	--	29%	--	13%	--	8%	--
Blue Line (to/from Meadowview)	Between 4th Avenue and Broadway	Riders	547	159	643	233	170	49	44	26
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	62%	--	91%	--	38%	--	20%
		% of Capacity	27%	--	34%	--	14%	--	9%	--
	Approaching 8th/Capitol (In) Departing 7th/Capitol (Out)	Riders	277	79	357	95	156	67	42	22
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	31%	--	37%	--	52%	--	17%
		% of Capacity	14%	--	19%	--	12%	--	8%	--
Gold Line (to/from Folsom)	Between 29th and 39th	Riders	882	315	690	262	206	62	45	27
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	100% (59)	--	100% (6)	--	24%		21%
		% of Capacity	44%	--	35%	--	10%	--	9%	
	Approaching 8th/Capitol(In) Departing 7th/Capitol (Out)	Riders	302	108	323	123	95	34	20	12
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	42%	--	48%	--	13%	--	9%
		% of Train Capacity	15%	--	16%	--	5%	--	4%	--

1. Data shown for primary LRT lines currently in use. Ridership is modest on Green line due to current geographic extents.
2. For each LRT Line, ridership and capacity analyzed at two specific segments. One segment is the busiest point along the route. The other segment is located just upstream or downstream of the station expected to be used by the majority of project transit riders.
3. Definition of Data Types are given as follows:
   - Riders = Based on data collected by RT on September 1, 2012 through March 31, 2013.
   - Trains per Hour = Based on current RT schedules.
   - % Seats Occupied = Calculated for the busiest train assuming 64 seats per car. During the AM and PM peak hours, each train has 4 cars. During the post-event peak hour, each train has two cars. Train sizes vary from two to four cars during the pre-event peak hour. 100% (x) = all seats occupied and (x) number of riders standing.
   - % of Capacity = Calculated as number of riders per hour divided by number of cars per hour (and assuming 125 persons per car as capacity).

SOURCE of data: Regional Transit, 2013. Source of analysis: Fehr & Peers, 2013.

Figure 4.10-8 displays the supply of off-street parking in the vicinity of the Downtown project site. It should be noted that this does not represent the available parking for the Proposed Project; rather, it represents the currently built supply. On-street parking is limited within the project vicinity due to the frequency of driveways, block lengths, and parking restrictions. Off-street parking opportunities are plentiful as shown in this figure. To determine how much of this parking could be made available for ESC special events, the following process was undertaken:

1. City of Sacramento Parking Management contacted parking operators to ask whether they would open their garages/lots for special (both mid-day and evening) events;

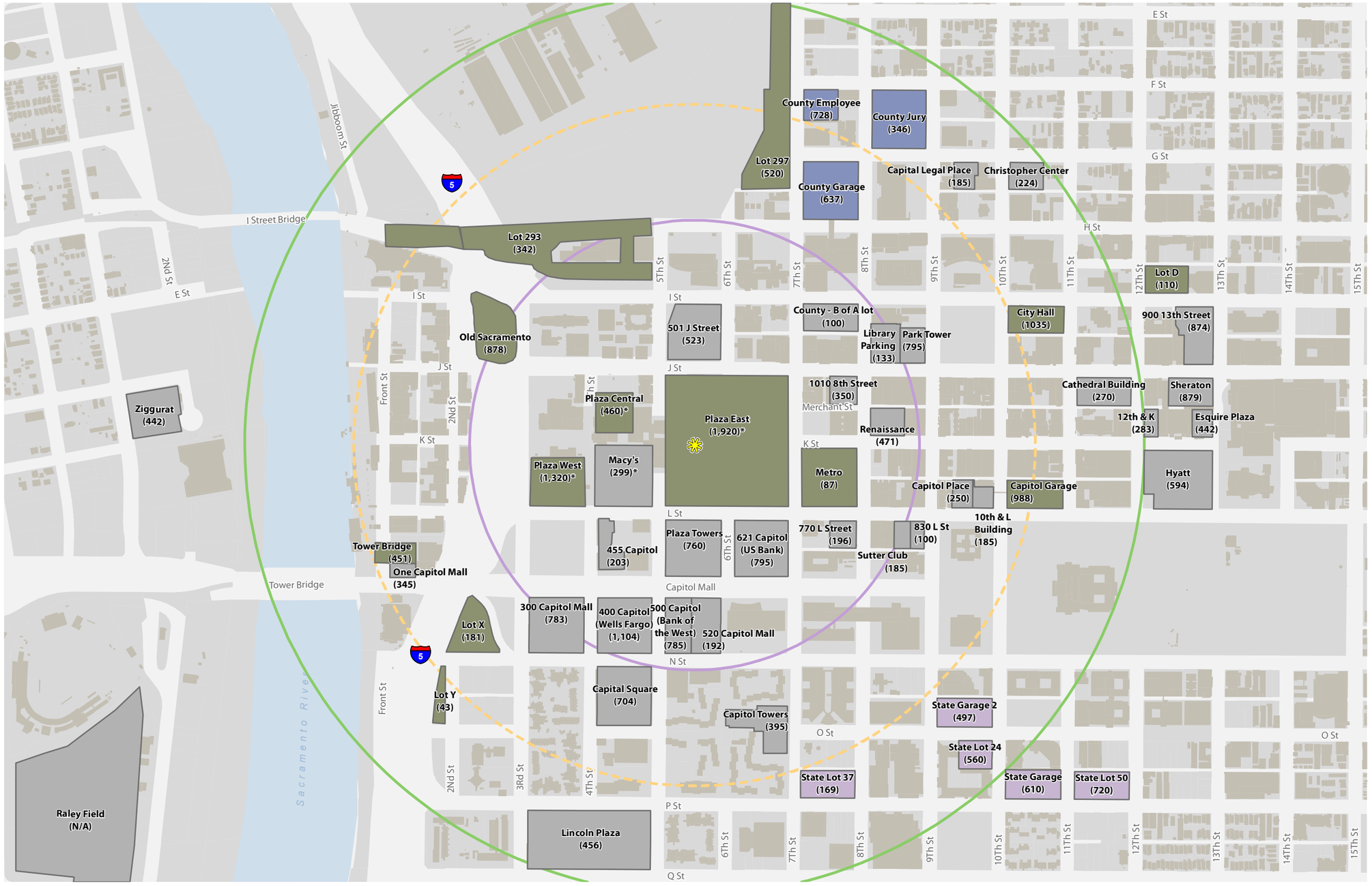
2. Historic parking occupancy data from the City of Sacramento Parking Master Plan and more recent parking studies was reviewed; and

3. In-person parking occupancy surveys were conducted at most of the garages/lots in close proximity to the Downtown project site to measure the available (i.e., unoccupied) parking during AM, PM, and pre-event peak hours.

Figure 4.10-9 displays the estimated available parking supply at off-site locations in the project vicinity for a weekday daytime event (i.e., conference or convention, family show or circus matinee, graduation, etc.). As shown, approximately 4,300 parking spaces are expected to be available within ¼-mile of the Downtown project site, including an expected 1,000 spaces within the Downtown project site itself (VIP parking to be available for events). Although significantly more than 1,000 spaces would be provided on-site, most would be dedicated to meet the parking needs of the non-ESC land uses. As shown on Figure 4.10-9, an additional 2,400 spaces that are situated between ¼-mile and ½-mile from the Downtown project site are also expected to be available. In total, for weekday daytime events approximately 6,700 spaces are expected to be available within ½-mile from the project site.

Figure 4.10-10 displays the estimated available parking supply at off-site locations in the project vicinity for a weekday evening event (i.e., NBA game, family show, concert, etc.). As shown, approximately 7,500 parking spaces are expected to be available within ¼-mile of the project site, including an expected 1,000 spaces within the project itself (VIP parking to be available for events). More than 6,000 additional spaces situated between ¼-mile and ½-mile from the project site are also available. In total, approximately 13,500 spaces are available within ½-mile of the project site.

The data on Figures 4.10-9 and 4.10-10 represent the best available information at this time. Although they include the majority of medium/large-sized project garages/lots in the area, it is not an exhaustive list of every potential parking location.



12/6/2013

LEGEND

- ESC Site Main Entrance
- 1/4 Mile Buffer
- 1/2 Mile Buffer
- Current Maximum Parking Distance for Sleep Train Arena (2,000 ft)

Parking Lot Ownership

- City
- County
- State
- Private

(X) Total Parking Supply

* Parking supply will change in these garages with project.

Notes:

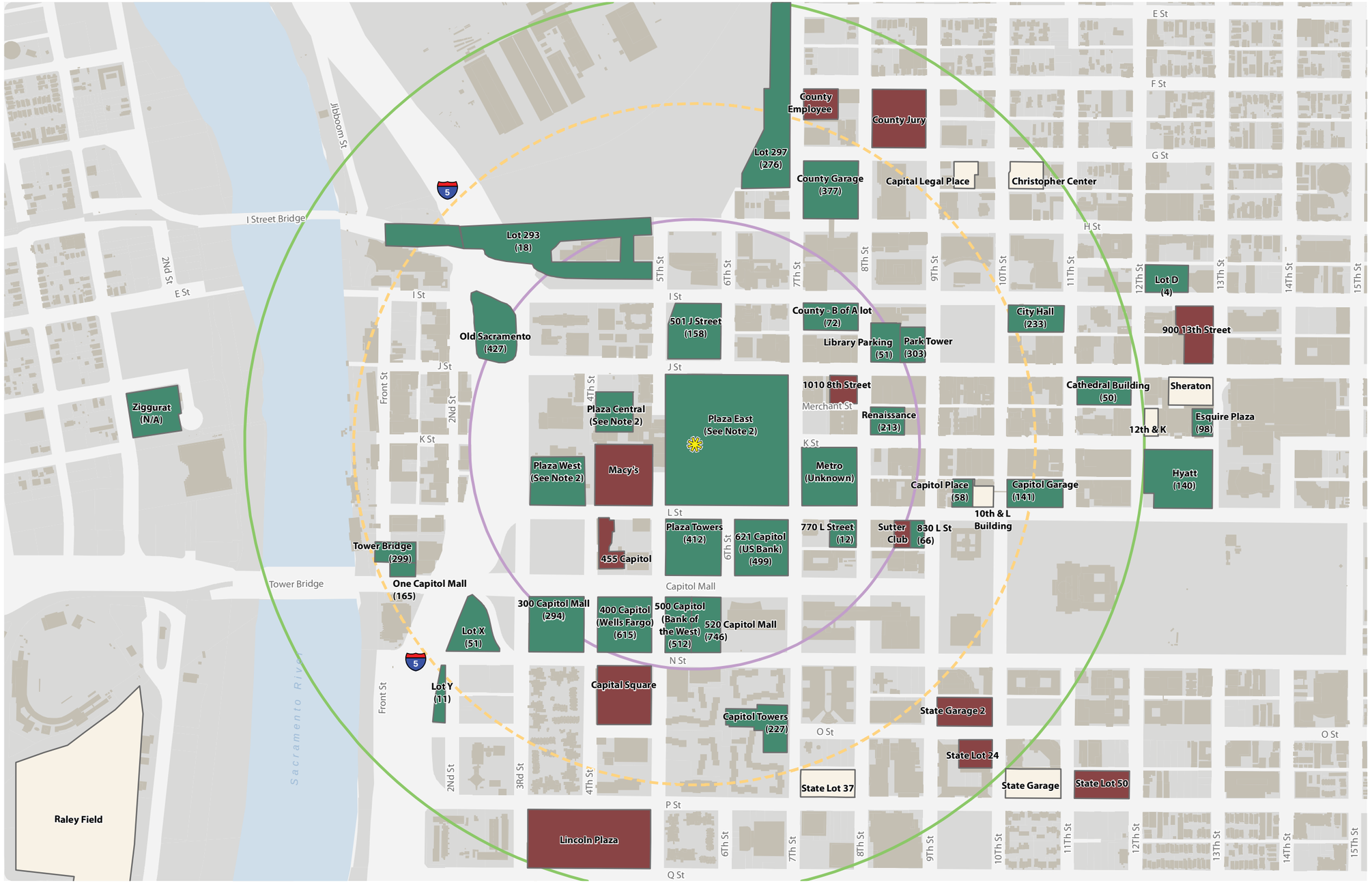
1. Identified lots/garages represent the majority of parking areas that could theoretically be used for ESC events. The list is not exhaustive and does not include some smaller lots/garages in which parking and use information was not available.
2. Parking supply totals based on information provided by parking operations in July 2013. If such data was not available, supply values from City's Parking GIS Mapping (2008-2011) were used.
3. Exhibit does not include available on-street parking on various streets within project vicinity.

Not to Scale

Path: N:\2013Projects\3144_ESC_EIR\Graphics\Draft\GIS\MXD\November2013\fig4_10_8_ParkingSupply.mxd

Off-Street Parking Supply Opportunities

FIGURE 4.10-8



12/11/2013

LEGEND

- ESC Site Main Entrance
- 1/4 Mile Buffer
- 1/2 Mile Buffer
- Current Maximum Parking Distance for Sleep Train Arena (2,000 ft)
- Available for ESC Use During a Weekday Mid-Day
- Not Available for ESC Use
- Availability Unknown
- **(100)** Available Spaces
- **(N/A)** Unable to estimate parking availability due to location and/or functions of parking garage/lot.

Notes:

1. Available parking supply not shown for facilities for which it is unknown whether they can be used for ESC events.
2. The project would provide approximately 1,000 parking spaces during the day for ESC events. Although slightly more than 3,200 total spaces (including Plaza West, Central, and East) would be provided on-site, about 2,200 of those spaces would be intended for use by the non-ESC land use components (i.e., office, retail space, hotel, etc.).

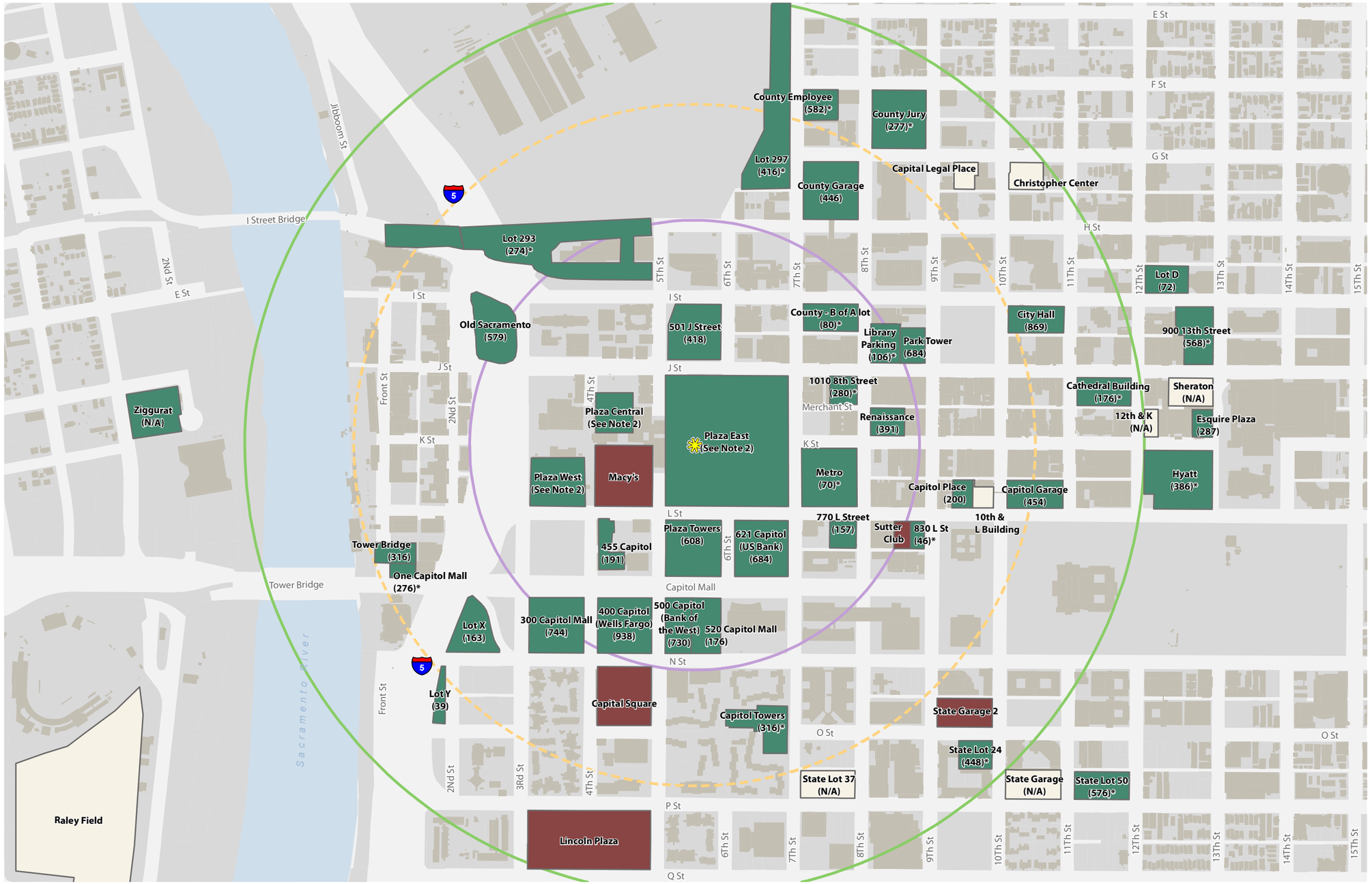
Total Estimated Off-Street Availability	
Within ¼ mile	4,311
Between ¼ mile and ½ mile	2,419
Total within ½ mile	**6,730**

Not to Scale

Path: N:\2013Projects\3144_ESC_EIR\Graphics\Draft\GIS\MXD\December2013\fig4_10_9_MidDayParking.mxd

Weekday Mid-Day Off-Street Parking Availability

FIGURE 4.10-9



12/11/2013

LEGEND

- ESC Site Main Entrance
- 1/4 Mile Buffer
- 1/2 Mile Buffer
- Current Maximum Parking Distance for Sleep Train Arena (2,000 ft)
- Available for ESC Use During a Weekday Evening
- Not Available for ESC Use
- Availability Unknown

(X) Available Spaces

(N/A) Unable to estimate parking availability due to location and/or functions of parking garage/lot.

* Available parking conservatively estimated based on observed occupancies at geographhically and/or functionally similar garages.

Notes:

1. Available parking supply not shown for facilities for which it is unknown whether they can be used for ESC events.

2. The project would provide approximately 1,000 parking spaces during the evening for ESC events. Although slightly more than 3,200 total spaces (including Plaza West, Central, and East) would be provided on-site, about 2,200 of those spaces would be intended for use by the non-ESC land use components (i.e., office, retail space, hotel, etc.).

Total Estimated Off-Street Availability	
Within ¼ mile	7,503
Between ¼ mile and ½ mile	6,089
Total within ½ mile	**13,592**

Not to Scale

Path: N:\2013Projects\3144_ESC_EIR\Graphics\Draft\GIS\MXD\December2013\fig4_10_10_EveningParking.mxd

Weekday Evening Off-Street Parking Availability

FIGURE 4.10-10

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4.10.2 Regulatory Setting

This section provides a discussion of applicable federal, state, and local regulations pertaining to transportation that may be applicable to the Proposed Project.

Federal

There are no applicable federal regulations that apply directly to the Proposed Project. However, federal regulations relating to the Americans With Disabilities Act (ADA), Title VI, and Environmental Justice relate to transit service.

State

In 2010, Caltrans released a Corridor System Management Report (CSMP) for portions of Interstate 5 within the study area.[7] Table 4 of this report shows existing operations on study segments of I-5 as being at LOS F. The Interstate 5 Transportation Corridor Concept Report (TCCR) indicates a Concept LOS F for this corridor.[8] The concept LOS represents the minimum acceptable service condition over the next 20 years. Page 5 of the TCCR indicates that for existing LOS F conditions, no further degradation is permitted as indicated by the applicable performance measure.

The State Route 160 Transportation Corridor Concept Report (TCCR) shows existing LOS E operations on SR 160 from the American River Bridge to the Capital City Freeway.[9] The report shows existing operations on study segments of I-5 as being at LOS F. The report indicates a Concept LOS F for this corridor.

According to the Guide for the Preparation of Traffic Impact Studies, if a freeway facility currently operates at an unacceptable LOS (e.g., LOS F), then the existing LOS should be maintained.[10]

The above LOS results are based on daily volume-to-capacity comparisons and do not necessarily consider specific operational characteristics (e.g., length of weave sections, peak hour factors, etc.) within the I-5 and SR 160 corridors. Nevertheless, these data are valuable in understanding Caltrans' expectations of their current and projected operating performance.

Senate Bill 743/Public Resources Code 21168.6.6

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743) which, among other things, added Section 21168.6.6 to the Public Resources Code (PRC Section 21168.6.6). PRC Section 21168.6.6 modifies certain CEQA procedures as they apply to qualifying projects.

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7 Caltrans, 2010a. *State of the Corridor Report – State Route 99 and Interstate 5 Corridor System Management Report*. Table 4.

8 Caltrans, 2010b. The *Interstate 5 Transportation Corridor Concept Report*. Approved September 13, 2010. pp. 4-5.

9 Caltrans, 2010c. The *State Route 160 Transportation Corridor Concept Report.* Approved June 21, 2010. p. 6-7.

10 Caltrans, 2002. Guide for the Preparation of Traffic Impact Studies. p. 1.

To meet the definition of "Downtown arena" under PRC Section 21168.6.6, the proposed ESC must receive Leadership in Energy and Environmental Design (LEED) Gold certification for new construction within one year of completion of the first NBA season. Strategies proposed to qualify the project for LEED Gold certification are described in Chapter 2, Project Description. The "Downtown arena" also must take the following steps to minimize operational traffic congestion and reduce global climate change impacts:

1. Achieve and maintain carbon neutrality or better by reducing to at least zero the net emissions of greenhouse gases from private automobile trips (automobiles and light vehicles) to the Sacramento ESC as compared to the baseline, and as verified by the Sacramento Metropolitan Air Quality Management District (SMAQMD);

2. Achieve a per attendee reduction in greenhouse gas emissions from automobiles and light trucks compared to per attendee greenhouse gas emissions associated with the existing arena during the 2012-13 NBA season that will exceed the carbon reduction targets for 2020 and 2035 achieved in the Sacramento Area Council of Governments (SACOG) sustainable communities strategy; and

3. Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline.

The relationship of the proposed ESC to step 3 is discussed in this chapter. As presented in Tables 4.10-20 and 4.10-30, below, the Proposed ESC would achieve a per attendee VMT reduction greater than required under the threshold established in step 3 under existing plus project conditions as well as under cumulative conditions.

Local

City of Sacramento 2030 General Plan

The Mobility Element of the City of Sacramento's *2030 General Plan* outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following LOS policy is relevant to this study:

Policies:

- **M 1.2.2** The City shall allow for flexible Level of Service (LOS) standards, which will permit increased densities and mix of uses to increase transit ridership, biking, and walking, which decreases auto travel, thereby reducing air pollution, energy consumption, and greenhouse gas emissions.

    a. Core Area Level of Service Exemption—LOS F conditions are acceptable during peak hours in the Core Area bounded by C Street, the Sacramento River, 30th Street, and X Street. If a Traffic Study is prepared and identifies a LOS impact that would otherwise be considered significant to a roadway or intersection that is in the Core Area as described above, the project would not be required in that particular instance to widen roadways in order for the City to find project conformance with the General Plan. Instead, General Plan conformance could still be found if the project provides

improvements to other parts of the citywide transportation system in order to improve transportation-system-wide roadway capacity, to make intersection improvements, or to enhance non-auto travel modes in furtherance of the General Plan goals. The improvements would be required within the project site vicinity or within the area affected by the project's vehicular traffic impacts. With the provision of such other transportation infrastructure improvements, the project would not be required to provide any mitigation for vehicular traffic impacts to road segments in order to conform to the General Plan. This exemption does not affect the implementation of previously approved roadway and intersection improvements identified for the Railyards or River District planning areas.

b. Level of Service Standards for Multi-Modal Districts – The City shall seek to maintain the following standards in multi-modal districts including the Central Business District, areas within ½ mile walking distance of light rail stations, and in areas designated for urban scale development (Urban Centers, Urban Corridors, and Urban Neighborhoods as designated in the Land Use and Urban Form Diagram). These areas are characterized by frequent transit service, enhanced pedestrian and bicycle systems, a mix of uses, and higher-density development.

    - Maintain operations on all roadways and intersections at LOS A-E at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS F conditions may be acceptable, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project.

c. Base Level of Service Standard – The City shall seek to maintain the following standards for all areas outside of multi-modal districts:

    - Maintain operations on all roadways and intersections at LOS A-D at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS E or F conditions may be accepted, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation as part of a development project or City-initiated project.

- **M 1.2.2** applies to the study area roadway facilities as follows:

    - The City of Sacramento operates and maintains all study intersections located east of the Sacramento River. Of these 49 intersections, 46 are located in the Core Area (bounded by the Sacramento River, X Street, C Street, and 30th Street). Accordingly, Policy M 1.2.2(a) is applicable to these study intersections. This implies that LOS F is acceptable during peak hours, provided that the project provides improvements to other parts of the citywide transportation system within the project site vicinity (or within the area affected by the project's vehicular traffic impacts) to improve transportation-system-wide roadway capacity, to make intersection improvements, or

to enhance non-auto travel modes in furtherance of the General Plan goals. Road widening or other improvements to road segments are not required.

- Study intersections 1, 2, and 52 are located within Urban Centers/Corridors that are subject to Level of Service policies for Multi-Modal Districts (Policy M 1.2.2(b)).
- Study intersections 33, 34, and 35 are located west of the Sacramento River within the City of West Sacramento. Accordingly, they are subject to the applicable LOS policies of the City of West Sacramento.

The Proposed Project would conform to the requirements of Policy M 1.2.2 by improving the citywide transportation system in the vicinity of the project site. Improvements to the system would include: (1) improved pedestrian environment with wider crosswalks, enhanced pedestrian signal crossing equipment, ADA improvements, and other pedestrian amenities; (2) improvements to accommodate bicycle travel, including expanded designated bicycle parking at the site, accommodation of bike share facilities, and provision of scalable bike valet parking; (3) expanded use of non-automobile modes of travel as a result of relocation of the facility from Natomas to downtown, reducing per attendee VMT by nearly 20 percent over existing conditions, including increased ridership on RT and other regional transit routes; and (4) implementation of an Event Transportation Management Plan that would manage vehicular and other multi-modal transportation near the project site.

The *Mobility Element of the City of Sacramento's 2030 General Plan* also includes the following policies related to connectivity, walking, biking, transit, and parking that are relevant to this study:

Policies:

- **M 1.3.1. Grid Network.** The City shall require all new residential, commercial, or mixed-use development that proposes or is required to construct or extend streets to develop a transportation network that provides for a well-connected, walkable community, preferably in a grid or modified grid.
- **M 1.3.2. Private Complete Streets** The City shall require large private developments to provide internal complete streets that connect to the existing roadway system.
- **M 1.3.4. Barrier Removal for Accessibility.** The City shall remove barriers, where feasible, to allow people of all abilities to have access within and among infrastructure serving the community.
- **M 1.3.5. Connections to Transit Stations.** The City shall provide connections to transit stations by identifying roadway, bikeway, and pedestrianway improvements to be constructed within ½ mile of major transit stations. Transportation improvements in the vicinity of major transit stations shall emphasize development of complete streets.
- **M 1.4.3. Transportation Management Associations.** The City shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations.

- **M 1.4.4. Off-Peak Deliveries.** The City shall encourage business owners to schedule deliveries at off-peak traffic periods.

- **M 2.1.1. Pedestrian Master Plan.** The City shall maintain and implement a Pedestrian Master Plan that carries out the goals and policies of the General Plan and defines: the type and location of pedestrian-oriented streets and pathways; standards for sidewalk width, improvements, amenities, and street crossings; the schedule for public improvements; and developer responsibilities. All new development shall be consistent with the applicable provisions of the Pedestrian Master Plan.

- **M 2.1.2. Sidewalk Design.** The City shall require that sidewalks wherever possible be developed at sufficient width to accommodate pedestrians including the disabled; a buffer separating pedestrians from the street and curbside parking; and allow for outdoor uses such as cafes.

- **M 2.1.5. Continuous Network.** The City shall provide a continuous pedestrian network in existing and new neighborhoods that facilitates convenient pedestrian travel free of major impediments and obstacles.

- **M 2.1.6. Building Design.** The City shall ensure that new buildings are designed to engage the street and encourage walking through design features such as placing the building with entrances facing the street and providing connections to sidewalks.

- **M 2.1.8. Housing and Destination Connections.** The City shall require new subdivisions and large-scale developments to include safe pedestrian walkways that provide direct links between streets and major destinations such as transit stops and stations, schools, parks, and shopping centers.

- **M 2.1.10. Safe Pedestrian Crossings.** The City shall improve pedestrian safety at intersections and mid-block locations by providing safe, well-marked pedestrian crossings, bulb-outs, or median refuges that reduce crossing widths and/or audio sound warnings.

- **M 2.1.12. Safe Sidewalks.** The City shall develop safe and convenient pedestrianways that are universally accessible, adequately illuminated, and properly designed to reduce conflicts between motor vehicles and pedestrians.

- **M 3.1.1.** The City shall support a well-designed transit system that meets the transportation needs of Sacramento residents and visitors, including seniors, the disabled, and transit-dependent persons. The City shall enhance bicycle and pedestrian access to stations.

- **M 3.1.2. Maintain Service.** The City shall work with transit providers to maintain services within the city that are timely, cost-effective, and responsive to growth patterns and enhance transit service where feasible.

- **M 3.1.8. Transit Service.** The City shall support the enhancement and improvement of transit service.

- **M 3.1.9. Demand-Responsive Service.** The City shall support the provision of demand-responsive service (e.g., paratransit) and other transportation services for those unable to use conventional transit.

- **M 3.1.10. New Facilities.** The City shall work with transit providers to incorporate transit facilities into new private development and City project designs, including incorporation of transit infrastructure (i.e., electricity, fiber-optic cable, etc.), alignments for transit route extensions, and new station locations.

- **M 3.1.12. Direct Access to Stations.** The City shall ensure that projects located in the Central City and within ½ mile of existing and planned transit stations provide direct pedestrian and bicycle access to the station area, to the extent feasible.

- **M 3.1.14. Streetcar Facilities.** The City shall support the development of streetcar lines in the Central City and other multi-modal districts.

- **M 3.1.16. Developer Contributions.** The City shall require developer contributions for bus facilities and improvements.

- **M 5.1.1. Bikeway Master Plan.** The City shall maintain and implement a Bikeway Master Plan that carries out the goals and policies of the General Plan. All new development shall be consistent with the applicable provisions of the Bikeway Master Plan.

- **M 5.1.2. Appropriate Bikeway Facilities.** The City shall provide bikeway facilities that are appropriate to the street classifications and types, traffic volume, and speed on all rights-of-ways.

- **M 5.1.4. Motorists, Bicyclists, and Pedestrian Conflicts.** The City shall develop safe and convenient bikeways that reduce conflicts between bicyclists and motor vehicles on streets, and bicyclists and pedestrians on multi-use trails and sidewalks.

- **M 5.1.6. Connections between New Development and Bicycle Facilities.** The City shall require that new development provides connections to and does not interfere with existing and proposed bicycle facilities.

- **M 5.1.12. Bike Facilities in New Developments.** The City shall require that larger new development projects (e.g., park-and-ride facilities, employment centers, educational institutions, recreational and retail destinations, and commercial centers) provide bicycle parking (i.e., short-term bicycle parking for visitors and long-term bicycle parking for residents and employees), personal lockers, showers, and other bicycle-support facilities.

- **M 6.1.1. Appropriate Parking.** The City shall ensure that appropriate parking is provided considering access to existing and funded transit, shared parking opportunities for mixed-use development, and implementation of Transportation Demand Management plans.

- **M 6.1.2. Reduce Minimum Parking Standards.** The City shall reduce minimum parking standards over time to promote walkable neighborhoods and districts and to increase the use of transit and bicycles.

- **M 6.1.4. Reduction of Parking Areas.** The City shall strive to reduce the amount of land devoted to parking through such measures as development of parking structures, the application of shared parking for mixed-use developments, and the implementation of Transportation Demand Management plans to reduce parking needs.

- **M 6.1.7 Disincentives for Single-Occupant Vehicle Trips.** The City shall discourage single-occupant vehicle trips through parking supply and pricing controls in areas where supply is limited and alternative transportation modes are available.

- **M 9.1.1. New Development Fees.** The City shall assess fees on all new development for all transportation modes to ensure that new development bears its fair share of costs for new and expanded facilities.

The Proposed Project at the Downtown project site would be consistent with the General Plan Mobility Element policies listed above. The Proposed Project would respond positively to policies M 1.3.1, M 1.3.2, M 1.3.4, M 1.3.5, and M 2.1.8 by improving connectivity through the Downtown project site compared to existing conditions. As an example, a major ADA-compliant pedestrian connection parallel to 5th Street is being integrated into the project site plan with a width of 60 to 80 feet. In addition, requirements for the provision of wayfinding in the project vicinity would improve connectivity to nearby transit facilities. Because the project site is located in the Central Business District, material improvements to City streets are not considered appropriate, but the Event Transportation Management Plan that would be adopted with the Proposed Project would achieve consistency with policies M 1.3.1 and M 5.1.4.

Consistent with policy M 1.4.3, Mitigation Measure 4.2-3 would require the Proposed Project to join and maintain membership in the Sacramento Transportation Management Association. Regarding policy M 1.4.4, the project applicant has indicated that the majority of delivery and service truck activity at the proposed ESC would occur in hours outside of the peak hours.

As is described in Section 4.5 and Appendix B of the Draft EIR, the project would be consistent with the City's Bicycle Master Plan and Pedestrian Master Plan, and thus would be consistent with policies M 2.1.1, M 2.1.2, M 2.1.5, M 2.1.12, and M 5.1.1. Consistent with the direction of policy M 2.1.6, the design of the proposed ESC would materially increase the level of pedestrian-oriented uses on L Street compared to existing conditions, and it is further expected that similar pedestrian oriented frontages would be constructed in the SPD area along J Street. Consistent with policy M 2.1.10, pedestrian management strategies of the Event TMP would call for pedestrian wayfinding, widened crosswalks and modified traffic signal timing, as well as post-game street closures, to enhance pedestrian travel to and from the proposed ESC.

The pedestrian flow improvements provided in the project design would also contribute to an enhanced access to transit, as encouraged in policies M 3.1.1, M 3.1.10, and M 3.1.12. In addition, consistent with policies M 3.1.1 and M 3.1.8, the Event TMP would require the applicant to collaborate with RT to facilitate the sale of transit passes through such measures as on-site transit pass sales, smart phone applications, and/or special transit pass ticket provisions. Consistent with policy M 3.1.9, special provision for Paratransit dropoff and loading would be

provided on L Street. Consistent with policy M 3.1.2, the proposed ESC would provide additional riders to support RT and other transit provider services, particularly during hours and in directions that are not currently highly used. By providing additional ridership on existing lines and routes, the project would enhance the ability of transit agencies to provide transit service. As required in Mitigation Measure 4.10-5, the proposed project would be required to construct new replacement bus stops, consistent with policy M 3.1.10.

As noted in Mitigation Measure 4.10-2, the Proposed Project would contribute to the improvement of circulation in the I-5 corridor by paying into a voluntary subregional fee that is expected to contribute to the development of the proposed downtown Streetcar system, or other similar improvements. As a result, the project would be consistent with policies M 3.1.1, M 3.1.14, and M 9.1.1. Through implementation of Mitigation Measure 4.10-5, the project would be consistent with policy 3.1.16.

The proposed ESC would provide short- and long-term bicycle parking within the Downtown project site. In addition, the project would provide space for bike share docking stations if such a program is implemented in Sacramento. Further, for ESC events where demand would exceed the capacity of the fixed bicycle parking supply, the applicant would provide scalable bicycle valet parking in a location (or locations) that would be within convenient walking distance to the proposed ESC and to the City's bikeway system. Locations that have been preliminarily discussed include a closed lane on 6th Street between Capitol Mall and L Street, St. Rose of Lima Park, or the median within Capitol Mall. These features would ensure that the Proposed Project would respond positively to policies M 5.1.1, M 5.1.2, M 5.1.4, M 5.1.6, and M 5.1.12.

As is reflected on page 4.10-28 of the Draft EIR, more than adequate off-street parking is available within existing parking lots and structures within walking distance to the Downtown project site. The use of existing parking resources would respond positively and be consistent with the intent of policies M 6.1.1, M 6.1.2, and M 6.1.4. Further, as is explained in detail under Analysis Methods, the relocation of the entertainment and sports facility from Natomas to the Downtown project site is expected to result in about 10% non-automotive use for attendees in the short-term, with an expected increase to about 15% non-automotive use in the longer-term. These estimates reflect the Proposed Project's approach to use of existing parking resources, proximity to alternative modes of transportation, and are consistent with the intent of policy 6.1.7.

Neighborhood Traffic Management Program

The County of Sacramento has a Neighborhood Traffic Management Program (NTMP) under which neighborhoods can petition the City to install traffic calming devices to address residents' concerns about traffic.[11] There are two phases of an NTMP. Phase I involves less restrictive modifications such as the installation of high visibility speed limit signs, striping of bike lanes, and the installation of speed humps. Phase II involves more restrictive measures including half- and full-street closures, diverters, and one-way/two-way street conversions. Phase II

[11] Sacramento County, 2004. *Sacramento County Neighborhood Traffic Management Program "Best Practices" White Paper*. June 2004.

modifications are implemented if the Phase I modifications do not adequately address neighborhood concerns.

The study area contains three NTMP areas including Alkali Flat (east of 7th Street and north of H Street), Mansion Flats (east of 12th Street and north of H Street), and Southside Park (west of 10th Street and south of S Street). In addition, numerous traffic calming measures have been implemented in Midtown, east of 16th Street, north of J Street. The area in the immediate project vicinity is not included as part of an existing or future traffic calming project area.

City of West Sacramento 2030 General Plan

As described in the *Triangle Specific Plan SEIR*, the City of West Sacramento considers LOS C to be the significance thresholds for intersections in the City.[12] However, the City allows for LOS D conditions within 0.25 miles of an interchange or a bridge crossing. The Triangle Specific Plan SEIR also included analyses of the three intersections located on Tower Bridge Gateway that are analyzed in this study. That EIR used a LOS D standard to determine the significance of impacts at those intersections.

4.10.3 Analysis, Impacts, and Mitigation

Significance Criteria

The following describes the significance criteria used to identify project-specific and cumulatively significant impacts to the transportation and circulation system.

Intersections

A significant impact would occur if:

- The traffic generated by the project degrades LOS from acceptable (without the project) to unacceptable (with the project);

- The LOS (without project) is already (or projected to be) unacceptable and project generated traffic increases the average vehicle delay by 5 seconds or more.

As noted previously, 46 of the 52 study intersections are located within the Core Area described in Policy M 1.2.2(a). In accordance with this policy, LOS F is acceptable during peak hours, provided that the project provides improvements to other parts of the citywide transportation system within the project site vicinity. Thus, if the project worsens operations at an intersection to LOS F, this conclusion is noted and then a supplemental evaluation of whether the project provides improvements to other parts of the citywide transportation system is initiated.

[12] ICF International, 2009. *Triangle Specific Plan Supplemental Environmental Impact Report.* March 2009. p. 4H-8.

Intersections 1, 2, and 52 are located within Urban Centers/Corridors districts that are subject to Level of Service policies for Multi-Modal Districts. According to Policy M 1.2.2(b), these intersections should:

> Maintain operations LOS A-E at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS F conditions may be acceptable, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project.

Intersections 33, 34, and 35, which are located within the City of West Sacramento, have a LOS D significance threshold.

Freeway Facilities

A significant impact would occur if:

- The traffic generated by the project degrades LOS from acceptable (without the project) to unacceptable (with the project);
- The LOS (without project) is already (or projected to be) unacceptable and project generated traffic leads to a perceptible worsening of the applicable performance measure for freeway operations; or
- The traffic generated by the project causes off-ramp traffic to queue back to the freeway gore point or mainline, or worsens an existing/projected queuing problem.

Transit

Impacts to the transit system are considered significant if the Proposed Project would:

- Adversely affect public transit operations; or
- Fail to adequately provide access to transit.

Bicycle Facilities

Impacts to bicycle facilities are considered significant if the Proposed Project would:

- Adversely affect existing or planned bicycle facilities; or
- Fail to adequately provide for access by bicycle.

Pedestrian Circulation

Impacts to pedestrian circulation are considered significant if the Proposed Project would:

- Adversely affect existing or planned pedestrian facilities; or
- Fail to adequately provide for access by pedestrians.

Emergency Access

Impacts to emergency access are considered significant if the Proposed Project would:

- Result in inadequate emergency access.

Construction-Related Traffic Impacts

The project would have a temporarily significant impact during construction if it would:

- Degrade an intersection or roadway to an unacceptable level;
- Cause inconveniences to motorists due to prolonged road closures; or
- Result in increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

Analysis Methods

This section presents a topic-by-topic discussion of the key analysis methods that were relied upon to estimate the Proposed Project's travel characteristics and to develop "plus project" traffic forecasts.

Travel Behavior at Sleep Train Arena

In order to have a clear understanding of the travel characteristics of the existing Sleep Train Arena, anonymous cell phone data for existing arena patrons were obtained from a third party provider (AirSage) for the period from October 16 through November 22, 2012. Although the data included cell phone records for trip origins and destinations throughout the Sacramento region (and beyond), this effort focused specifically on trip origins and destinations for weekday evening Kings games and weekend special events (e.g., Disney on Ice, etc.) that occurred at Sleep Train Arena.

The cell phone data yielded a large number of data points that represented travel behavior for one pre-season game and six regular season weekday Kings games at Sleep Train Arena. Available time slices were 3 to 7 PM, and 7 PM to midnight. GIS was used to map the origin of all cell phone records collected between 3 to 7 PM that had a matching destination in the census block group that comprises Sleep Train Arena. Similarly, the destination of post-event trips (that originated from the arena parking lot) was also mapped based on 7 PM to midnight data points.

This information was translated into SACOG's SACMET base year travel demand model to develop an origin-destination trip table for pre-event and post-event periods. Appendix D includes plots showing the most frequent cell phone origin and destination traffic analysis zones (TAZs) for pre-event and post-event conditions.

Compared to other data sources that were available (e.g., zip codes of ticket purchases, the use of cell phone data are considered more accurate because they are based on actual trip origins and destinations, while zip code data only indicate the address of the purchaser (which does not always represent the trip origin and/or destination). The sample size consisted of about 1,500 inbound pre-game and 1,500 outbound post-game trips. This sample is considered representative for its intended purposes. The cell phone data were carefully reviewed for reasonableness and any

data anomalies. An example of an anomaly was an over-prediction of trip origins in a mostly agricultural area west of Yolo Bypass (along I-80). It was discovered that recurrent congestion on eastbound I-80 was effectively causing the trip to 'originate' in that location versus its true origin further to the west. To account for this, those trips were distributed proportionally to the locations that were identified as beginning further west.

As described later, the cell phone data were used to help determine the mode split for travel to and from the Proposed Project, the spatial distribution of vehicle trips, and the daily Vehicle Miles of Travel (VMT).

Trip Origin/Destination Adjustments for Relocation of Arena to Downtown

If the Proposed Project is constructed, some trip origins and destinations would likely change in response to the new venue location. This hypothesis is supported by a review of season ticketholder data for Years 2010/2011 through 2013/2014, as provided by the Sacramento Kings organization:

- The proportion of all season ticketholders who have Central City purchase zip codes increased by 30 percent for the 2013/2014 season compared to the previous three seasons. Cell phone data show that 10 percent of Kings pre-game trips originate from the Central City and 5 percent of Kings post-game trips return to the Central City. To account for greater tickets sales in Central City, the pre-game percentage was increased from 10 to 13 percent with a proportional reduction made throughout the remainder of the region to ensure the correct control total. To be conservative, no increases in post-game trips returning to the Central City were made in recognition that they are more likely destined for residences.

It should be noted that the absolute magnitude of the 'shift' in trip origins to the Central City is modest. It essentially implies that an additional three persons for every 100 ESC Kings game patrons will originate from the Central City.

Mode Choice

Separate mode choice estimates were necessary for each component of the Proposed Project's trip-generating land uses based on the specific type/mix of uses, operating hours, and attendee types. The following describes each of the land use types and the methods used to estimate their mode splits:

- **Non-ESC Land Uses (Residential, Office, Retail, Hotel)** – Mode split was estimated based on output from the SACMET regional travel demand model.
- **ESC Weekday Evening Kings Game (Attendees and Employees)** – The mode split estimates were based on the following process:

    1. The SACMET model was used to estimate mode choice (for peak transit service conditions) from each TAZ with a trip origin to the project site. Conduct a similar analysis for post-event trip destinations. This process estimates the 'propensity to use transit, walk, or bike' from all TAZs that have trips to/from the ESC.
    2. The proportion of all pre-event inbound trips and post-event outbound trips used by a given travel mode was summed. The above analysis was conducted without regard to

the amount of available transit service currently provided at the site. This approach was taken based on input from RT staff and the applicant who indicated that they intend to work collaboratively to provide a level of transit service necessary to meet the expected demand.

- **ESC Weekday Morning Civic Event** – Mode split is expected to be comparable to that of an ESC Kings basketball game given the regional nature of such an event.
- **ESC Weekday Afternoon Special Event** – The proportion of trips made by transit and walking is expected to be less when compared to a civic event because of larger group sizes and generally less familiar transit users. Whereas morning civic events will typically include working professionals, afternoon special events are more likely to include families with children for entertainment events, graduations, concerts, and other activities.

Table 4.10-7 displays the expected mode splits for each of the above categories. As shown, travel by non-auto modes is greatest for the non-ESC land uses. For near-term weekday evening Kings games, 7 percent of attendees are expected to arrive by transit, 2.5 percent by walk, and 0.5 percent by bike. The remaining 90 percent are expected to arrive in automobiles.

TABLE 4.10-7
PROPOSED PROJECT EXTERNAL TRAVEL MODE SPLIT – EXISTING PLUS PROJECT CONDITIONS

Land Use / Activity	Auto	Transit	Walk	Bike
Non-ESC Land Uses (Resid., Office, Retail, Hotel) [1]	75%	8%	15%	2%
ESC Weekday Evening Kings Game – Attendees [2]	90%	7%	2.5%	0.5%
ESC Weekday Evening Kings Game – Employees[2]	90%	7%	2.5%	0.5%
ESC Weekday Morning Civic Event [3]	90%	7%	2.5%	0.5%
ESC Weekday Afternoon Special Event [4]	95%	3.5%	1%	0.5%

1. Based on SACMET travel demand model.
2. Based on cell phone data at existing Sleep Train Arena that provides trip origin-destination data. Results then applied to ESC site to estimate transit, walk, and bike mode splits using SACMET travel demand model (see above discussion).
3. Mode split for regional civic event expected to be comparable to ESC Kings game.
4. Transit and walk mode split reduced (relative to civic event) in consideration of family-oriented events (e.g., Disney on Ice)

SOURCE: Fehr & Peers, 2013.

Several factors need to be considered when evaluating the likelihood of an ESC Kings game attendee driving or taking transit. Cell phone data show that many attendees have trip origins/destinations in areas that are not well served by current transit service. Most freeways that would accommodate inbound traffic are relatively uncongested during the pre-event peak hour. Another factor is that there is an abundance of available parking within a short walk to the ESC. Parking lots/garages are operated by the City, County, State, and various private operators. As such, the available parking supply substantially exceeds the demand for evening events, thereby creating a reasonable expectation that parking would be available at reasonable prices.

The non-ESC land uses are projected to have a 15 percent walk mode split. This is similar to the 2000 Census that showed a 17 percent walk mode split for non-work trips with destinations in downtown Sacramento.

The non-ESC transit mode split of eight percent comes directly from SACOG's travel demand model. It considers the entire mix of uses on-site. Research shows that peak period commute travel is associated with higher levels of transit use than off-peak travel and non-work trips. Thus, it is expected that the site's overall transit mode share of 8 percent would be somewhat less than the 12 percent value derived from the 2000 Census.

Vehicle Occupancy

Following is an evaluation of expected vehicle occupancy levels for the various ESC special events including Kings games, morning civic events, and afternoon events (see Appendix D):

- **Weekday Evening Kings Game** – Estimated vehicle occupancy levels were based on a survey from a Kings weekday evening game on April 5, 2012. The results of nearly 2,000 observed vehicles showed an average vehicle occupancy (AVO) of 2.27 persons per vehicle.
- **Morning Civic Event** – Vehicle occupancy levels are estimated to be 1.2 persons per vehicle. This value is typical for a locally-based employment-related event. Surveys were conducted in 2012 at the Spokane Convention Center in Spokane, WA and revealed an AVO of 1.2 persons per vehicle for regionally-focused conference events.
- **Afternoon Event** – Vehicle occupancy levels are estimated to be 2.8 persons per vehicle. This value is typical for entertainment and special events. The following data from Sleep Train Arena (based on attendance and paid parking for activities that occurred in November and December 2012) demonstrate that this is a conservative assumption when considering the types of afternoon special events that could occur:
    - College graduations: 2.6 to 2.9 AVO
    - Comedy Show: 3.4 AVO
    - Disney on Ice: 2.8 to 4.4 AVO depending on day/time

    When data from all activities (regardless of weekday/weekend and type) are considered, the AVO ranged from 2.6 to 4.4 with the weighted average being 3.5. Therefore, the estimated value of 2.8 for analysis purposes is considered conservative.

Arrival / Departure Patterns

Following is an evaluation of expected arrival/departure patterns for each event type (see Appendix D for technical data).

- **Weekday Evening Kings Game** – Table 4.10-8 displays the observed percentages of vehicles entering the Sleep Train Arena parking lot (via all four entrances) for a 7 pm weekday Kings game on April 5, 2012. As shown, 67.4 percent of all attendees arrived between 6 and 7 PM. This table also shows data provided by ICON Venue Group for a number of other NBA arenas. Although the data show that 53.8 percent entered the arena during the one-hour prior to the game start, it is likely that many of the 37 percent that arrived at or after tipoff initially arrived to the site during the one-hour prior (and were searching for parking or visiting an adjacent retail/restaurant. Therefore, to be reasonably conservative, 67.4 percent of evening Kings game attendees are assumed to enter the study area during the pre-event peak hour.

- **Morning Civic Event** – Based on data from previous studies and professional judgment, two-thirds (66.7 percent) of civic event attendees are expected to arrive during the AM peak hour. This is reasonably conservative when compared to other of conference centers that assume 50 percent or less of arrivals occur during the AM peak hour.
- **Afternoon Event** – Based on data from previous studies and professional judgment, three-quarters (75 percent) of special/family event attendees are assumed to depart during the PM peak hour. This input is substantiated by 2010 traffic counts collected at a Los Lobos concert at the Mondavi Performing Arts Center on the UC Davis campus. That study found that 74 percent of all concert attendees departed the event within the one-hour after the event ended.

TABLE 4.10-8
PRE-EVENT ATTENDEE ARRIVAL PATTERNS

Time	Percent Entering Sleep Train Arena Parking Lot for 7 pm Game [1]	Percent Entering Building for Other NBA Venues [2]
5-6 pm	14%	9.2%
6-6:30 pm	22.7%	21.5%
6:30-7 pm	44.7%	32.3%
7-8 pm	18.6%	37.0%

1. Fehr & Peers conducted counts from 5 to 8 pm at all entrances to a Kings home game (versus Clippers) at Sleep Train Arena on Friday, April 5, 2012. Game had attendance of 12,600.
2. Based on data provided by Icon Venue Group.

SOURCE: Fehr & Peers, 2013.

According to the Sacramento Kings, about 850 of the 1,200 ESC Kings game event employees would arrive two hours prior to the start of the event (i.e., prior to the pre-event peak hour) and remain on-site for some time after the event concludes.[13] For analysis purposes, 100 inbound employee trips are conservatively assumed during the pre-event peak hour.

During weekday evening Kings games, other event management, all-day, and cleaning staff would arrive/depart during various parts of the day. Data from the April 5, 2012 Kings game were reviewed and showed 190 outbound trips departing Sleep Train Arena from 6 to 7 PM. This may have included departing day employees, deliveries, and even some drop-offs. To account for these types of activities, 200 outbound employee trips are estimated for the pre-event peak hour.

Mixed-Use Trip Generation (MXD) Model

A Mixed-Use Trip Generation Model (MXD), developed for the US Environmental Protection Agency (EPA) for major urban mixed use projects, was used to estimate the trip generation of the non-ESC land uses. This model was developed by consultants and academic researchers to more accurately estimate the external vehicular trip generation of mixed-use land development projects than prior methods (e.g., ITE internalization spreadsheet). The model was developed based on empirical evidence at 240 mixed-use projects located across the U.S. The model considers various built environment variables such as land use density, regional location, proximity to transit, and various design variables when calculating the project's internal trips, and external

13 See Chapter 2, Project Description, Table 2-5.

trips made by auto, transit, and non-motorized modes. Appendix D contains a description of the MXD model including documentation of its acceptance in professional journals and use in numerous EIRs throughout California.

The first step in applying the MXD model was to confirm that it is reasonably calibrated to conditions present at the project site. This process, which is known as "model validation", compares the observed (i.e., measured/counted) trip generation of Downtown Plaza to its expected trip generation based on the MXD model. The results are shown in Table 4.10-9.

TABLE 4.10-9
MXD MODEL VALIDATION FOR EXISTING DOWNTOWN PLAZA LAND USES

Measurement	AM Peak Hour	PM Peak Hour
Traffic counts collected at Downtown Plaza entry/exits in 2013 [1]	750 trips	1,600 trips
MXD Model Trip Estimate [2]	706 trips	1,633 trips
Difference	- 44 trips (-6%)	+ 33 trips (+2%)

1. Traffic counts collected at all project entry/exit points including the Macy's West garage. This is an approximation of the Downtown Plaza's existing trip generation because some trips may be associated with adjacent land uses such as Holiday Inn and Old Sacramento. Conversely, some patrons may park nearby and walk to site.
2. Trip generation estimate includes a 25% discount on retail and restaurant trip rates to account for reduced levels of retail sales (estimated to be 33% lower than typical by ALH Urban and Regional Economics) activity on-site.

SOURCE: Fehr & Peers, 2013.

As shown, the MXD model under-predicts AM peak hour trips by six percent and over-predicts PM peak hour trips by two percent. This degree of variation is well within generally accepted validation thresholds and can be less than the day-to-day fluctuations in traffic flows at the site. Therefore, it is reasonable to conclude that the MXD model is adequately calibrated to accurately estimate the trip generation of the existing uses and the non-ESC land uses in the Proposed Project.

The MXD model was used to estimate the net increase in trips generated by the non-ESC land uses over existing conditions. It was important to base the net increase in trips on a model that accurately considers internal trip-making and the likelihood of external trips by transit and non-motorized modes.

Parking

Figures 4.10-8 through 4.10-10 show the off-site parking garages/lots that are expected to be available for events at the ESC. To develop "plus project" traffic forecasts, it was necessary to determine which garages are likely to be used by attendees. This process was completed using the SACMET base year travel demand model. Specifically, the model was modified to include 30 new Traffic Analysis Zones (TAZs) in downtown Sacramento that represent parking garages. These TAZs were coded with an effective parking availability factor (based on the available supply) to ensure that the model does not assign more trips to them than could be accommodated by the available supply. The model then assigns vehicle trips to TAZs (i.e., parking garages) based on the trip origin, vehicular accesses, and available parking supply.

Table 4.10-10 shows the geographic distribution of expected parking garage/lot usage for a weekday evening Kings game. This table indicates that while attendees would park in areas

throughout the project vicinity, the greatest proportion of parking would likely occur to the south and east of the Downtown project site.

TABLE 4.10-10
GEOGRAPHIC DISTRIBUTION OF PARKING FOR WEEKDAY EVENING KINGS GAME

Location	Geographic Limits	Proportion
West of ESC	Located west of 3rd Street (either under I-5 or in Old Sacramento)	8%
East of ESC	Located east of 7th Street, north of Capitol Mall and south of I Street	26%
North of ESC	Located north of J Street	20%
South of ESC	Located south of L Street, east of I-5, and west of 7th Street	38%
Within ESC	VIP Parking	8%

1. See above text for methodology used to estimate parking garage usage.

SOURCE: Fehr & Peers, 2013.

Proposed Non-ESC Land Uses

Table 4.10-11 shows the proposed increase in land uses (by type) over existing conditions (occupied buildings) for the non-ESC component of the Proposed Project. As shown, the Proposed Project would result in a net increase of about 371,000 square feet of office space, a net decrease of 17,000 square feet of retail/restaurant/entertainment space, 550 new residential units, and a 250-room hotel. The retail employee totals reflect the expectation that the new retail/restaurant uses that will 'replace in kind' existing uses will have traditional levels of employment (versus the current discounted levels of employees and sales totals).

TABLE 4.10-11
PROPOSED NON-ESC LAND USES

Land Use Type	Measure	Existing (2012-2013) Occupied Land Uses [1]	Proposed Project Land Uses [2]	Net Increase
Office	sq. ft.	103,751	475,000	371,249
Inline Retail	sq. ft.	141,998	150,000	8,002
Restaurant	sq. ft.	19,155	100,000	80,845
Macys East [3]	sq. ft.	114,000	0	-114,000
Macys West	sq. ft.	332,500	332,500	0
Fitness Center	sq. ft.	50,848	50,000	-848
Cinema	sq. ft.	42,370	50,000	7,630
Residential	units	0	550	550
Hotel	rooms	0	250	250
Total		**804,622 sq. ft.**	**1,157,500 sq. ft. 550 resid. units 250 hotel rooms**	**352,878 sq. ft. 550 resid. units 250 hotel rooms**

1. Based on data provided by JMA Ventures.
2. Based on project description.
3. Third floor unoccupied.

SOURCE: Fehr & Peers, 2013.

Project Vehicular Access

Figure 4.10-11 displays the proposed vehicular accesses for the ESC. As shown, J Street would have two parking garage accesses, 7th Street would have one parking garage access, and L Street

would have one parking garage access. Trucks would enter the ESC from a driveway on northbound 5th Street north of L Street. They would exit the ESC onto northbound 5th Street approaching J Street. This figure also shows VIP/auto drop-off locations on J Street, 7th Street, and L Street. Loading, delivery, and other dropoffs would also occur on L Street.

Although a detailed site plan is not available for the non-ESC land uses, vehicular access to these uses is expected to be similar to what presently exists at Downtown Plaza with one notable exception: the in/out vehicular access currently located at the L Street/6th Street intersection would be replaced with a new access located slightly easterly on L Street.

Existing Plus Project Trip Generation (Auto, Transit, Walk, Bike)

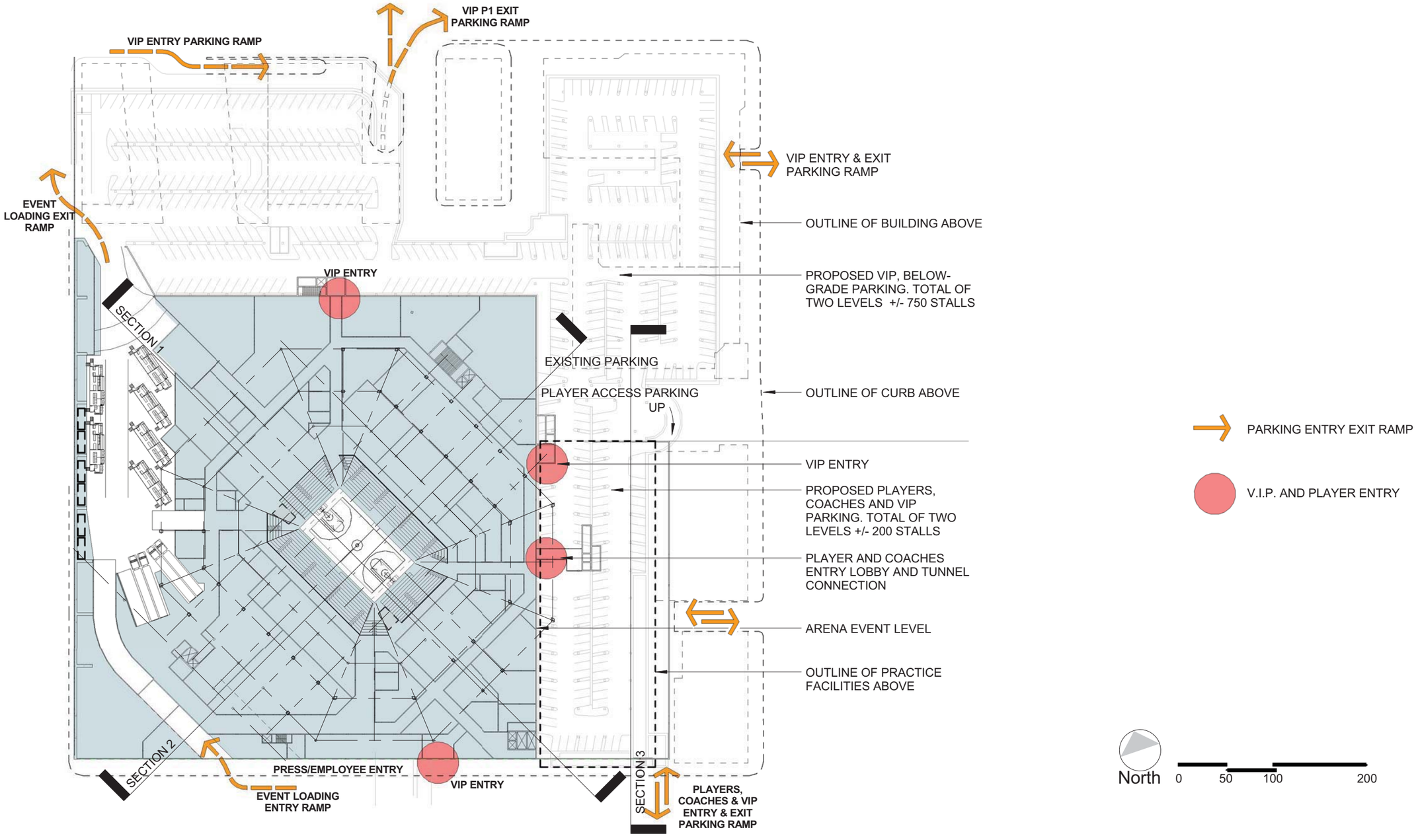
Table 4.10-12 shows the net increase in weekday AM, PM, and pre-event peak hour vehicle trips associated with the Proposed Project, assuming a morning and afternoon ESC weekday events to represent the worst case scenario. As shown, the project would generate 3,466 AM peak hour trips (79 percent inbound), 2,631 PM peak hour trips (77 percent outbound), and 5,658 pre-event peak hour trips (90 percent inbound).

TABLE 4.10-12
PROPOSED PROJECT PEAK HOUR TRIP GENERATION SUMMARY – EXISTING PLUS PROJECT CONDITIONS

	AM Peak Hour			PM Peak Hour			Pre-Event Peak Hour		
Land Use Category	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Non-ESC Land Uses (Residential, Office, Retail, Hotel) [1]	630	598	1,228	482	544	1,026	321	361	682
Kings Full Time Employees [2]	52	21	73	28	48	76	--	--	--
ESC Weekday Evening Kings Game – Attendee Trips [3]	--	--	--	--	--	--	4,676	200	4,876
ESC Weekday Evening Kings Game – Employee Trips [4]	--	--	--	--	--	--	100	0	100
ESC Weekday Morning Civic Event [5]	2,040	125	2,165	--	--	--	--	--	--
ESC Weekday Afternoon Special Event [6]	--	--	--	94	1,435	1,529	--	--	--
TOTAL VEHICLE TRIPS: [7]	2,722	744	3,466	604	2,027	2,631	5,097	561	5,658

1. AM and PM peak hour trip generation estimates are based on difference in MXD model outputs between existing Downtown Plaza land uses and Proposed Project non-ESC land uses. Estimate considers changes in internal trips and external non-auto trips between the two scenarios. Estimate also applies a retail trip rate reduction to the existing retail uses (based on sales receipts) which will be 'replaced in kind' with similar, but busier uses. Based on field-measured traffic volumes, pre-event peak hour trip generation of non-ESC land uses expected to be 66.5% of PM peak hour trips.
2. According to ICON Group, Kings would have 250 full-time employees at the ESC, the majority of which have an 8 am to 5 pm shift. Estimated trips based on output from SACMET travel demand model.
3. Based on: 7 pm game start, 17,500 attendees, 10% non-auto mode split, average vehicle occupancy (AVO) of 2.27, and 67.4% of pre-game arrivals during the pre-event peak hour. Calculation is: 17,500 x 90% x 67.4% =10,616 pre-event peak hour attendees. Assuming 2.27 persons per vehicle, this is 4,676 inbound vehicle trips. A total of 200 outbound vehicle trips assumed based on outbound vehicular travel measured at Sleep Train Arena. Based on analysis scenarios and expected ESC operations, it is highly unlikely that a weekday special event will precede a Kings game. Thus, no ESC Kings game trips are shown for the PM peak hour.
4. The majority of the 1,200 ESC basketball-related employees expected to arrive prior to pre-event peak hour. For analysis purposes, 100 inbound trips assumed.
5. Based on: 3,750-person local civic event that begins around 8 or 9 am, attendee AVO of 1.2, 66.7% arrive during AM peak hour, 5% are dropped off, and 10 percent of trips are non-auto. Also assumes 580 employees, 25% of which arrive during the AM peak hour with an AVO of 1.1.
6. Based on: 5,000-person special event (e.g., Disney on Ice) that concludes 4:30 or 5:00 pm, AVO of 2.8, 75% depart during PM peak hour, 5% are picked up, and 5 percent of trips are non-auto. Also assumes 580 employees, 25% of which depart during the PM peak hour with an AVO of 1.1.
7. Totals represent new vehicle trips generated by the Proposed Project. The traffic forecasts incorporate these trips plus the effects of added traffic/congestion on changes in background traffic flows. Pre-event peak hour traffic forecasts account for trip offsets on facilities that would otherwise be used by trips destined for Sleep Train Arena.

SOURCE: Fehr & Peers, 2013.



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Vehicular Access to ESC

FIGURE 4.10-11

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Table 4.10-13 shows the net increase in weekday daily vehicle trips associated with the Proposed Project for the three distinct ESC event activities. As shown, the non-ESC land uses and a weekday evening Kings game would generate about 28,600 daily trips. The non-ESC land uses and a weekday civic event would generate about 18,950 daily trips. The non-ESC land uses and a weekday special/family event would generate about 16,600 daily trips. On days in which there is no ESC event, the Proposed Project would generate 11,799 daily trips.

TABLE 4.10-13
PROPOSED PROJECT DAILY TRIP GENERATION SUMMARY –
EXISTING PLUS PROJECT CONDITIONS

	Average Daily Vehicle Trips for…			
Land Use Category	**ESC Activity: Weekday Evening Kings Game**	**ESC Activity: Weekday Mid-day Civic Event**	**ESC Activity: Weekday Mid-day Special Event**	**ESC Activity: No Event**
Non-ESC Land Uses (Residential, Office, Retail, Hotel) [1]	10,955	10,955	10,955	10,955
Kings Full Time Employees [2]	844	844	844	844
ESC Weekday Evening Kings Game – Attendee Trips [3]	13,876	--	--	--
ESC Weekday Evening Kings Game – Employee Trips [4]	2,963	--	--	--
ESC Weekday Morning Civic Event [5]	--	7,152	--	--
ESC Weekday Afternoon Special Event [6]	--	--	4,778	--
TOTAL VEHICLE TRIPS: [7]	28,638	18,951	16,577	11,799

1. Daily trip generation estimates are based on difference in MXD model outputs between existing Downtown Plaza land uses and Proposed Project non-ESC land uses. Estimate considers changes in internal trips and external non-auto trips between the two scenarios. Estimate also applies a retail trip rate reduction to the existing retail uses (based on sales receipts) which will be 'replaced in kind' with similar, but busier uses.
2. According to ICON Group, Kings would have 250 full-time employees at the ESC, the majority of which have an 8 am to 5 pm shift. Estimated trips based on output from SACMET travel demand model.
3. Based on: 7 pm game start, 17,500 attendees, 10% non-auto mode split, average vehicle occupancy (AVO) of 2.27. Calculation is: 17,500 x 90% vehicle mode split. Assuming 2.27 persons per vehicle, this is 6,938 inbound trips and 6,938 outbound trips.
4. 1,200 ESC-basketball employees assumed. Assume 10% non-auto mode split, 1.1 AVO, which means 982 inbound trips and 982 outbound trips. An additional 1,000 total delivery/drop-off trips assumed based on data from Sleep Train Arena (which showed about 500 outbound trips during a Kings game between 5 and 8 pm).
5. Based on: 3,750-person local civic event with attendee AVO of 1.2, 5% are dropped off/picked-up, and 10 percent of trips are non-auto. Also assumes 580 employees with an AVO of 1.1. Result is 3,576 inbound trips and 3,576 outbound trips.
6. Based on: 5,000-person special event (e.g., Disney on Ice), AVO of 2.8, 5% are picked up, and 5 percent of trips are non-auto. Also assumes 580 employees with an AVO of 1.1. Result is 2,389 inbound trips and 2,389 outbound trips.
7. Totals represent new vehicle trips generated by the Proposed Project.

SOURCE: Fehr & Peers, 2013.

Table 4.10-14 shows the number of transit riders expected to be generated by each component of the Proposed Project including the non-ESC land uses and special events. For transit trips associated with the non-ESC land uses and ESC civic and family events, equal proportions of bus and light rail were assumed. The Sacramento Regional Transit Short Range Transit Plan shows 13.6 million bus boardings and 12.3 million light rail boardings in fiscal year 2011.[14] Given the project's proximity to all LRT lines, equal shares of bus and rail use were assumed for the purposes of LRT ridership forecasting. Of Kings game patrons that are expected to use transit, the vast majority is expected to use light rail based on data from other arenas and the presence of substantially greater pre-game and post-game light rail service versus bus service.

TABLE 4.10-14
TRANSIT (BUS/LRT) RIDERSHIP – EXISTING PLUS PROJECT CONDITIONS

Land Use Category / Activity	AM Peak Hour	PM Peak Hour	Pre-Event Peak Hour	Post-Event Peak Hour
Non-ESC Land Uses (Resid., Office, Retail, Hotel)[1]	157	131	87	--
ESC Weekday Evening Kings Game – Attendees[2]	--	--	826	919
ESC Weekday Evening Kings Game – Employees[3]	--	--	7	7
ESC Weekday Morning Civic Event[4]	185	--	--	--
ESC Weekday Afternoon Special Event[5]	--	141	--	--
Total	**342**	**272**	**920**	**926**

1. Calculated as follows: 1,228 external AM peak hour vehicle trips @ 1.2 AVO is 1,474 persons. This total represents 75% of all external trips, which implies 1,965 total external person trips. Transit represents 8% of this total, or 157 riders. Similar calculations conducted for other peak hours.
2. Calculated as follows: 17,500 attendees @ 67.4% pre-event arrivals = 11,795 persons. Transit represents 7% of this total, or 826 riders. 17,500 attendees @ 75% post-event departures = 13,125 persons. Transit represents 7% of this total, or 919 riders.
3. Calculated as follows: transit used by 7% of 100 employees who arrive during the pre-event peak hour.
4. Calculated as follows: 3,750 attendees @ 66.7% AM peak hour arrivals = 2,501 persons. Transit represents 7% of this total, or 175 riders. Additional 10 employee transit trips also included.
5. Calculated as follows: 5,000 attendees @ 75% PM peak hour departures = 3,750 persons. Transit represents 3.5% of this total, or 131 riders. Additional 10 employee transit trips also included.

SOURCE: Fehr & Peers, 2013.

Pedestrian Flows during ESC Special Events

Pedestrians desiring to enter/exit the ESC will have several access choices. General admission entry points would be located in the northwest and northeast quadrants of the arena. VIP/player entry points will be provided within the adjacent, underground parking garages located north and east of the arena. A VIP entry will also be located directly on L Street. Post-event exits include those described above, as well as one or more additional 'exits from the arena.

Table 4.10-15 shows the expected use of the four public street entry/exit points for the ESC Special Events during the AM, PM, and Pre-Event peak hours. This table includes a number of footnotes describing how the pedestrian flows were estimated. While the greatest number of attendees would be expected to use the entry to the event plaza from 7th Street at K Street, substantial numbers of pedestrians would also use the event plaza entrances off of J Street and L Street.

14 Regional Transit, 2012. *Short Range Transit Plan.* December 2012. Table 4-4.

TABLE 4.10-15
PEDESTRIAN VOLUMES – EXISTING PLUS PROJECT CONDITIONS

		Pedestrian Volumes During….		
ESC Entry/Exit Point	**Width**	**AM Peak Hour**	**PM Peak Hour**	**Pre-Event Peak Hour**
J Street Access (east of 5th Street)	30 ft.	600	850	2,100
7th Street Access (at K Street)	60 ft.	1,100	1,600	4,000
L Street Access (east of 5th Street)	40 ft.	700	1,000	2,600
K Street Plaza (west of 5th Street)	40 ft.	350	500	1,300
Total	**--**	**2,750**	**3,950**	**10,000**

1. AM peak hour total pedestrian travel calculated as follows: 3,750 attendees @ 66.7% + 250 Non-ESC walk trips = 2,750 pedestrians (approx.). VIP parking assumed to be unavailable due to overlapping use with non-ESC land uses.
2. PM peak hour total pedestrian travel calculated as follows: 5,000 attendees @ 75% + 200 Non-ESC walk trips = 3,950 pedestrians (approx.). VIP parking assumed to be unavailable due to overlapping use with non-ESC land uses.
3. Pre-Event peak hour total pedestrian travel calculated as follows: 17,500 attendees @ 67.4% during the pre-event peak hour = 11,795. Approximately 1,800 assumed to park in VIP garage and enter from below-ground VIP entry. Resultant use of public street accesses would be 10,000 persons (approx.). Site plan shows employee entrance directly on L Street.

Assignment of pedestrian flows considers the following:

- Location of parking garages expected to be used by attendees.
- Presence of crosswalks/sidewalks.
- Locations of transit stops.

Values rounded to the nearest 50.

SOURCE: Fehr & Peers, 2013.

As shown in Table 4.10-7, the bike mode split is expected to range from 0.5 to 2 percent of all trips depending on the type of use. Bike trips would likely be distributed in all directions, but with a greater orientation toward the east where businesses, offices, and particularly residences are located. Anticipated bike volumes are shown in Table 4.10-15a.

TABLE 4.10-15A
BICYCLE VOLUMES – EXISTING PLUS PROJECT CONDITIONS

Land Use Category / Activity	**AM Peak Hour**	**PM Peak Hour**	**Pre-Event Peak Hour**	**Post-Event Peak Hour**
Non-ESC Land Uses (Resid., Office, Retail, Hotel)[1]	39	33	22	--
ESC Weekday Evening Kings Game – Attendees[2]	--	--	59	66
ESC Weekday Evening Kings Game – Employees[3]	--	--	1	1
ESC Weekday Morning Civic Event[4]	14	--	--	--
ESC Weekday Afternoon Special Event[5]	--	20	--	--
Total	**53**	**53**	**82**	**67**

1. Calculated as follows: 1,228 external AM peak hour vehicle trips @ 1.2 AVO is 1,474 persons. This total represents 75% of all external trips, which implies 1,965 total external person trips. Biking represents 2% of this total, or 157 riders. Similar calculations conducted for other peak hours.
2. Calculated as follows: 17,500 attendees @ 67.4% pre-event arrivals = 11,795 persons. Biking represents 0.5% of this total, or 59 riders. 17,500 attendees @ 75% post-event departures = 13,125 persons. Biking represents 0.5% of this total, or 66 riders.
3. Calculated as follows: bicycle used by 0.5% of 100 employees who arrive during the pre-event peak hour.
4. Calculated as follows: 3,750 attendees @ 66.7% AM peak hour arrivals = 2,501 persons. Biking represents 0.5% of this total, or 13 riders. Additional 1 employee bike trips also included.
5. Calculated as follows: 5,000 attendees @ 75% PM peak hour departures = 3,750 persons. Biking represents 0.5% of this total, or 19 riders. Additional 1 employee bicycle trips also included.

SOURCE: Fehr & Peers, 2013.

Trip Distribution/Assignment

Special and unique vehicle trip distribution/assignment routines were developed for the various trip generating uses for the Proposed Project including:

1. Non-ESC land uses and Kings Full Time Employees – project trips were assigned to the study roadway network based on the SACMET travel demand model. Project trips were assumed to park within the site via accesses located on J Street, 7th Street, and L Street.
2. ESC Weekday Evening Kings Game – SACMET model was used to assign project trips to the study roadway network based on pre-event cell phone data-based trip origins and parking garage destinations.
3. ESC Weekday Morning Civic Event – SACMET model was used to assign project trips to the study roadway network based on a select zone trip assignment from the TAZ that represents the Sacramento Convention Center. Trip origins destined for this TAZ were used along with ESC parking garage destinations to assign project trips.
4. ESC Weekday Afternoon Family/Special Event – SACMET model was used to assign project trips to the study roadway network from parking garage locations to post-event trip destinations, which were derived from cell phone data collected during weekend special events at Sleep Train Arena.

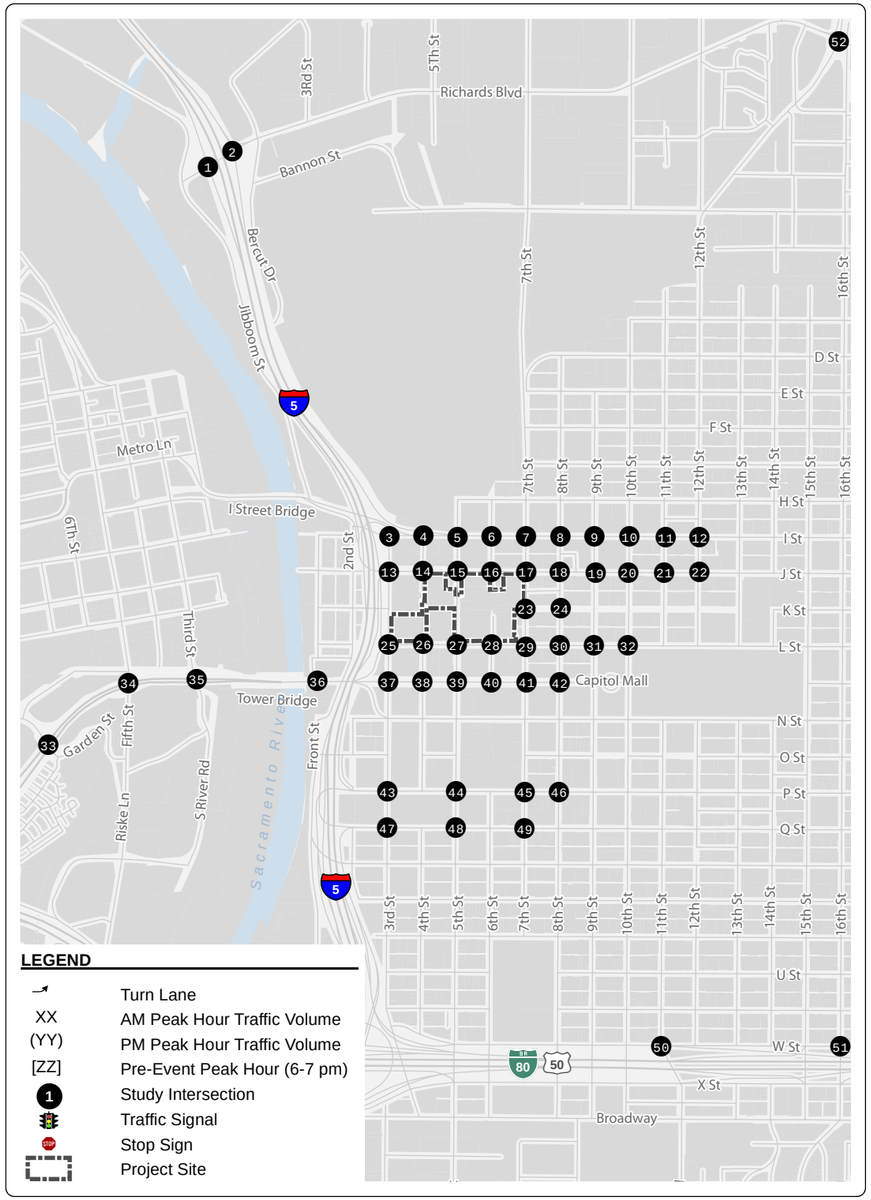
The final trip distribution/assignment procedure is an overlay of SACMET trip assignments for the following trip generation combinations (based on the above list) for a given peak hour:

- **AM Peak Hour** – #1 and #3
- **PM Peak Hour** – #1 and #4
- **Pre-Event Peak Hour** – #1, #2, and trips associated with a 17,317-person Kings game at Sleep Train Arena that would be "eliminated" if the Proposed Project were developed.

Existing Plus Project Traffic Forecasts

Figures 4.10-12a through 4.10-12c display the "existing plus project" traffic forecasts. These forecasts were developed using the aforementioned layering of project trips onto the existing roadway network. The forecasting procedure allows for the potential redistribution of some trips to other roadways in response to changes in traffic levels and congestion. Additionally, the pre-event peak hour shows some decreases in certain turning movements as a result of trips that would no longer depart downtown to attend a Kings game at Sleep Train Arena.

Figures 4.10-13a through 4.10-13c compare "existing" and "existing plus project" traffic volumes for the AM, PM, and pre-event peak hours, respectively. Volumes are shown at 20 gateway entry/exit points for the area generally bounded by I-5 on the west, O Street on the south, 8th Street/10th Street on the east, and I Street on the north. The right margin of each figure also shows the net change in traffic volumes entering/exiting the cordon area. Table 4.10-16 shows the geographic distribution of AM peak inbound trips, PM peak hour outbound trips, and pre-event inbound trips at the cordon lines.



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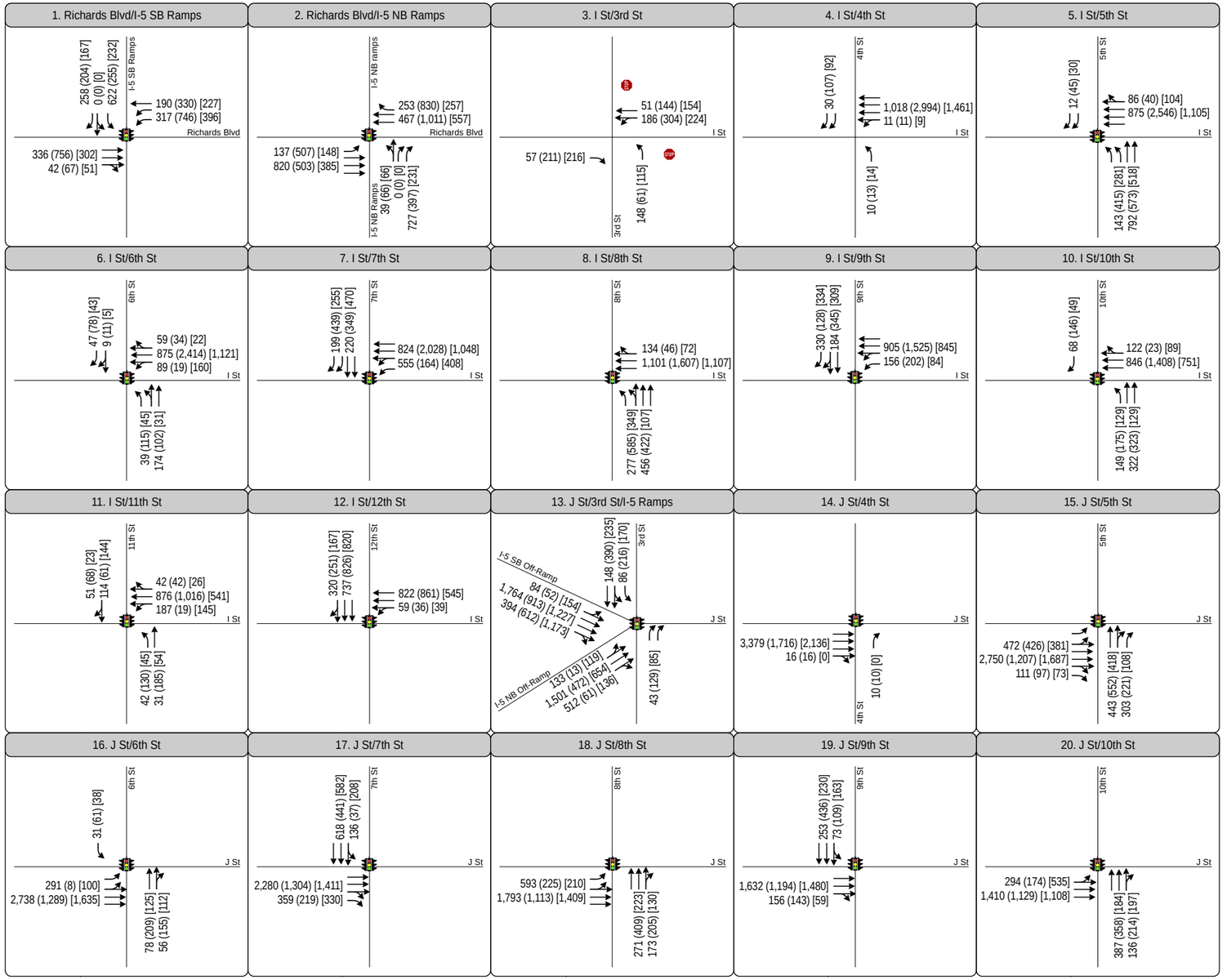

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

FIGURE 4.10-12A

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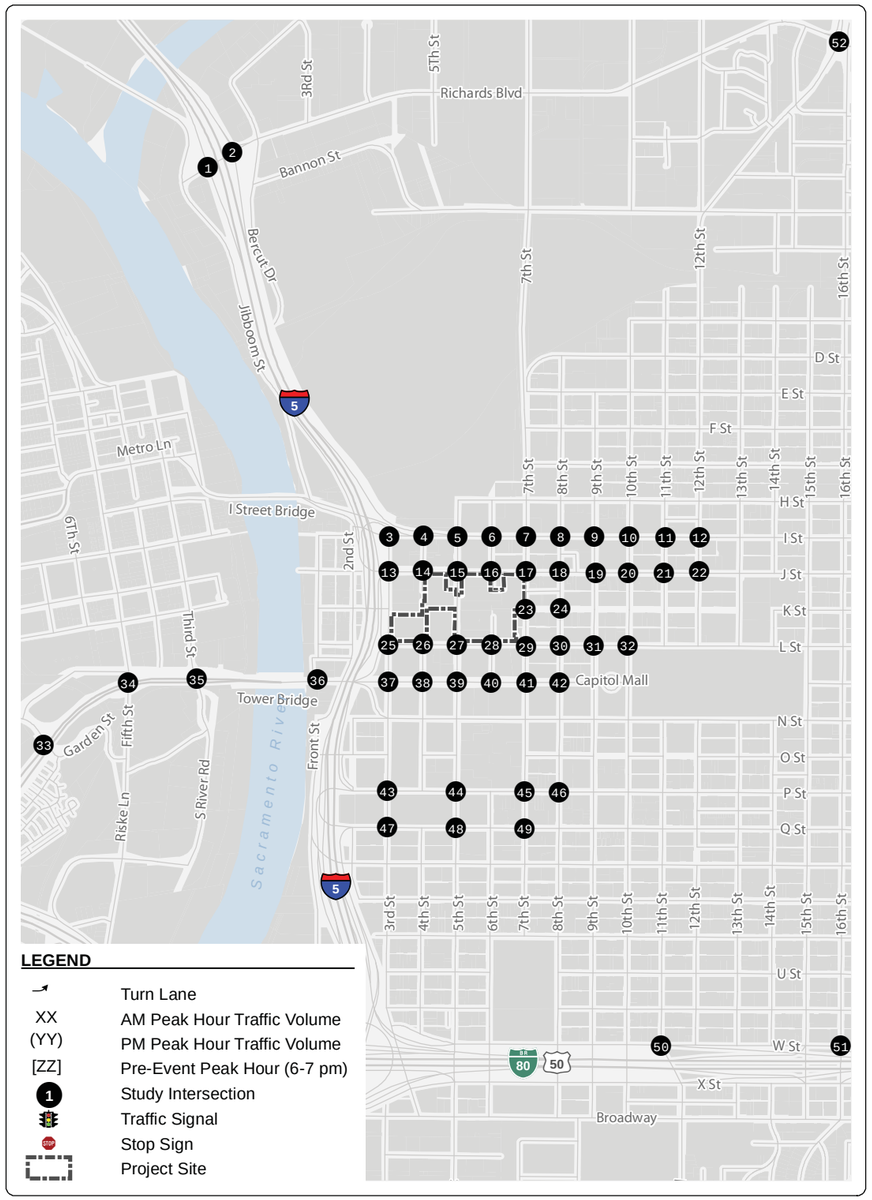

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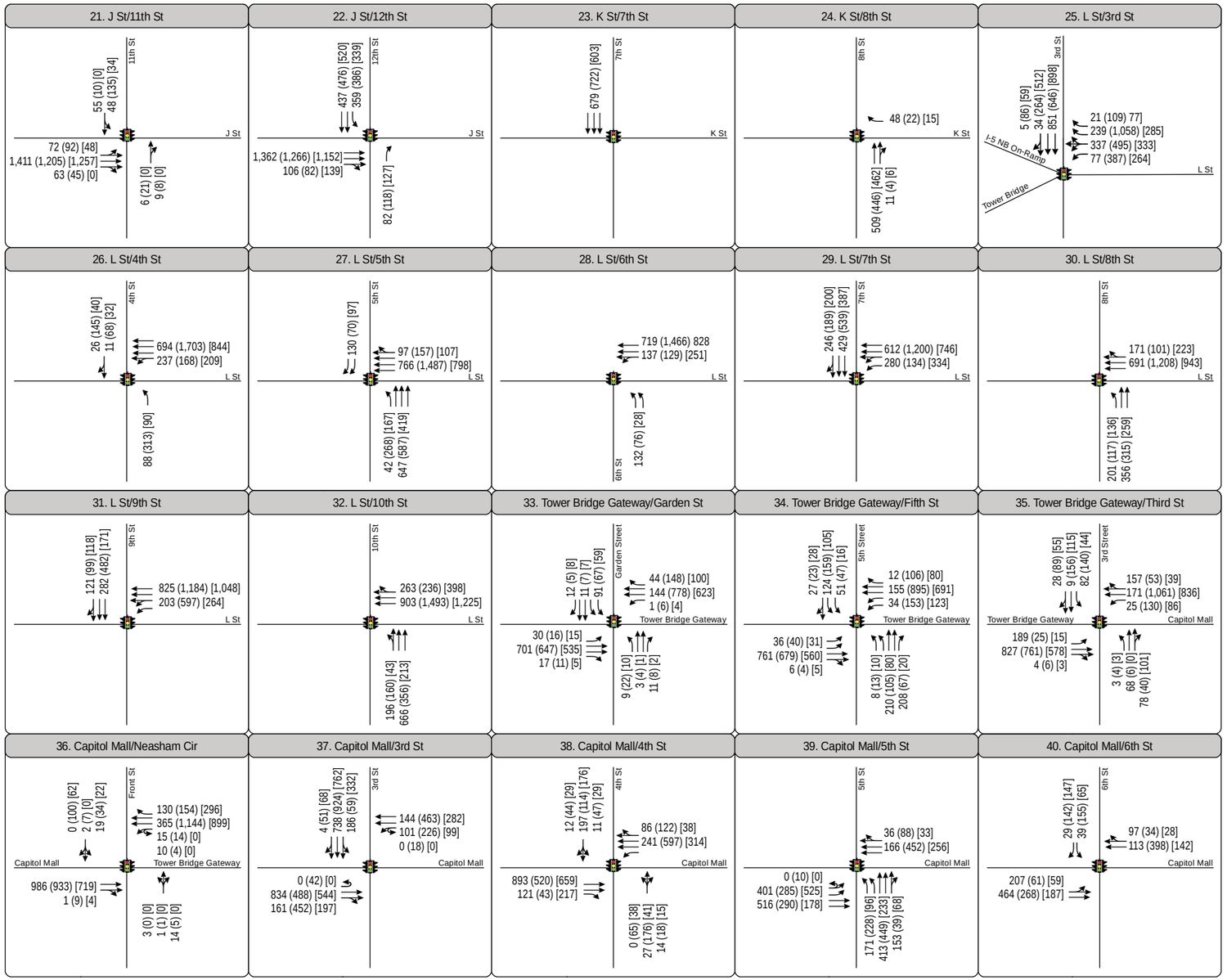

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

FIGURE 4.10-12B

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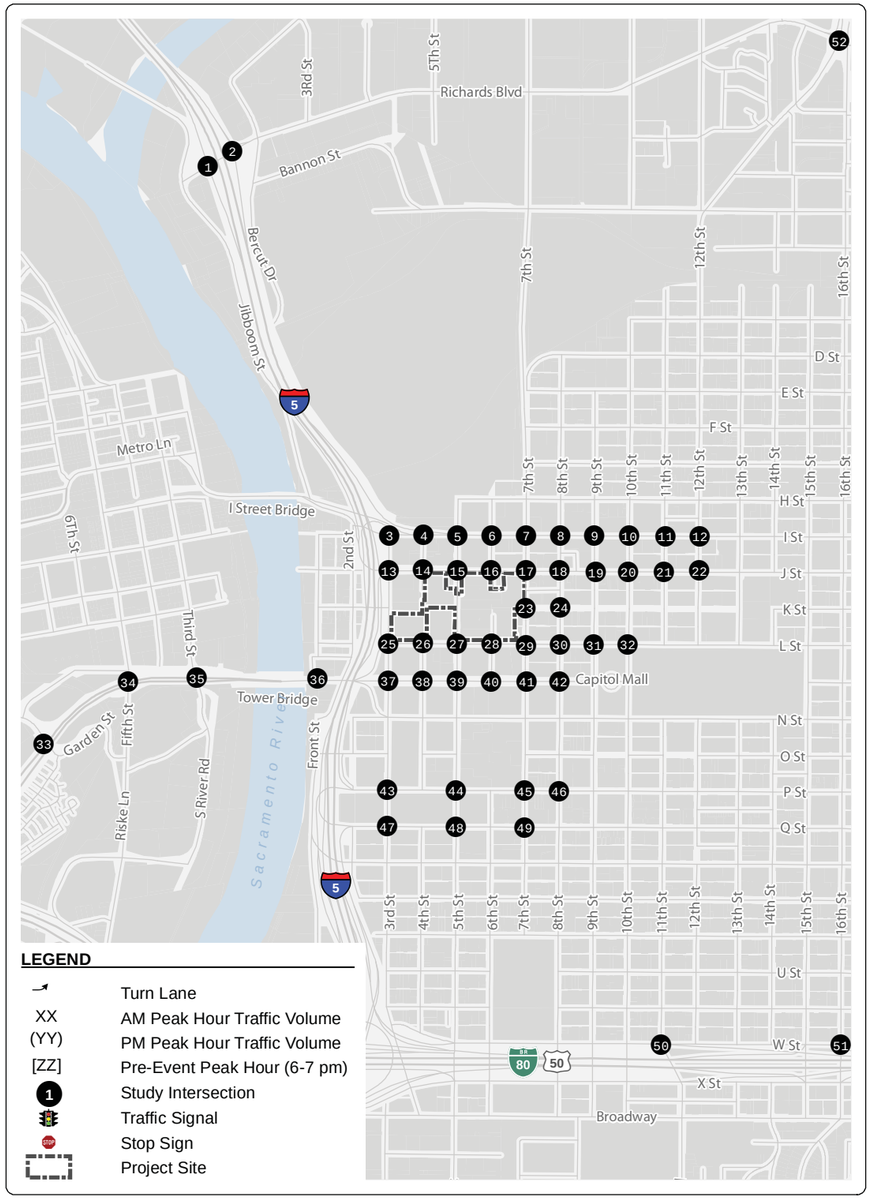

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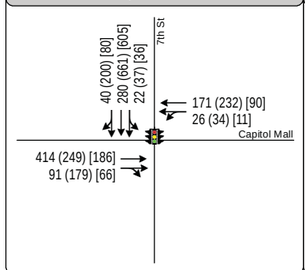
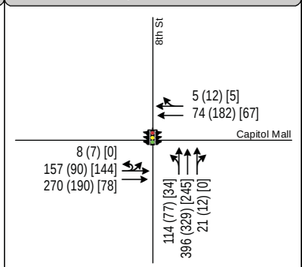
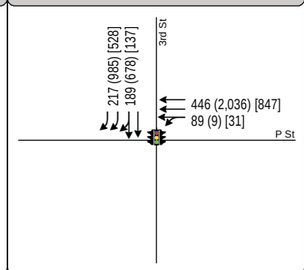
41. Capitol Mall/7th St



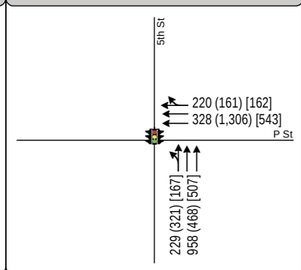
42. Capitol Mall/8th St



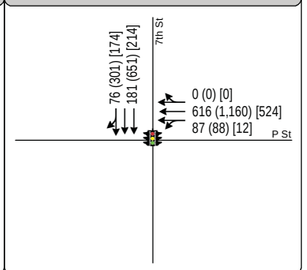
43. P St/3rd St



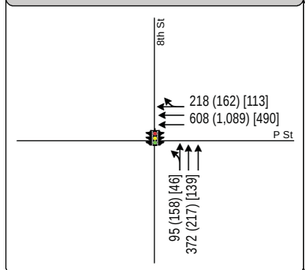
44. P St/5th St



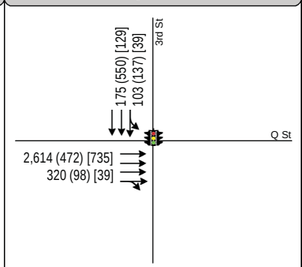
45. P St/7th St



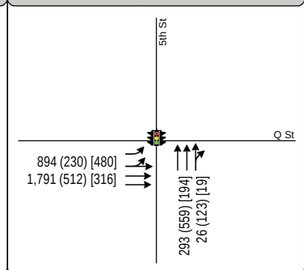
46. P St/8th St



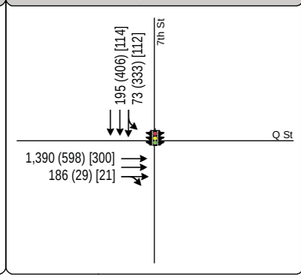
47. Q St/3rd St



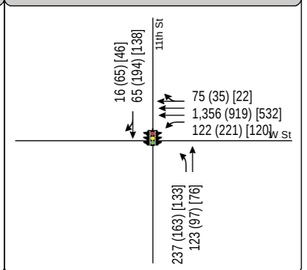
48. Q St/5th St



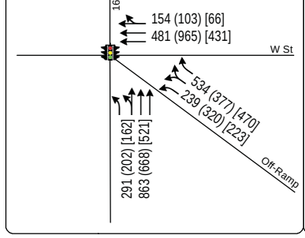
49. Q St/7th St



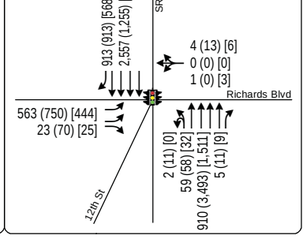
50. W St/11th St



51. W St/16th St



52. SR 160/Richards Blvd



Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

FIGURE 4.10-12C

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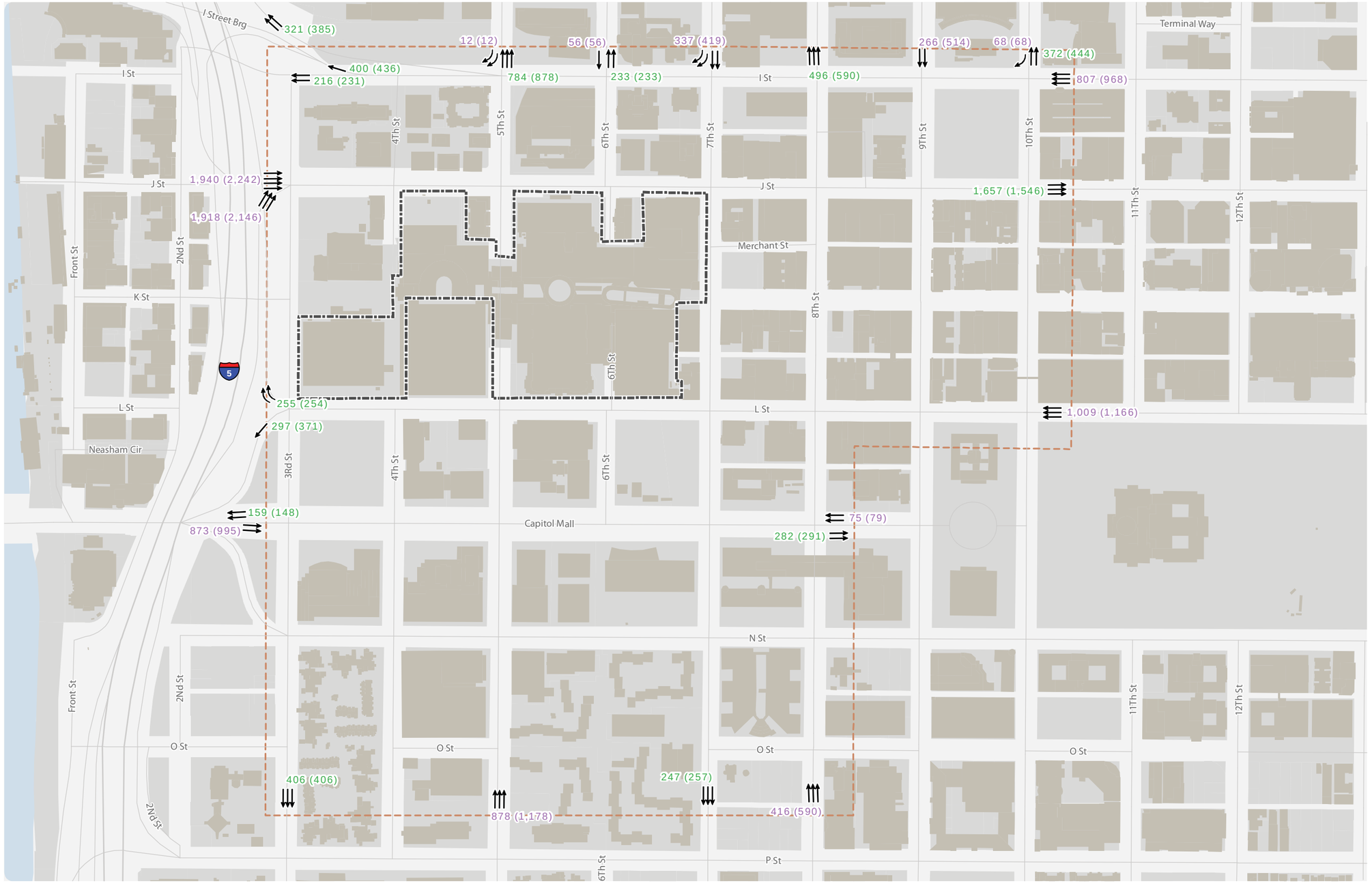

12/6/2013

LEGEND

- Travel Lane (Represents Mid-Block Cross-Section)
- Project Site
- Cordon

Outbound

- X Existing
- (X) Existing Plus Project

Inbound

- X Existing
- (X) Existing Plus Project

Cordon Traffic Volume Summary

Existing	**14,780**
Existing Plus Project	**16,914**
Difference	**2,134**

Notes:

Volume differences do not match project trip generation for the following reasons:

1. Cordon volumes do not include approximately 1,000 project trips entering parking garages located outside of cordon area.

2. Forecasting procedure allows background traffic to be redistributed, which may cause decreases in traffic on certain streets (due to shifting to less congested routes).

Not to Scale

Existing Plus Project Traffic Volume Comparison - Weekday AM Peak Hour Conditions

FIGURE 4.10-13A

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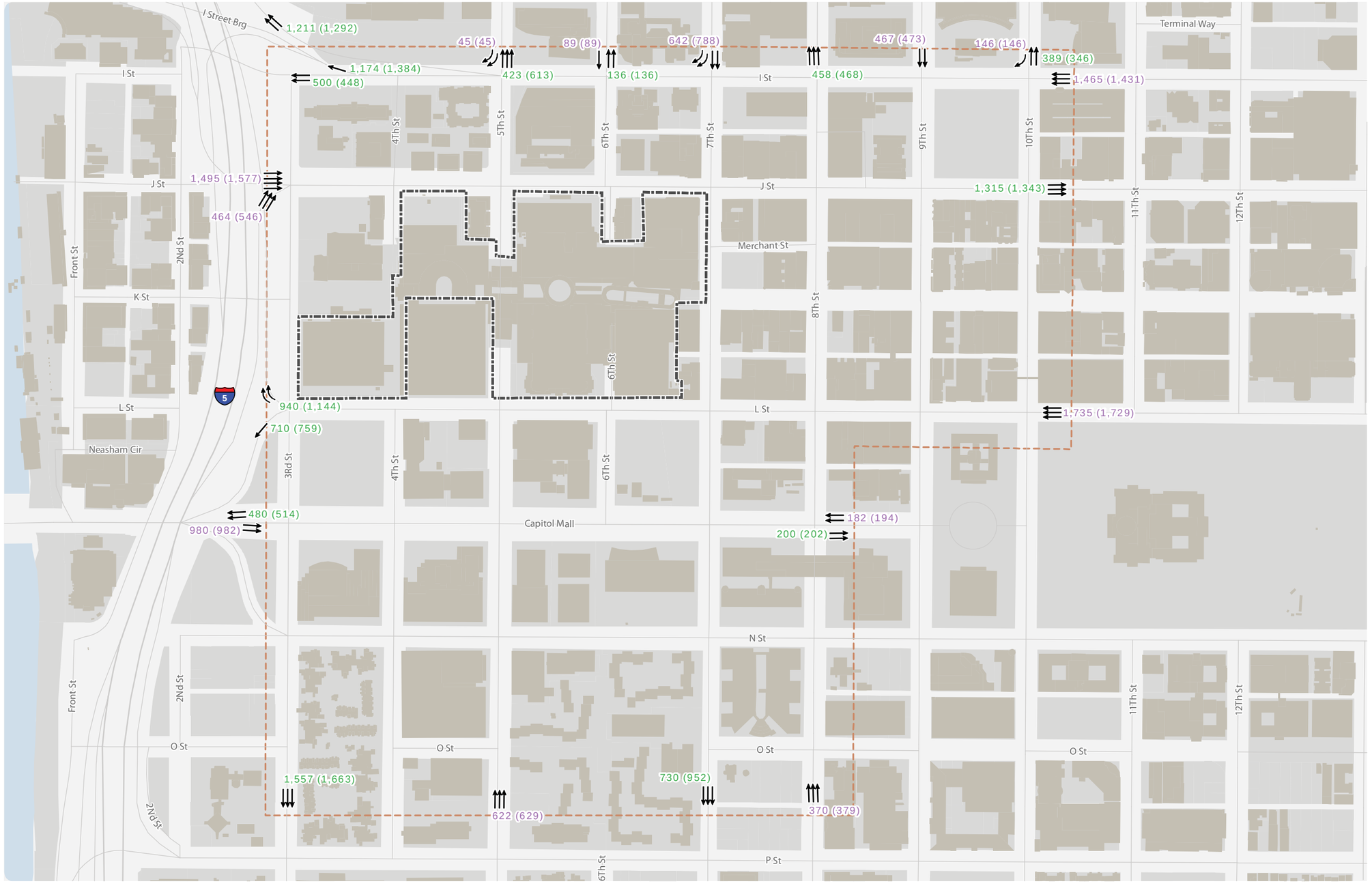

12/6/2013

LEGEND

- Travel Lane (Represents Mid-Block Cross-Section)
- Project Site
- Cordon

Outbound

- X Existing
- (X) Existing Plus Project

Inbound

- X Existing
- (X) Existing Plus Project

Cordon Traffic Volume Summary

Existing	**18,925**
Existing Plus Project	**20,272**
Difference	**1,347**

Notes:

Volume differences do not match project trip generation for the following reasons:

1. Cordon volumes do not include approximately 1,000 project trips entering parking garages located outside of cordon area.

2. Forecasting procedure allows background traffic to be redistributed, which may cause decreases in traffic on certain streets (due to shifting to less congested routes).

Not to Scale

Existing Plus Project Traffic Volume Comparison - Weekday PM Peak Hour Conditions

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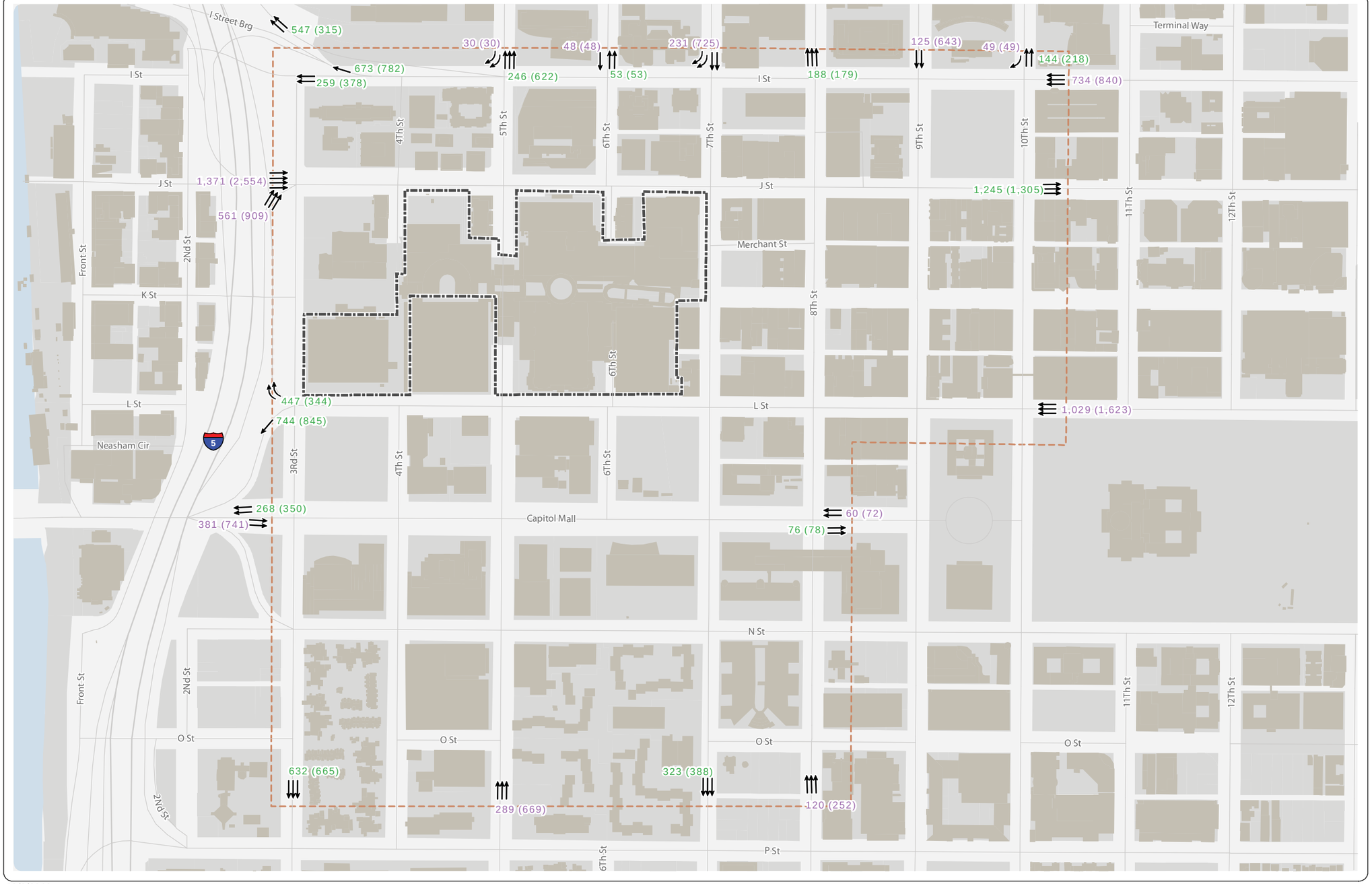
FIGURE 4.10-13B



12/6/2013

LEGEND

- Travel Lane (Represents Mid-Block Cross-Section)
- Project Site
- Cordon

Outbound

- X Existing
- (X) Existing Plus Project

Inbound

- X Existing
- (X) Existing Plus Project

Cordon Traffic Volume Summary

Existing	**10,873**
Existing Plus Project	**15,667**
Difference	**4,804**

Notes:

Volume differences do not match project trip generation for the following reasons:

1. Cordon volumes do not include approximately 2,200 project trips entering parking garages located outside of cordon area.

2. Cordon summation double counts certain background and project-related "through" trips thatboth enter and exit the cordon area (e.g., J Street Off-Ramp to NB 5th Street).

3. On certain streets, a decrease in outbound trips occurs due to auto trips no longer being made to a Kings game at Sleep Train Arena.

Not to Scale

Existing Plus Project Traffic Volume Comparison - Weekday Pre-Event Peak Hour Conditions

FIGURE 4.10-13C

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TABLE 4.10-16
VEHICLE TRIP DISTRIBUTION – EXISTING PLUS PROJECT CONDITIONS

Travel Direction	AM Peak Hour (Inbound) [5]	PM Peak Hour (Outbound) [6]	Pre-Event Peak Hour (Inbound) [7]
East [1]	18%	3%	17%
West [2]	37%	51%	46%
North [3]	18%	17%	25%
South [4]	27%	29%	12%

1. Includes I Street, J Street, and K Street east of 10th Street and Capitol Mall east of 8th Street.
2. Includes I-5 on/off ramps, I Street Bridge, and Tower Bridge.
3. Includes 5th Street through 10th Street north of I Street.
4. Includes 3rd Street through 8th Street south of N Street.
5. AM peak hour distribution focuses on inbound travel direction due to effect of non-ESC land uses and 3,750-person civic event. 79% of AM peak hour trips are inbound.
6. PM peak hour distribution focuses on outbound travel direction due to effect of non-ESC land uses and 5,000-person entertainment/family event. 77% of PM peak hour trips are outbound.
7. Pre-Event peak hour distribution focuses on inbound travel direction due to effect of non-ESC land uses and 17,500-person Kings game. 90% of Pre-Event peak hour trips are inbound.

SOURCE: Fehr & Peers, 2013.

Figure 4.10-14 shows the expected "existing plus project" post-event peak hour traffic volumes on roadways within the downtown area. As noted on this figure, the trip assignment is based on 75 percent of post-event trips being assigned to the roadway network during the post-event peak hour. The assignment does not assume any street closures or traffic management activities (though such actions are likely as discussed later in this chapter). Additional vehicle trips are expected by attendees who would park outside the cordon area (e.g., north of I Street or east of 10th Street). Whereas some of these trips are reflected in the volumes on Figure 4.10-14, others are not (e.g., a trip that departs a County garage north of I Street uses H Street to 16th Street).

Chart TR-1 below compares the volume of traffic at nine gateway locations that serve the downtown area. Data are shown for the existing PM peak hour, existing post-event peak hour, and "existing plus project" post-event peak hour. Key findings from this chart include the following:

- On average, the existing post-event peak hour volumes represent about 30 percent of traffic that is present during the existing PM peak hour.

- At five of the nine locations, the existing PM peak hour volume is expected to be greater than the "existing plus project" post-event peak hour volume. In other words, conditions on these streets (including portions of I Street, J Street, and N Street, and 7th Street) would feel similar to or less busy than existing peak hour conditions.

- At four locations, the "existing plus project" post-event peak hour volume would be greater than the existing PM peak hour volume. This includes L Street at I-5, 10th Street north of I Street, P Street at I-5, and H Street east of 10th Street. These locations would feel busier during post-event conditions than peak hour conditions. The increased usage of H Street can be attributed to available parking in lots/garages located north of J Street, and the convenience provided by H Street to access points to the east.

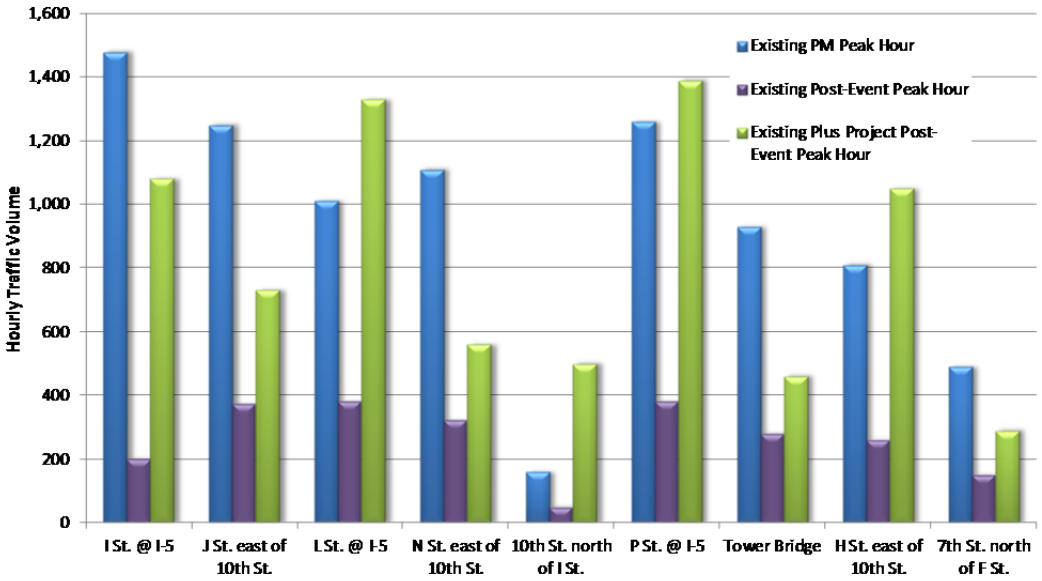


Chart TR-1: Comparison of Link Volumes for Key Gateways to Downtown

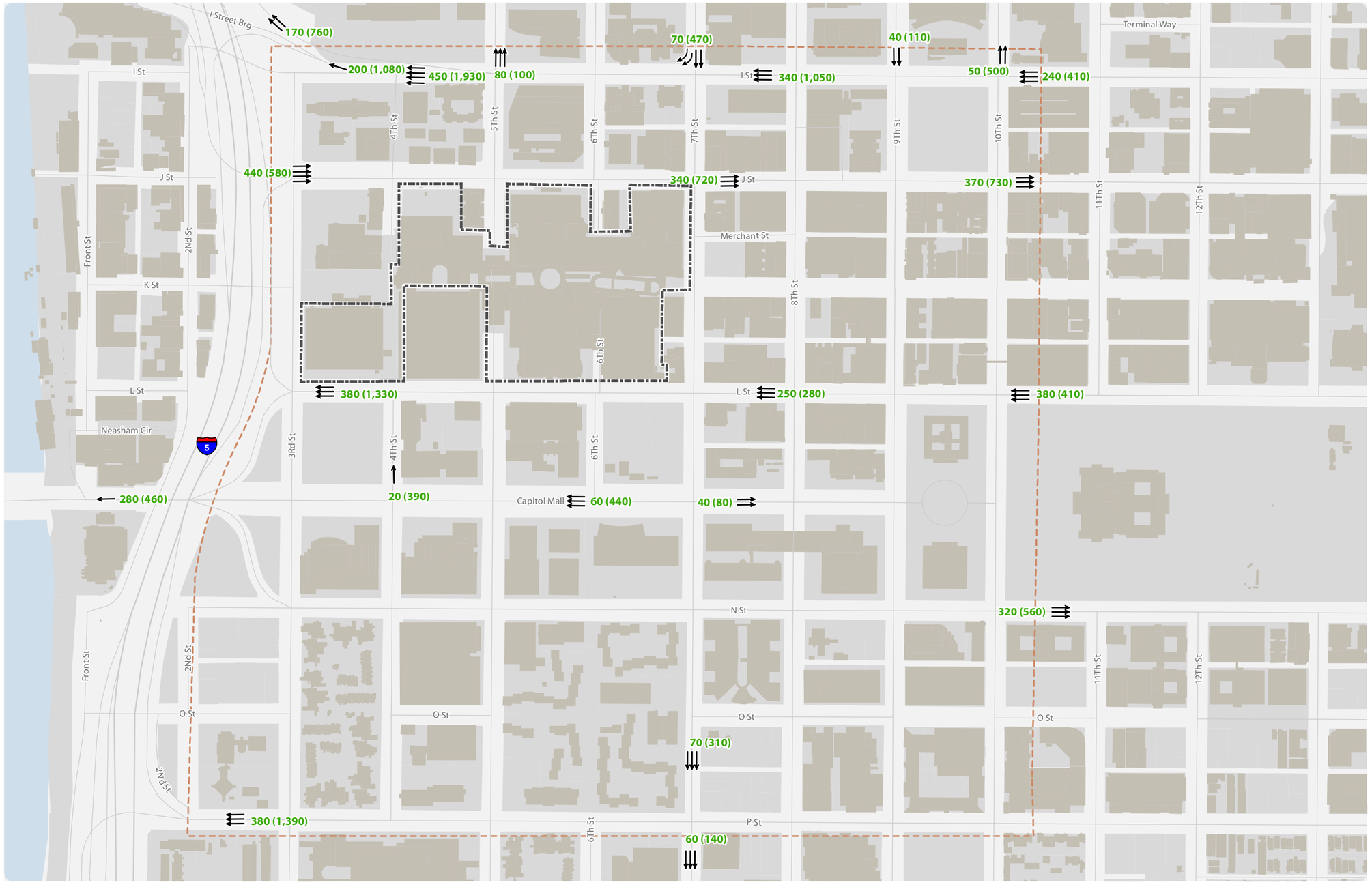
Table 4.10-17 shows the expected change in traffic volumes between existing and existing plus project conditions for each peak hour for several segments of I-5 and SR 160. Key findings from this table include:

1. During the AM peak hour, the project would add between 90 and 320 trips in the inbound directions (i.e., toward downtown) of I-5 and SR 160. Similarly, the project would add between 60 and 200 trips in the outbound directions (i.e., away from downtown) of I-5 and SR 160 during the PM peak hour.

2. During the pre-event peak hour, the project would cause a net increase of about 1,100 trips on southbound I-5 between I-80 and J Street. Similarly, the project would cause a net increase of about 1,375 trips on westbound SR 160 between Del Paso Boulevard and Richards Boulevard.

3. During the pre-event peak hour, the project would cause a slight decrease in traffic on northbound I-5 between the US 50/Capital City Freeway interchange and the Q Street off-ramp. This would be due to some trips that were destined for Sleep Train Arena instead diverting to other routes or using other travel modes.

4. During the pre-event peak hour, the project would cause a major decrease in traffic (1,550 less vehicles) on northbound I-5 between J Street and I-80. This would be due to Kings trips that were otherwise destined for Sleep Train Arena diverting to the ESC (i.e., exiting at Q Street or J Street).



12/6/2013

LEGEND

- Travel Lane (Represents Mid-Block Cross-Section)
- Project Site
- Cordon
- X — Existing
- (X) — Existing Plus Project

Notes:

1. Assumes 75% of post-event ESC Kings game vehicle trips occur during the post-event peak hour (9:30 - 10:30pm).

2. Does not assume any street closures or traffic management.

3. Does not show vehicle trips that depart garages located outside of cordon area that do not enter cordon (e.g., trips from county lots north of I St. headed on EB H St. are not shown here).

Not to Scale

Existing Plus Project Traffic Volume Comparison - Weekday Post-Event Peak Hour Conditions

FIGURE 4.10-14

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TABLE 4.10-17
COMPARISON OF FREEWAY VOLUMES – EXISTING PLUS PROJECT CONDITIONS

	AM Peak Hour			PM Peak Hour			Pre-Event Peak Hour		
Segment	**Existing**	**E+P**	**Project Trips**	**Existing**	**E+P**	**Project Trips**	**Existing**	**E+P**	**Project Trips**
I-5 SB between Richards Blvd. and J Street	7,561	7,877	+316	6,647	6,708	-61	4,407	5,509	+1,102
I-5 SB between I Street and Q Street	6,061	6,107	+46	6,597	6,593	-4	4,372	4,305	-67
I-5 NB between P Street and J Street	8,098	8,189	+91	6,817	6,873	+56	6,658	5,790	-868
I-5 NB between I Street and Richards Blvd.	6,675	6,667	-8	8,494	8,695	+201	7,091	5,541	-1,550
EB SR 160 between Richards Blvd and Del Paso Blvd.	1,485	1,466	-18	4,094	4,259	+165	1,934	1,954	+20
WB SR 160 between Del Paso Blvd and Richards Blvd	3,193	3,459	+266	2,195	2,168	-27	1,181	2,556	+1,375

1. Selected segments of I-5 and SR 160 were chosen to illustrate differences in traffic volumes between no project and with project conditions.

SOURCE: Fehr & Peers, 2013.

Appendix D contains a traffic model plot depicting changes in pre-event peak hour traffic volumes on freeways associated with a weekday evening Kings played at ESC versus Sleep Train Arena. These values differ somewhat from those in Table 4.10-17 because they only include ESC events (and not the non-ESC trips). The following meaningful changes in traffic flow are projected:

Pre- event peak hour traffic volumes increase (ESC Minus Sleep Train Arena)

- Westbound SR 160 (at American River Bridge): +1,150 vehicles
- Westbound I-80 between Truxel Road and I-5: +510 vehicles
- Westbound Capital City Freeway east of Arden Way: +810 vehicles
- Southbound I-5 north of I-80: +510 vehicles
- Southbound I-5 across American River: +1,000 vehicles
- Southbound I-5 between Richards Blvd and J Street: +1,090 vehicles
- US 50 east of I-80: +300 vehicles

Pre- event peak hour traffic volumes decrease (ESC Minus Sleep Train Arena)

- Northbound I-5 north of P Street: -900 vehicles
- Northbound I-5 across American River: -1,500 vehicles
- Northbound I-5 north of I-80: -1,360 vehicles
- Westbound I-80 east of Northgate Blvd. -780 vehicles
- Eastbound I-80 west of I-5: -400 vehicles
- Northbound I-5 south of US 50: -80 vehicles
- Westbound US 50 east of Capital City Freeway: -80 vehicles

The above information is helpful in understanding changes in traffic volumes at a given point on the freeway system. Additional information can be generated from the traffic model regarding overall changes in travel on the freeway system. The total VMT for the pre-event PM peak hour was calculated for Kings games played at ESC and Sleep Train Arena. A regional cordon approximately bounded by the I-5/SR 99 interchange on the north, Sutterville Road on the south, the Yolo Causeway on the west, and Watt Avenue to the east was created. The cordon area includes segments of I-5, I-80, SR 99, US 50, Capital City Freeway, and SR 160. The model showed a reduction of 3,718 VMT associated with a Kings game at ESC compared to a comparable game at Sleep Train Arena. This represents a 17.4 percent decrease in total VMT between the two games.

Figure 4.10-15 shows the expected "existing plus project" pedestrian flows during the pre-event peak hour. This exhibit indicates the level of pedestrian traffic expected to cross L Street, J Street, Capitol Mall, and 7th Street to access the project site. These volumes are needed to properly size pedestrian infrastructure and analyze intersection operations in consideration of pedestrian flows.

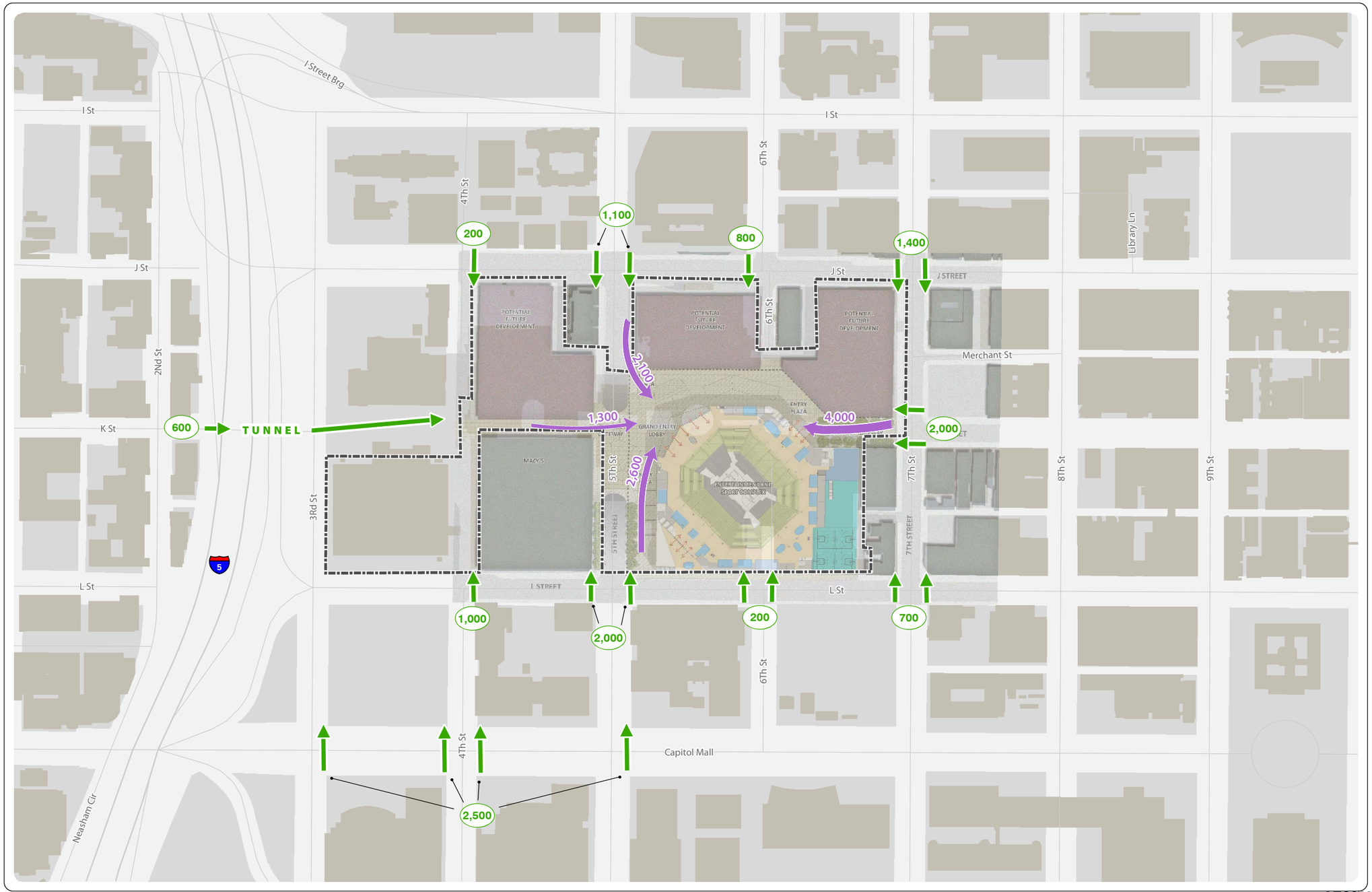
Key findings from this figure include the following:

- The majority of the crosswalks that provide immediate access to the project site would be heavily utilized during the pre-event peak hour. Crosswalks on L Street (at 5th Street and 7th Street), J Street (at 5th Street, 6th Street, and 7th Street), and 7th Street (at K Street) would be particularly heavily traveled.

Table 4.10-18 shows the expected number of LRT riders under existing plus project conditions for the AM (inbound), PM (outbound), pre-event (inbound), and post-event (outbound) peak hours. This table includes a number of footnotes that describe the methodologies, estimates, and assumptions used in the calculations. Data are presented for each entire peak hour, with results expressed in terms of "percentage of hourly train capacity" that is utilized. Data are also presented for the busiest train during each peak hour, with results expressed in terms of "seats occupied and riders standing".

The post-event peak hour, which consists of two outbound trains on each line, assumes that 75 percent of attendees depart during this hour, and that the busiest train receives 60 percent of that demand. This estimate acknowledges that the following site conditions will influence these percentages:

- Basketball Game Characteristics: A blow-out game versus a competitive game (i.e., outcome decided in the last couple of minutes) will have different patron dispersion patterns. They would also have different game end times due to increased use of timeouts, potential for overtime, and other factors.
- Temporal Considerations: The day of the week the game is being played may have an effect on post-game attendee travel patterns (i.e., stay at ESC for post-event food/drinks versus travel directly home). Similarly, the month in which the game is being played will affect weather conditions, which could also influence travel behavior.
- Overlap With Scheduled LRT Departures: The above factors will influence the extent to which the majority of LRT riders arrive at their selected station prior to or after a scheduled train departure.



LEGEND

- Crosswalk (With Pedestrian Travel Direction)
- 800 — Approximate Number of Inbound Pedestrians During Pre-Event Peak Hour
- Number of Persons Acecssing ESC from Given Access Point
- Project Site

Note:

67% of 17,500 attendees (11,725) are expected to arrive during the pre-event peak hour. Of this total, about 1,700 persons expected to park in garage located on-site. Remaining 10,000 persons walk from garages, transit stops, and adjacent land uses to ESC.

N

Not to Scale

12/11/2013

Site Plan Source: AECOM

Pre-Event Peak Hour Pedestrian Flows - Existing Plus Project Conditions

FIGURE 4.10-15

Path: N:\2013Projects\3144_ESC_EIR\Graphics\Draft\GIS\MXD\December2013\fig4_10_15_ExPedFlow.mxd

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TABLE 4.10-18
LIGHT RAIL TRANSIT RIDERSHIP – EXISTING PLUS PROJECT CONDITIONS

			AM Peak Hour Inbound		PM Peak Hour Outbound		Pre-Event Peak Hour Inbound		Post-Event Peak Hour Outbound	
LRT Line[1]	**Line Segment[2]**	**Data Type[3]**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**	**Hourly**	**Busiest Train**
Blue Line (to/from Watt/I-80)	Between Globe Avenue and Alkali Flat	Riders	610	208	745	224	435	150	389	233
		Trains Per Hour	4	--	4	--	3	--	2	--
		% Seats Occupied	--	81%	--	88%	--	100% (22)	--	100% (105)
		% of Capacity	31%	--	37%	--	39%	--	78%	--
	Approaching 7th/K (In) Departing 9th/K (Out)	Riders	457	161	613	196	463	160	407	243
		Trains Per Hour	4	--	4	--	3	--	2	--
		% Seats Occupied	--	63%	--	77%	--	100% (32)	--	100% (115)
		% of Capacity	23%	--	31%	--	37%	--	81%	--
Blue Line (to/from Meadowview)	Between 4th Avenue and Broadway	Riders	583	172	677	245	413	134	306	183
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	67%	--	96%	--	100% (6)	--	100% (55)
		% of Capacity	29%	--	34%	--	33%	--	61%	--
	Approaching 8th/Capitol (In) Departing 7th/Capitol (Out)	Riders	313	92	391	107	412	157	317	166
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	36%	--	42%	--	100% (29)	--	100% (38)
		% of Capacity	16%	--	20%	--	33%	--	63%	--
Gold Line (to/from Folsom)	Between 29th and 39th	Riders	941	336	726	275	449	147	307	184
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	100% (80)	--	100% (19)	--	59%		100% (56)
		% of Capacity	47%	--	36%	--	22%	--	61%	
	Approaching 8th/Capitol(In) Departing 7th/Capitol (Out)	Riders	361	129	359	123	351	124	295	178
		Trains Per Hour	4	--	4	--	4	--	2	--
		% Seats Occupied	--	50%	--	53%	--	50%	--	100% (50)
		% of Train Capacity	18%	--	18%	--	18%	--	59%	--

1. Data shown for primary LRT lines currently in use. Ridership is modest on Green line due to current geographic extents.
2. For each LRT Line, ridership and capacity analyzed at two specific segments. One segment is the busiest point (i.e., maximum load point) along the route. The other segment is located just upstream or downstream of the station expected to be used by the majority of project transit riders.
3. Definition of Data Types are given as follows:
   - Riders = Based on data collected by RT on September 1, 2012 through March 31, 2013.
   - Trains per Hour = Based on current RT schedules.
   - % Seats Occupied = Calculated for the busiest train assuming 64 seats per car. During the AM and PM peak hours, each train has 4 cars. During the post-event peak hour, each train has two cars. Train sizes vary from two to four cars during the pre-event peak hour. 100% (x) = all seats occupied and (x) number of riders standing.
   - % of Capacity = Calculated as number of riders per hour divided by number of cars per hour (and assuming 125 persons per car as capacity).
4. Plus Project" calculations assume:
   - LRT ridership from Table 4.10-14, with adjustments for direction of travel, and bus use (i.e., 50% bus use for non-ESC & ESC mid-day events and 0% bus use for ESC Kings games).
   - AM and PM transit trips to a given LRT line are proportional to existing ridership levels.
   - Net increase in 134 AM, 107 PM, 827 pre-event, and 918 post-event peak hour LRT riders.
   - All AM and PM transit trips travel from/to beyond the maximum loading point (MLP).
   - 35% of hourly transit trips occur on busiest train (based on existing ratio) when four trains per hour are operating. For post-event, 60% of hourly demand assumed on busiest train.
   - For ESC Kings games, 100% transit use via LRT with line use as follows: Blue Line to I-80/Watt (40%), Blue Line to Meadowview (30%), Gold Line to Folsom (30%) based on cell phone data and existing ridership levels.
   - 95% of ESC Kings game riders have origins/destinations beyond the maximum load point.

SOURCE: Fehr & Peers, 2013.

In light of the above factors, the assumption that 60 percent of the post-event peak hour LRT demand uses the busiest train is reasonably conservative. Whereas equal utilization could result in underestimation of ridership on the busiest train, a greater percentage may be unreasonable to expect due to the above factors. Nevertheless, this analysis acknowledges that under certain conditions, it is possible that the first train would be over-capacity and some riders would need to wait for the next train that would arrive 30 minutes later. The discussion below regarding Impacts and Mitigations describes the possibility of brief post-game transit service enhancements, loading, and station operations.

Key findings from this table include:

- **AM and PM Peak Hours** – The project would add transit riders, thereby increasing the percentage of system capacity being used. However, system capacities would not be exceeded.

- **Pre-Event Peak Hour** – Project-effects on ridership are more pronounced during the pre-event peak hour due to lower levels of background ridership and a larger number of project-related transit trips. The busiest inbound train on the Blue Lines (i.e., from I-80/Watt and Meadowview) would experience seat occupancy in the 30 to 50 percent range under existing conditions. Under existing plus project conditions, all seats would be occupied and riders would need to stand. This implies that these trains would transform from being relatively under-utilized (i.e., more than half the seats available) to very well utilized (i.e., all seats occupied and additional riders standing). Conditions are not projected to be as busy on the Gold Line.

- **Post-Event Peak Hour** – This analysis hour would accommodate approximately 920 LRT riders based on a 17,500-person event, 75 percent departing during this hour, and 7 percent using LRT. The busiest outbound train on all three lines would experience seat occupancy in the 10 to 20 percent range under existing conditions, and 100 percent under existing plus project conditions. This implies that these trains would transform from being mostly empty to very full with many riders standing. However, system capacities would not be exceeded.

RT staff requested that occupancy of the mini-high ramps and platforms also be evaluated based on the assumption that 4.77 percent of light rail riders use the mini-high ramps. During the post-event peak hour, 918 LRT riders are expected, which implies 44 riders will use the mini-high ramps based on the suggested factor. Since the maximum ridership on a given line is 40 percent of the total, this means a maximum of 18 riders using the mini-high ramps during the two train departures during the post-event peak hour.

Vehicle Miles of Travel (VMT) – Existing Plus Project Conditions

This section provides an estimate of the VMT generated by the Proposed Project, for both the ESC and non-ESC land uses, for the three different study scenarios. A comparison of the VMT generated by an NBA game at the existing Sleep Train Arena site and at the ESC site is also provided. Table 4.10-19 displays the VMT associated with three distinct ESC events along with the VMT for the non-ESC land uses and Kings full time employees.

TABLE 4.10-19
VMT SUMMARY – EXISTING PLUS PROJECT CONDITIONS

	Average Daily VMT for…		
Land Use Category / Activity	**ESC Activity: Weekday Evening Kings Game**	**ESC Activity: Weekday Mid-day Civic Event**	**ESC Activity: Weekday Mid-day Special Event**
Non-ESC Land Uses[1]	114,931	114,931	114,931
Kings Full Time Employees[1]	7,431	7,431	7,431
ESC Weekday Evening Kings Game[2]	164,578	--	--
ESC Weekday Morning Civic Event[1]	--	44,482	--
ESC Weekday Afternoon Special Event[2]	--	--	45,848
Total	286,940	166,844	168,210

1. Based on output from the SACMET travel demand model.
2. Based on output from the SACMET travel demand model using cell phone data (with appropriate provisions for non-auto modes) for trip origins and destinations. VMT estimate also includes travel associated with employees working at event.

SOURCE: Fehr & Peers, 2013.

Table 4.10-20 presents a VMT comparison for a weekday evening Kings game played at Sleep Train Arena versus the ESC. According to Table 4.10-20, the VMT per attendee is estimated to be 11.57 miles at Sleep Train Arena and 9.40 miles at the ESC. This represents an 18.8 percent reduction in 'per attendee' VMT for an NBA game at ESC. This reduction is due to the combined effect of a greater non-auto mode split for ESC and relocation of the facility to a location that reduces the average drive distance for attendees.

TABLE 4.10-20
VMT COMPARISON FOR BASKETBALL GAMES – EXISTING PLUS PROJECT CONDITIONS

Data	**ESC**	**Sleep Train Arena**
VMT for Kings Game [1]	164,578	200,386
Number of Attendees [2]	17,500	17,317
VMT per Attendee	9.40	11.57

1. Based on output from the SACMET travel demand model using cell phone data (with appropriate provisions for non-auto modes) for trip origins and destinations. VMT estimate also includes travel associated with employees working at event.
2. Both scenarios assume a sold-out event based on their capacity.

SOURCE: Fehr & Peers, 2013.

As discussed above under Regulatory Setting, the proposed ESC would perform better than the criteria established in step 3 (i.e., Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline) as defined for a "Downtown arena" under PRC Section 21168.6.6.

Existing Plus Project Traffic Operations

Table 4.10-21 displays the LOS and average delay at each study intersection under existing plus project conditions. This analysis is based on the existing plus project volumes shown in Figures 4.10-12(a) through (c). No changes in lane configurations or signal timings were assumed. Increases in pedestrian crosswalk movements were made at signalized intersections commensurate with parking garage use and available sidewalks/crosswalks.

TABLE 4.10-21
INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS

Intersection		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS
1.	Richards Blvd/I-5 SB Ramps	22.1	C	22.6	C	21.4	C
2.	Richards Blvd/I-5 NB Ramps	16.7	B	33.6	C	13.5	B
3.	I St/3rd St	6.7	A	8.4	A	7.2	A
4.	I St/4th St	14.2	B	12.7	B	15.6	B
5.	I St/5th St	5.5	A	26.7	C	5.7	A
6.	I St/6th St	13.4	B	23.1	C	6.4	A
7.	I St/7th St	17.9	B	42.3	D	18.2	B
8.	I St/8th St	9.6	A	49.2	D	12.8	B
9.	I St/9th St	20.0	C	16.3	B	7.7	A
10.	I St/10th St	7.3	A	16.5	B	12.9	B
11.	I St/11th St	9.0	A	8.7	A	7.8	A
12.	I St/12th St	15.5	B	15.9	B	15.9	B
13.	J St/3rd St/I-5 Off-Ramps	166.5	F	55.5	E	879.3	F
14.	J St/4th St	11.1	B	21.8	C	16.4	B
15.	J St/5th St	23.9	C	16.3	B	6.7	A
16.	J St/6th St	5.4	A	9.8	A	9.7	A
17.	J St/7th St	14.2	B	8.0	A	9.3	A
18.	J St/8th St	11.3	B	7.0	A	5.0	A
19.	J St/9th St	21.5	C	9.3	A	9.0	A
20.	J St/10th St	6.8	A	20.0	B	26.2	C
21.	J St/11th St	14.2	B	3.9	A	3.2	A
22.	J St/12th St	17.0	B	15.7	B	15.8	B
23.	K St/7th St	16.9	B	9.9	A	7.1	A
24.	K St/8th St	17.5	B	15.1	B	13.5	B
25.	L St/3rd St	12.5	B	32.8	C	15.9	B
26.	L St/4th St	5.6	A	20.9	C	7.7	A
27.	L St/5th St	12.1	B	19.2	B	13.6	B
28.	L St/6th St	13.5	B	17.9	B	20.0	B
29.	L St/7th St	25.9	C	18.1	B	14.9	B
30.	L St/8th St	10.9	B	12.3	B	12.2	B
31.	L St/9th St	15.0	B	27.6	C	21.7	C
32.	L St/10th St	10.7	B	11.3	B	10.3	B
33.	Tower Bridge Gateway/ Garden St	14.3	B	14.3	B	13.5	B
34.	Tower Bridge Gateway/5th St	35.3	D	37.4	D	30.6	C
35.	Tower Bridge Gateway/3rd St	19.6	B	20.6	C	15.8	B
36.	Capitol Mall/Neasham Circle	4.3	A	6.2	A	2.6	A
37.	Capitol Mall/3rd St	28.3	C	46.2	D	28.8	C
38.	Capitol Mall/4th St	13.7	B	10.0	A	8.7	A
39.	Capitol Mall/5th St	13.9	B	16.2	B	19.8	B
40.	Capitol Mall/6th St	18.8	B	25.6	C	16.9	B

TABLE 4.10-21 (Continued)
INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS

Intersection		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS
41.	Capitol Mall/7th St	18.5	B	23.4	C	21.6	C
42.	Capitol Mall/8th St	24.0	C	20.9	C	20.4	C
43.	P St/3rd St	8.2	A	30.4	C	7.4	A
44.	P St/5th St	9.3	A	9.0	A	9.6	A
45.	P St/7th St	5.3	A	6.7	A	5.5	A
46.	P St/8th St	12.1	B	14.7	B	11.4	B
47.	Q St/3rd St	11.1	B	3.0	A	6.7	A
48.	Q St/5th St	10.4	B	9.4	A	26.8	C
49.	Q St/7th St	13.8	B	7.7	A	12.5	B
50.	W St/11th St	25.5	C	17.6	B	12.5	B
51.	W St/16th St	23.7	C	28.7	C	26.6	C
52.	Richards Blvd/16th St/SR 160	77.1	E	32.2	C	36.3	D

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. For side-street stop controlled intersections, LOS and average delay for the movement with the most delay are reported in parentheses along with the overall intersection delay.

Bolded, underlined cells represent significant intersection impacts. LOS F is allowed at intersections located in the Core Area of the City, per General Plan Policy M 1.2.2(a). Therefore, they are not highlighted in above table.

SOURCE: Fehr & Peers, 2013.

Averaged across all intersections, the Proposed Project would cause an average increase in vehicle delay of 4.5 seconds during the AM peak hour, 3 seconds during the PM peak hour, and 19 seconds during the pre-event peak hour. As noted below, the majority of the delay increase during the pre-event peak hour occurs at the J Street/3rd Street/I-5 ramps intersection. The following summarizes the meaningful changes in intersection operations during each peak hour.

- **AM Peak Hour** – The project would further degrade LOS F operations at the J Street/ 3rd Street/I-5 ramps intersection. Average delay would increase from 93 to 248 seconds per vehicle.

- **PM Peak Hour** – The J Street/3rd Street/I-5 ramps intersection remains at LOS E with very little change in average delay.

Pre-Event Peak Hour – The J Street/3rd Street/I-5 ramps intersection worsens from LOS C to F with the average increasing from 31 seconds to over 10 minutes per vehicle. The "plus project" delay estimate reflects the assignment of a large share of the regional trips destined to the ESC to the J Street off-ramps. It is likely that the extensive queues associated with this condition would cause motorists, over time, to choose other, less congested routes, thereby lowering vehicle delays.

Table 4.10-22 displays peak hour operations on the study freeway facilities under existing plus project conditions. The following summarizes the meaningful changes in freeway operations during each peak hour.

- **AM Peak Hour** –
    - The project would worsen two freeway facilities from LOS C to D, and one freeway facility from LOS D to E. The resulting operation of these facilities is considered acceptable.
    - The project would add 91 trips to the northbound I-5 weave section between the P Street on-ramp and J Street off-ramp, which currently operates at LOS F.
- **PM Peak Hour** –
    - The project would worsen the I-5 northbound weave section between I Street and Richards Boulevard from LOS E to F. The project would add meaningful levels of traffic to segments of northbound I-5 from Richards Boulevard to West El Camino Avenue.
    - The project would worsen one freeway facility from LOS D to E. The resulting operation of this facility is considered acceptable.
- **Pre-Event Peak Hour** –
    - The project would improve operations by one or more service levels on northbound I-5 between the I Street and I-80 by virtue of eliminating trips that would otherwise be destined toward Sleep Train Arena.
    - The project would worsen one freeway facility from LOS B to C, and one freeway facility from LOS A to C. The resulting operation of these facilities is considered acceptable.

Table 4.10-23 displays the available storage and 95th percentile vehicle queues on the I-5 off-ramps at J Street and Q Street. During the AM peak hour, the addition of project trips to existing volumes would substantially increase vehicle queues on the SB and NB I-5 off-ramps at J Street. Queued vehicles would extend into the freeway mainline. Although this occurs occasionally on the southbound off-ramp, these spillbacks would increase in frequency and severity.

During the pre-event peak hour, the addition of project trips to existing volumes would substantially increase vehicle queues on the SB I-5 off-ramp at J Street. Queued vehicles would extend into the freeway mainline.

TABLE 4.10-22
FREEWAY OPERATIONS – EXISTING PLUS PROJECT CONDITIONS

Freeway Facility	Type	AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
1. I-5 Northbound – Off-ramp to Business 80/US-50	Major Diverge	-	F	18.5	B	19.5	B
2. I-5 Northbound – Off-ramp to Q Street	Diverge	25.5	C	10.6	B	14.4	B
3. I-5 Northbound – on-ramp from EB Business 80/US-50 connector	Merge	28.7	D	18.4	B	18.4	C
4. I-5 Northbound – on-ramp from WB Business 80/US-50 connector	Major Merge	38.7	E	24.8	C	21.3	C
5. I-5 Northbound – P street on-ramp to J Street off-ramp	Weave	-	**F**	-	E	-	D
6. I-5 Northbound – On-ramp from L Street	Merge	25.5	C	33.8	D	22.7	C
7. I-5 Northbound – I street on-ramp to Richards Boulevard off-ramp	Weave / Basic[2]	-	C	-	**F**	19.0	C
8. I-5 Northbound – Richards Boulevard on-ramp to Garden Hwy. off-ramp	Weave	-	C	-	**F**	-	C
9. I-5 Northbound –Garden Hwy. on-ramp to West El Camino off-ramp	Weave	-	C	-	**F**	-	C
10. I-5 Northbound – Off-ramp to I-80	Major Diverge	18.6	B	32.3	D	18.4	B
11. I-5 Southbound – On-ramp from I-80	Major Merge	25.1	C	18.2	C	16.8	B
12. I-5 Southbound – On-ramp from WB West El Camino	Merge	28.2	D	22.3	C	20.3	B
13. I-5 Southbound – Off-ramp to Garden Highway	Diverge	28.1	D	22.5	C	18.4	B
14. I-5 Southbound – Garden Hwy. on-ramp to Richards Blvd. off-ramp	Weave / Basic[2]	-	E	22.8	C	19.6	C
15. I-5 Southbound – Richards Blvd. on-ramp to J Street off-ramp	Weave	-	E	-	D	-	C
16. I-5 Southbound – On-ramp from I Street	Merge	26.1	C	32.4	D	22.7	C
17. I-5 Southbound – Off-ramp to Q Street	Diverge	29.5	D	27.5	C	20.8	C
18. I-5 Southbound – Off-ramp to Business 80/US-50	Major Diverge	20.2	C	26.0	C	17.1	B
19. Eastbound SR 160 – Richards Boulevard to Del Paso Blvd.	Mainline	9.6	A	27.7	D	15.0	B
20. Westbound SR 160 – Del Paso Boulevard to Richards Boulevard	Mainline	25.2	C	14.0	B	20.3	C

1. Density measured in passenger car equivalents per lane per mile. Density not calculated for weaving segments.
2. Under the Pre-Event scenario, ramp volumes are too low to constitute the segment as a weave. Therefore, the segment is analyzed as a basic segment.

Note: Segments 11 – 15 (i.e., Southbound I-5 from I-80 to J Street) are reported at LOS C, D or E during the AM peak hour based on HCM procedures. However, field observations indicate that queuing from the J Street off-ramp causes mainline slowing, which is not considered by HCM methods. Similarly, Segments 3 – 6 (i.e., Northbound I-5 from Business 80/US 50 to J Street) are reported at LOS C or D during the PM peak hour. Field observations indicate that downstream bottlenecks cause slowing in these segments, which is not considered by HCM methods. Thus, actual operations in these segments may be worse than reported above.

Bolded, underlined cells represent significant freeway impacts.

SOURCE: Fehr & Peers, 2013.

TABLE 4.10-23
FREEWAY OFF-RAMP VEHICLE QUEUES – EXISTING PLUS PROJECT CONDITIONS

		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
		95th Percentile Vehicle Queue [1]					
Off-Ramp	Available Storage	Existing	Existing + Project	Existing	Existing + Project	Existing	Existing + Project
I-5 SB Off-Ramp at J Street	1,500 ft.[2]	1,150	**3,325**	1,300	1,300	525	**> 4,000**
I-5 NB Off-Ramp at J Street	1,000 ft.[2]	975	**3,050**	150	175	175	200
I-5 NB/SB Off-Ramp at Q Street	375 ft.[3]	350	325	100	100	75	100

1. Based on output from SimTraffic microsimulation model.
2. Measured from ramp terminal intersection limit line to point where NB off-ramp and SB off-ramp connect (beyond which the ramps begin to feature horizontal curvature). Off-ramp does not directly connect to freeway mainline, but rather from system connector ramps.
3. Measured from ramp terminal intersection limit line to freeway off-ramp gore point.

Bolded, underlined cells represent significant freeway impacts.

SOURCE: Fehr & Peers, 2013.

Table 4.10-24 presents the pedestrian volumes and LOS for crosswalks and sidewalks expected to be used to a significant degree by the project. The LOS is calculated based on Chapter 23 (Off-Street Pedestrian and Bicycle Facilities) of the 2010 HCM. The pedestrian LOS is based on the average space per pedestrian, which is determined from the pedestrian flow rate. The pedestrian flow rate is expressed as the number of pedestrians per minute per foot (ped/min/ft) of crossing width (i.e., the width of the facility, not the length of the crossing). It is calculated as follows:

Pedestrian Flow Rate = Pedestrians during peak 15-min / (15 x Width)

At signalized crosswalks, the relative proportion of time in which the pedestrian WALK interval is illuminated must also be considered. In addition, the effect of the signal causes platooning of pedestrians, for which an adjusted LOS criterion is necessary. Finally, the potential for pedestrians to unlawfully enter the intersection during a Flashing Don't Walk or Steady Red indication should also be considered. For platooned flows, the HCM recommends a design value of 6 pedestrians per minute per foot. At 18 pedestrians per minute per foot, "jammed flow" occurs. Page 23-25 of the HCM states, "To avoid pedestrian spillover, it is desirable to design a walkway to achieve LOS C or better", which is 6 ped/min/ft for platooned facilities.

TABLE 4.10-24
PEDESTRIAN VOLUMES – EXISTING PLUS PROJECT CONDITIONS

				Legal (Unlawful) Crossing Type	
Crossing Location/Type	**Type**	**Width**	**Pre-Event Peak Hour Pedestrians**	**Pedestrian Flow Rate**	**LOS**
L Street at 4th St. East Leg	Signalized Crosswalk	10 ft.	1,000	9.7 (5.8)	D (C)
J Street at 5th St. West Leg			200	2.9 (1.3)	B (B)
J Street at 5th St. East Leg			900	12.4 (5.8)	E (C)
L Street at 5th St. West Leg			300	3.0 (1.8)	B (B)
L Street at 5th St. East Leg			1,200	11.7 (7.0)	E (D)
J Street at 6th St. West Leg			800	11.0 (5.1)	D (C)
L Street at 6th St. West Leg			700	6.7 (4.0)	D (C)
L Street at 6th St. East Leg			200	3.0 (1.8)	B (B)
L Street at 7th St. West Leg			700	9.5 (4.6)	D (C)
L Street at 7th St. East Leg			200	2.9 (1.4)	B (B)
L Street at 7th St. North Leg			600	4.2 (2.6)	C (B)
J Street at 7th St. West Leg			700	9.5 (4.4)	D (C)
J Street at 7th St. East Leg			700	9.5 (4.4)	D (C)
J Street at 7th St. North Leg			500	7.1 (3.3)	D (C)
J Street at 7th St. South Leg			700	9.5 (4.4)	D (C)
Capitol Mall at 5th St. East Leg			1,200	16.3 (10.9)	E (D)
7th Street at K St.		78 ft.	1,300	1.2 (0.9)	B (B)
4th Street Entry off of L Street	Sidewalk	11 ft.	700	1.2	B
5th Street Entry off of L Street		36 ft.	2,600	1.4	B
K Street Plaza entry (west of 5th)		36 ft.	1,300	0.7	A
4th Street Entry off of J Street		26 ft.	2,100	1.6	B
7th Street Entry at K Street		56 ft.	4,000	1.4	B
west side of 7th St. north of L St.		6 ft.	1,300	4.2	C
west side of 7th St. south of J St.		12 ft.	1,400	2.3	B

1. Locations having greatest pedestrian flows are shown in the table. “East Leg” refers to the crossing on the east edge of the intersection. “North”, “South”, and “West” legs have similar definitions.
2. Pre-event peak hour pedestrian flows are for an ESC Kings game. Pedestrian flow rate calculated for peak 15-minutes based on a suggested 0.85 PHF per page 23-24 of 2010 HCM
3. Width of crosswalks based on distance between striping. Width of sidewalk is the “effective width” which subtracts two feet for shy distance away from buildings and one foot for shy distance away from planters/bushes.
4. Calculations for “unlawful” crossings based on: additional 2-foot of crossing width within crosswalk, and use of 50% of Flashing Don't WALK by pedestrians to enter the crosswalk.
5. Pedestrian volumes estimated based on expected parking garage usage, locations of transit stops, and ESC entrances. Volumes rounded to the nearest 100.

SOURCE: Fehr & Peers, 2013.

According to this table, no crosswalks or sidewalks in the project vicinity are expected to be at "jammed flow" during the pre-event peak hour. However, several facilities are expected to have pedestrian flow rates that at or exceeding the HCM's recommendation of no more than 6 pedestrians per minute per foot. These locations include:

- L Street/4th Street – East leg
- J Street/5th Street Intersection - East leg
- L Street/5th Street Intersection - East leg
- J Street/6th Street Intersection - West leg
- L Street/6th Street Intersection – West leg
- L Street/7th Street Intersection – West leg
- J Street/7th Street Intersection – all legs
- Capitol Mall/5th Street Intersection - East leg

Each of the four primary plaza entries has sufficient widths to accommodate projected pre-event peak hour flows.

Detailed pedestrian flow rate forecasts and analysis was not conducted for post-event conditions for several reasons. First, the site plan indicates that there may be some additional exits directly onto the plaza or L Street. Second, post-event street closures may enable mid-block pedestrian crossings. At the time of this writing, these details were not finalized.

Cumulative Conditions

This section describes anticipated travel conditions under cumulative (2035) conditions for the roadway, transit, and bicycle/pedestrian systems. The most recent version of the SACMET regional travel demand model was used to forecast cumulative traffic volumes within the study area.

Land Use and Transportation System Assumptions

The cumulative version of the SACMET model accounts for planned land use growth within the City of Sacramento according to the City's General Plan, as well as growth in the surrounding region. The SACMET model also accounts for planned improvements to the surrounding transportation system, and incorporates the current Sustainable Communities Strategy (SCS) and Metropolitan Transportation Plan (MTP) for the Sacramento region. The version of the model used to develop the forecasts was modified to include the most recent planned land uses and transportation projects within the City of Sacramento.

The cumulative analysis assumes a variety of reasonably foreseeable planned future roadway improvements in the study area including:

- I Street Bridge Replacement over the Sacramento River to new location slightly to the north;
- South Market Crossing Bridge (south of Pioneer Bridge) over the Sacramento River;
- Truxel Road Bridge over the American River;
- Carpool high occupancy vehicle (HOV) lanes on I-5 from the US 50/Capital City Freeway to I-80;
- 3rd Street Conversion Project - converts 3rd Street to two-way operations between Capitol Mall and L Street;
- I-5 Riverfront Reconnection Project (consisting of removal of the slip ramp from L Street/3rd Street to westbound Capitol Mall/Tower Bridge, and a new at-grade signalized intersection on Capitol Mall at Front Street/2nd Street);
- Extensions of 5th Street and 6th Street, Railyards Boulevard, and Bercut Drive into the Railyards Specific Plan area; and
- Sutter's Land Parkway interchange on the Capital City Freeway, including its extension to SR 160/Richards Boulevard/16th Street.

The project's cumulative travel characteristics were estimated in a manner similar to that described for the analysis of existing plus project conditions. Following is an overview of the key analysis methods for cumulative conditions:

Trip Origin/Destination Adjustments for Relocation of Arena to Downtown – It is reasonable to assume that a greater percentage of ESC attendees would live or work in the Central City when compared to current conditions. This is especially true in light of the amount of new land development expected in the Railyards Specific Plan and Township 9 areas, both of which are currently under varying levels of construction. Due to the lack of a supportable methodology upon which to estimate this redistribution of future event attendees, the analysis assumes the same pre-game and post-game event distribution as was applied for existing plus project conditions. To the extent that the cumulative analysis under-estimates the percentage of event attendees whose trips would originate from the Central City and greater downtown area, the analysis is conservative.

Mode Choice – Transit service within the Sacramento region is expected to substantially increase by 2035. Following is a partial list of planned and reasonably foreseeable transit enhancements (based on the Regional Transit Master Plan), which references the SACOG's MTP/SCS Scenario B Transit Options:

- Extension of the Green Line from Richards Boulevard to Sacramento International Airport;
- Extension of the Blue Line southerly to Cosumnes River College (already under construction);
- Light rail service headways reduced to 15 minutes during off-peak periods;

- Double-tracking to increase corridor capacity;
- Improvements at some LRT station areas - including lighting, seating and localized sidewalk improvements and improved signage;
- Improvements to local bus service - over 150 percent increase in fixed route bus services including more neighborhood shuttles;
- Introduction of six (6) 'full' Bus Rapid Transit (BRT) lines in the Antelope, Stockton, Watt, Florin, Elk Grove, Sunrise Corridors, using upgraded vehicles, signage, segregation and traffic signal priority (where possible), comfortable waiting areas, and distinctive vehicles;
- Streetcar services in Downtown Sacramento and West Sacramento (SACMET travel demand model assumes three different loop routes); and
- Capitol Corridor improvements with peak headways reduced to 30 minutes.

In light of these foreseeable transit enhancements, it is estimated that the proportion of weekday evening Kings games attendees using transit would increase from 7 percent under existing conditions to 11 percent under cumulative conditions. This increase is supported by the following data:

- RT and other transit agencies are planning robust system expansions by 2035. According to the SACOG MTP/SCS, a 98 percent increase in total daily vehicle service hours between now and 2035 is planned. The MTP/SCS also calls for 53 percent of all transit service (bus / rail) to operate on 15-minute headways, up from 24 percent today;[15]
- Congestion on freeways is expected to worsen (even during off-peak hours) making transit a more time-competitive option; and
- Studies have shown that transit mode split tends to increase over time due to the effects of 'self selection' and system familiarity. This phenomenon has been reported at the Pepsi Center in Denver, CO (home of the Nuggets), where light rail transit ridership has increased from single digits in the early 2000's well into double digits more recently.[16]

[15] Sacramento Area Council of Governments, 2012. *Metropolitan Transportation Plan/Sustainable Communities Strategy 2035*. Approved April 19, 2012. p. 5C-11.

[16] Goodwin, Adam, 2013. Personal communication via e-mail between Brian Boxer of ESA and Adam Goodwin of Icon Venue Group. October 2, 2013.

The proportion of attendees that walk and bike to the ESC for events is also expected to increase given the proximity of new residential land uses a short distance to the north (Railyards, housing in the Proposed Project, etc.), as well as additional housing planned for other parts of the Central City.

Table 4.10-25 shows the expected cumulative mode splits for: non-ESC Land Uses, ESC weekday evening Kings games, ESC weekday morning civic, and ESC weekday afternoon events. The mode split for the non-ESC Land Uses was estimated based on output from the SACMET regional travel demand model.

TABLE 4.10-25
PROPOSED PROJECT EXTERNAL TRAVEL MODE SPLIT – CUMULATIVE CONDITIONS

Land Use / Activity	Auto	Transit	Walk	Bike
Non-ESC Land Uses (Resid., Office, Retail, Hotel) [1]	69%	12%	17%	2%
ESC Weekday Evening Kings Game – Attendees [2]	85%	11%	3%	1%
ESC Weekday Evening Kings Game – Employees[2]	85%	11%	3%	1%
ESC Weekday Morning Civic Event [3]	85%	11%	3%	1%
ESC Weekday Afternoon Special Event [4]	92%	5.5%	1.5%	1%

1. Based on SACMET travel demand model during AM and PM peak hours.
2. Based on cell phone data at existing Sleep Train Arena that provides trip origin-destination data. Results then applied to ESC site to estimate transit, walk, and bike mode splits using SACMET travel demand model including consideration of future levels of pre-game and post-game transit service.
3. Mode split for regional civic event (e.g., trade show) expected to be comparable to ESC Kings game.

[4]Transit and walk mode split reduced (relative to civic event) in consideration of family-oriented events (e.g., Disney on Ice).

SOURCE: Fehr & Peers, 2013.

Vehicle Occupancy – The same vehicle occupancy that was estimated for existing plus project conditions was also applied for cumulative conditions.

Arrival / Departure Patterns – The same arrival/departure pattern that was estimated for existing plus project conditions was also applied for cumulative conditions.

Parking – The same parking supply pattern that was estimated for existing plus project conditions was also applied for cumulative conditions.

Trip Generation - Table 4.10-26 shows the weekday AM, PM, and pre-event peak hour vehicle trips associated with the Proposed Project under cumulative conditions. As shown, the Proposed Project would generate about 3,300 AM peak hour trips (78 percent inbound), 2,530 PM peak hour trips (77 percent outbound), and 5,360 pre-event peak hour trips (90 percent inbound).

TABLE 4.10-26
PROPOSED PROJECT PEAK HOUR TRIP GENERATION SUMMARY – CUMULATIVE CONDITIONS

	AM Peak Hour			PM Peak Hour			Pre-Event Peak Hour		
Land Use Category	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Non-ESC Land Uses (Residential, Office, Retail, Hotel) [1]	601	571	1,172	451	510	961	300	339	639
Kings Full Time Employees [2]	47	20	67	28	45	73	--	--	--
ESC Weekday Evening Kings Game – Attendee Trips [3]	--	--	--	--	--	--	4,417	200	4,617
ESC Weekday Evening Kings Game – Employee Trips [4]	--	--	--	--	--	--	100	0	100
ESC Weekday Morning Civic Event [5]	1,941	125	2,066	--	--	--	--	--	--
ESC Weekday Afternoon Special Event [6]	--	--	--	94	1,397	1,491	--	--	--
TOTAL VEHICLE TRIPS: [7]	2,589	716	3,305	573	1,952	2,525	4,817	539	5,356

1. AM and PM peak hour trip generation estimates are based on difference in MXD model outputs between existing Downtown Plaza land uses and Proposed Project non-ESC land uses. Estimate considers changes in internal trips and external non-auto trips between the two scenarios. Estimate also applies a retail trip rate reduction to the existing retail uses (based on sales receipts) which will be 'replaced in kind' with similar, but busier uses. Based on field-measured traffic volumes, pre-event peak hour trip generation of non-ESC land uses expected to be 66.5% of PM peak hour trips.
2. According to ICON Group, Kings would have 250 full-time employees at the ESC, the majority of which have an 8 am to 5 pm shift. Estimated trips based on output from SACMET travel demand model.
3. Based on: 7 pm game start, 17,500 attendees, 15% non-auto mode split, average vehicle occupancy (AVO) of 2.27, and 67.4% of pre-game arrivals during the pre-event peak hour. Calculation is: 17,500 x 85% x 67.4% =10,026 pre-event peak hour attendees. Assuming 2.27 persons per vehicle, this is 4,417 inbound vehicle trips. A total of 200 outbound vehicle trips assumed based on outbound vehicular travel measured at Sleep Train Arena. Based on analysis scenarios and expected ESC operations, it is highly unlikely that a weekday special event will precede a Kings game. Thus, no ESC Kings game trips are shown for the PM peak hour.
4. The majority of the 1,200 ESC basketball-related employees expected to arrive prior to pre-event peak hour. For analysis purposes, 100 inbound trips assumed.
5. Based on: 3,750-person local civic event that begins around 8 or 9 am, attendee AVO of 1.2, 66.7% arrive during AM peak hour, 5% are dropped off, and 15 percent of trips are non-auto. Also assumes 580 employees, 25% of which arrive during the AM peak hour with an AVO of 1.1.
6. Based on: 5,000-person special event (e.g., Disney on Ice) that concludes 4:30 or 5:00 pm, AVO of 2.8, 75% depart during PM peak hour, 5% are picked up, and 8 percent of trips are non-auto. Also assumes 580 employees, 25% of which depart during the PM peak hour with an AVO of 1.1.
7. Totals represent new vehicle trips generated by the Proposed Project. The traffic forecasts incorporate these trips plus the effects of added traffic/congestion on changes in background traffic flows. Pre-event peak hour traffic forecasts account for trip offsets on facilities that would otherwise be used by trips destined for Sleep Train Arena.

SOURCE: Fehr & Peers, 2013.

Table 4.10-27 shows the weekday daily vehicle trips associated with the Proposed Project for the three distinct ESC events under cumulative conditions. As shown, the non-ESC land uses and a weekday evening Kings game would generate about 27,000 daily trips. The non-ESC land uses and a weekday civic event would generate about 17,900 daily trips. The non-ESC land uses and a weekday special/family event would generate about 15,700 daily trips.

TABLE 4.10-27
PROPOSED PROJECT DAILY TRIP GENERATION SUMMARY – CUMULATIVE CONDITIONS

	Average Daily Vehicle Trips for…			
Land Use Category	**ESC Activity: Weekday Evening Kings Game**	**ESC Activity: Weekday Mid-day Civic Event**	**ESC Activity: Weekday Mid-day Special Event**	**ESC Activity: No Event**
Non-ESC Land Uses (Residential, Office, Retail, Hotel) [1]	10,206	10,206	10,206	10,206
Kings Full Time Employees [2]	800	800	800	800
ESC Weekday Evening Kings Game – Attendee Trips [3]	13,106	--	--	--
ESC Weekday Evening Kings Game – Employee/Delivery Trips [4]	2,854	--	--	--
ESC Weekday Morning Civic Event [5]	--	6,854	--	--
ESC Weekday Afternoon Special Event [6]	--	--	4,676	--
TOTAL VEHICLE TRIPS: [7]	26,966	17,860	15,682	11,006

1. Daily trip generation estimates are based on difference in MXD model outputs between existing Downtown Plaza land uses and Proposed Project non-ESC land uses. Estimate considers changes in internal trips and external non-auto trips between the two scenarios. Estimate also applies a retail trip rate reduction to the existing retail uses (based on sales receipts) which will be 'replaced in kind' with similar, but busier uses.
2. According to ICON Group, Kings would have 250 full-time employees at the ESC, the majority of which have an 8 am to 5 pm shift. Estimated trips based on output from SACMET travel demand model.
3. Based on: 7 pm game start, 17,500 attendees, 15% non-auto mode split, average vehicle occupancy (AVO) of 2.27. Calculation is: 17,500 x 85% vehicle mode split. Assuming 2.27 persons per vehicle, this is 6,553 inbound trips and 6,553 outbound trips.
4. 1,200 ESC-basketball employees assumed. Assume 15% non-auto mode split, 1.1 AVO, which means 927 inbound trips and 927 outbound trips. An additional 1,000 total delivery/drop-off trips assumed based on data from Sleep Train Arena (which showed about 500 outbound trips during a Kings game between 5 and 8 pm).
5. Based on: 3,750-person local civic event with attendee AVO of 1.2, 5% are dropped off/picked-up, and 15 percent of trips are non-auto. Also assumes 580 employees with an AVO of 1.1. Result is 3,427 inbound trips and 3,427 outbound trips.
6. Based on: 5,000-person special event (e.g., Disney on Ice), AVO of 2.8, 5% are picked up, and 8 percent of trips are non-auto. Also assumes 580 employees with an AVO of 1.1. Result is 2,338 inbound trips and 2,338 outbound trips.
7. Totals represent new vehicle trips generated by the Proposed Project.

SOURCE: Fehr & Peers, 2013.

Table 4.10-28 shows the expected number of transit riders generated by the Proposed Project during the AM, PM, pre-event, and post-event peak hours under cumulative conditions.

Trip Distribution/Assignment – A similar approach as was used for existing conditions was also applied for trip distribution and assignment under cumulative conditions. However, the distribution of non-ESC trips considered planned land uses throughout the region as well as future transportation improvements.

Vehicle Miles of Travel (VMT) – The same methodologies used to calculate VMT for existing plus project conditions were also applied for cumulative conditions. Two different types of VMT were calculated. Table 4.10-29 displays the VMT associated with three distinct ESC events along with the VMT for the non-ESC land uses and Kings full time employees.

TABLE 4.10-28
TRANSIT (BUS/LRT) RIDERSHIP – CUMULATIVE CONDITIONS

Land Use Category / Activity	AM Peak Hour	PM Peak Hour	Pre-Event Peak Hour	Post-Event Peak Hour
Non-ESC Land Uses (Resid., Office, Retail, Hotel)[1]	236	197	131	--
ESC Weekday Evening Kings Game – Attendees[2]	--	--	1,298	1,444
ESC Weekday Evening Kings Game – Employees[3]			11	11
ESC Weekday Morning Civic Event[4]	285	--	--	--
ESC Weekday Afternoon Special Event[5]	--	216	--	--
Total	521	413	1,440	1,455

1. Calculated as follows: 1,228 external AM peak hour vehicle trips @ 1.2 AVO is 1,474 persons. This total represents 75% of all external trips, which implies 1,965 total external person trips. Transit represents 8% of this total, or 157 riders. Similar calculations conducted for other peak hours.
2. Calculated as follows: 17,500 attendees @ 67.4% pre-event arrivals = 11,795 persons. Transit represents 11% of this total, or 1,298 riders. 17,500 attendees @ 75% post-event departures = 13,125 persons. Transit represents 11% of this total, or 1,444 riders.
3. Calculated as follows: transit used by 7% of 100 employees who arrive during the pre-event peak hour.
4. Calculated as follows: 3,750 attendees @ 66.7% AM peak hour arrivals = 2,501 persons. Transit represents 7% of this total, or 175 riders. Additional 10 employee transit trips also included.
5. Calculated as follows: 5,000 attendees @ 75% PM peak hour departures = 3,750 persons. Transit represents 3.5% of this total, or 131 riders. Additional 10 employee transit trips also included.

SOURCE: Fehr & Peers, 2013.

TABLE 4.10-29
PROJECT VMT SUMMARY – CUMULATIVE CONDITIONS

	Average Daily VMT for…		
Land Use Category / Activity	ESC Activity: Weekday Evening Kings Game	ESC Activity: Weekday Mid-day Civic Event	ESC Activity: Weekday Mid-day Special Event
Non-ESC Land Uses[1]	101,660	101,660	101,660
Kings Full Time Employees[1]	6,761	6,761	6,761
ESC Weekday Evening Kings Game[2]	158,031	--	--
ESC Weekday Morning Civic Event[1]	--	42,620	--
ESC Weekday Afternoon Special Event[2]	--	--	45,950
Total	266,452	151,041	154,371

1. Based on output from the SACMET travel demand model.
2. Based on output from the SACMET travel demand model using cell phone data (with appropriate provisions for non-auto modes) for trip origins and destinations. VMT estimate also includes travel associated with employees working at event.

SOURCE: Fehr & Peers, 2013.

Table 4.10-30 presents a VMT comparison for a weekday evening Kings game played at Sleep Train Arena compared with the VMT for a similar game at the ESC. According to this table, under cumulative conditions the VMT per attendee is estimated to be 11.56 miles at Sleep Train Arena and 9.03 miles at the ESC. This represents a 21.9 percent reduction in 'per attendee' VMT for an NBA game at ESC compared to Sleep Train Arena. This reduction is due to the combined effect of a greater non-auto mode split for ESC and relocation of the facility to a location that reduces the average drive distance for attendees.

TABLE 4.10-30
VMT COMPARISON FOR BASKETBALL GAMES – CUMULATIVE CONDITIONS

Data	ESC	Sleep Train Arena
VMT for Kings Game [1]	158,031	200,142
Number of Attendees [2]	17,500	17,317
VMT per Attendee	9.03	11.56

1. Based on output from the SACMET travel demand model using cell phone data (with appropriate provisions for non-auto modes) for trip origins and destinations. VMT estimate also includes travel associated with employees working at event.
2. Both scenarios assume a sold-out event based on their capacity.

SOURCE: Fehr & Peers, 2013.

Therefore, as discussed above under Regulatory Setting, under cumulative conditions the proposed ESC would perform better than the criteria established in step 3 (i.e., Achieve and maintain vehicle-miles-traveled per attendee for NBA events at the ESC that is no more than 85 percent of the baseline) as defined for a "Downtown arena" under PRC Section 21168.6.6.

Figures 4.10-16a through 4.10-16c display the cumulative AM, PM, and pre-event peak hour traffic forecasts. As shown, for the cumulative analysis intersection #52 (Richards Boulevard/ 16th Street/SR 160) is no longer included as a study location because of its planned reconnection to the Capitol City Freeway (Business 80) through the Sutter's Landing Parkway project. Details regarding geometrics associated with the connecting it to Sutter's Landing Parkway have not been developed. Accordingly, any analysis of its operations would be speculative. However, the planned Capitol Mall/Front Street/2nd Street intersection was included as a study intersection because planned designs that support impact analysis are available.

Table 4.10-31 displays the LOS and average delay at each study intersection under cumulative conditions. This analysis is based on the cumulative volumes, including the traffic from the Proposed Project, shown in Figures 4.10-16(a) through (c). No changes in lane configurations were assumed with the exception of the aforementioned 3rd Street conversion project and I-5 Reconnection project improvements. Where traffic volumes changed considerably, traffic signal settings were assumed to be re-optimized. Fixed-time signal coordination was assumed to be maintained in the downtown Sacramento grid.

Table 4.10-31 shows that under cumulative conditions 13 intersections would operate at LOS F during the AM peak hour and 11 intersections would operate at LOS F during the PM peak hour. The majority of these intersections are located along the I Street, J Street, and L Street corridors. In many instances, bottlenecks at a certain intersection would spillback to upstream intersections, thereby increasing delays at those locations. Based on the SimTraffic modeling results, the following intersections/segments would constitute bottlenecks within the downtown grid system:

- **AM Peak Hour** – I Street between 6th and 8th Streets, J Street/3rd Street/I-5 off-ramps, J Street/7th Street, L Street/3rd Street, and L Street/7th;
- **PM Peak Hour** – I Street between 6th and 8th Streets, J Street/3rd Street/I-5 ramps; and
- **Pre-Event Peak Hour** – J Street/3rd Street/I-5 ramps.

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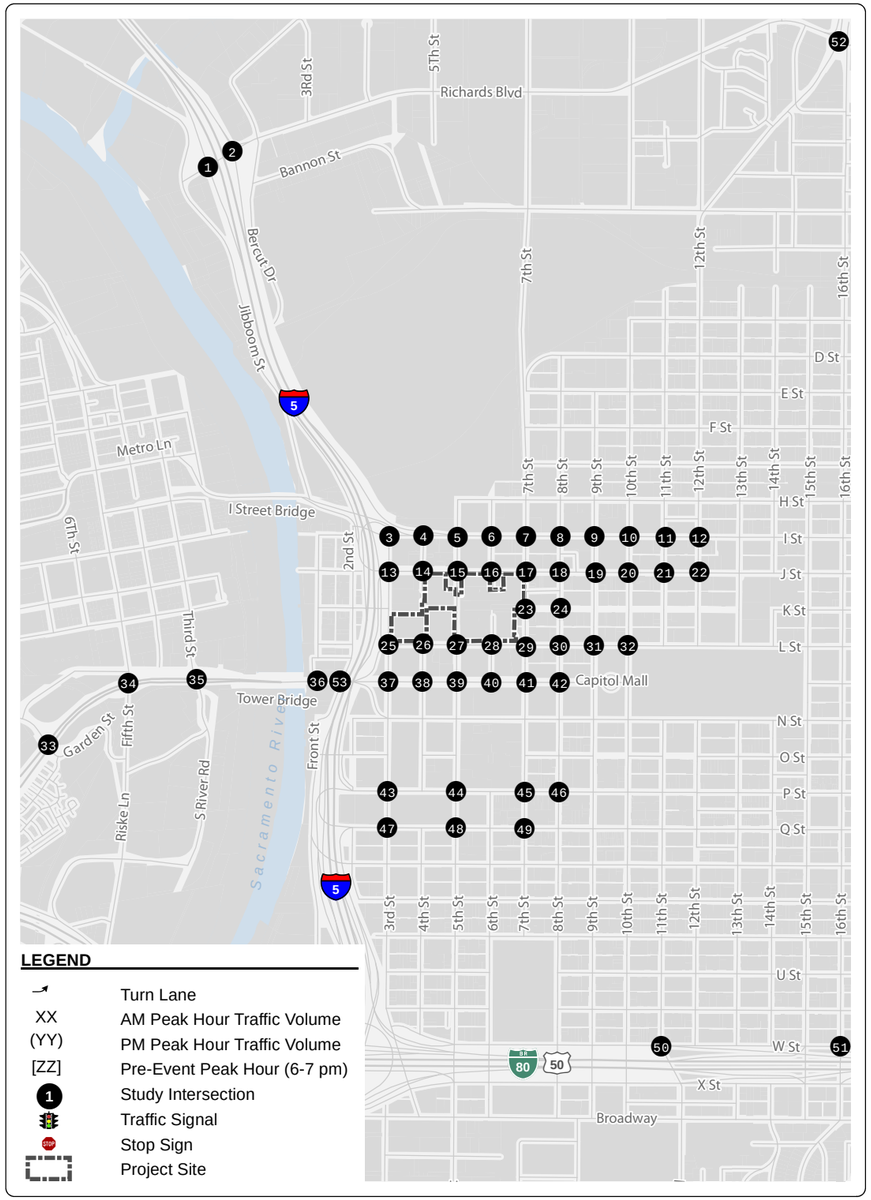

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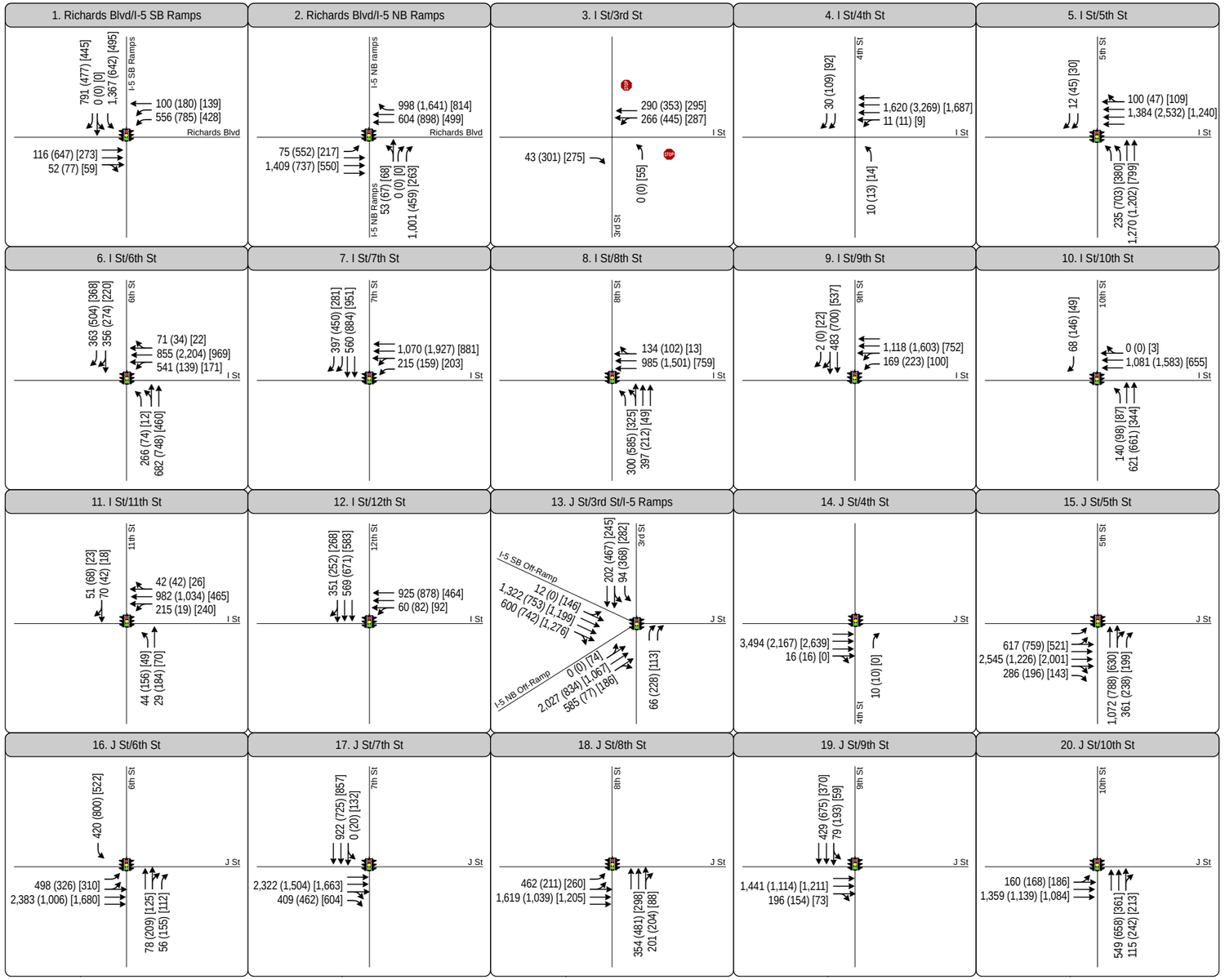
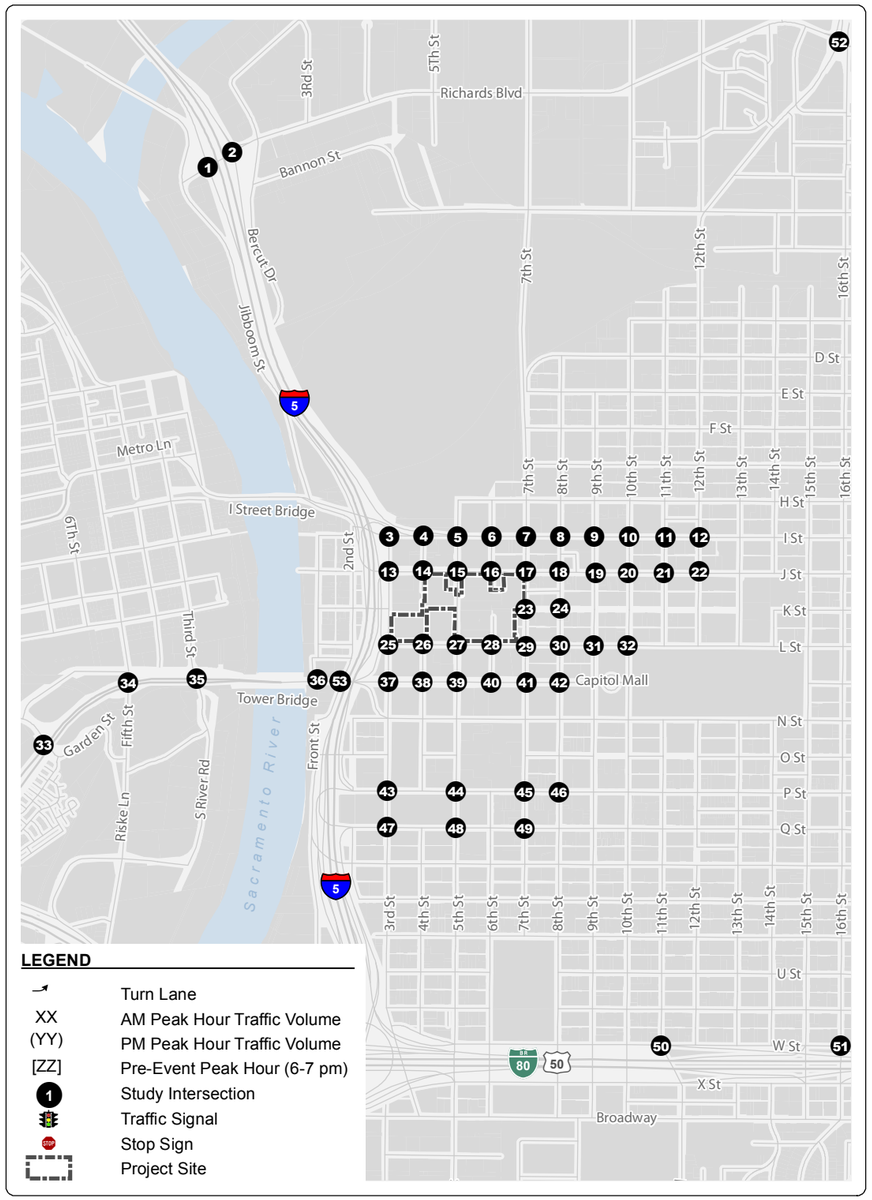


Peak Hour Traffic Volumes and Lane Configurations - Cumulative Conditions

FIGURE 4.10-16A



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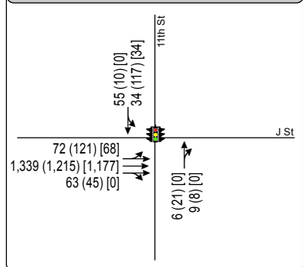
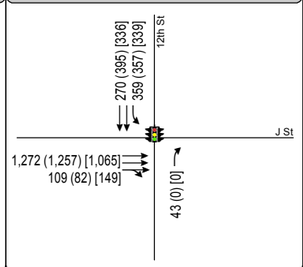
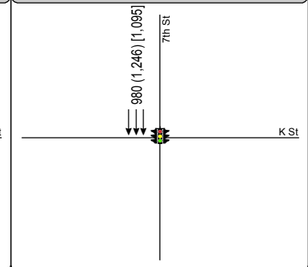
21. J St/11th St



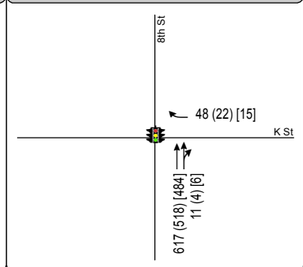
22. J St/12th St



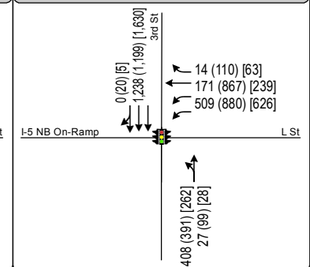
23. K St/7th St



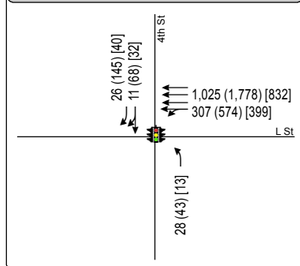
24. K St/8th St



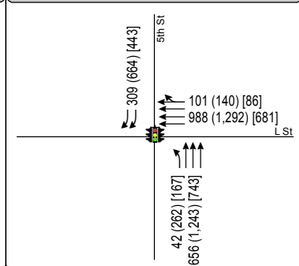
25. L St/3rd St



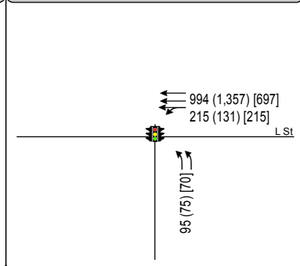
26. L St/4th St



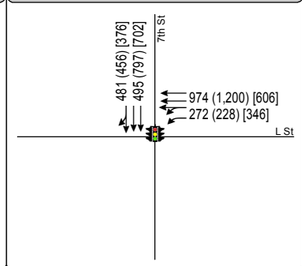
27. L St/5th St



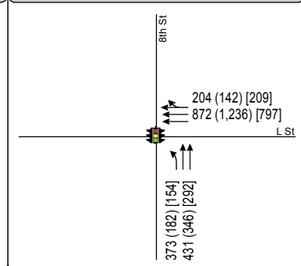
28. L St/6th St



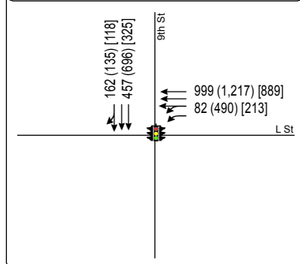
29. L St/7th St



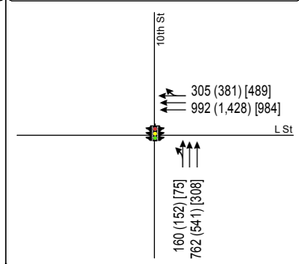
30. L St/8th St



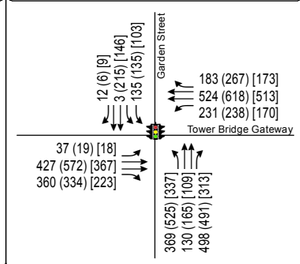
31. L St/9th St



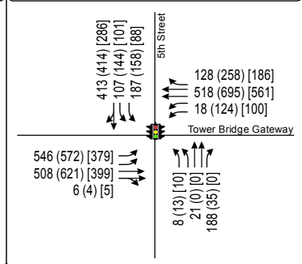
32. L St/10th St



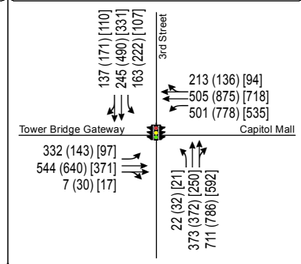
33. Tower Bridge Gateway/Garden St



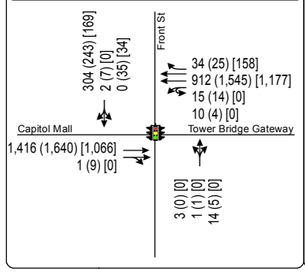
34. Tower Bridge Gateway/Fifth St



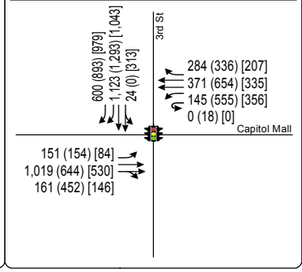
35. Tower Bridge Gateway/Third St



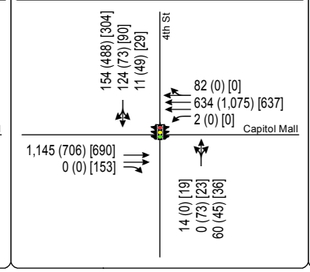
36. Capitol Mall/Neasham Cir



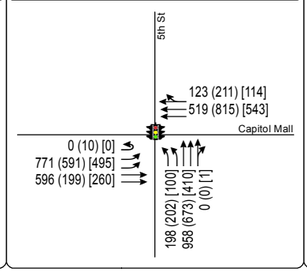
37. Capitol Mall/3rd St



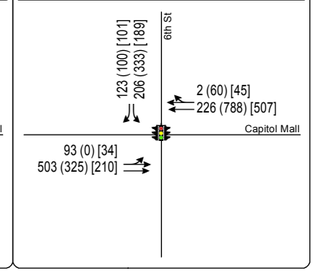
38. Capitol Mall/4th St



39. Capitol Mall/5th St



40. Capitol Mall/6th St



Peak Hour Traffic Volumes and Lane Configurations - Cumulative Conditions

FIGURE 4.10-16B

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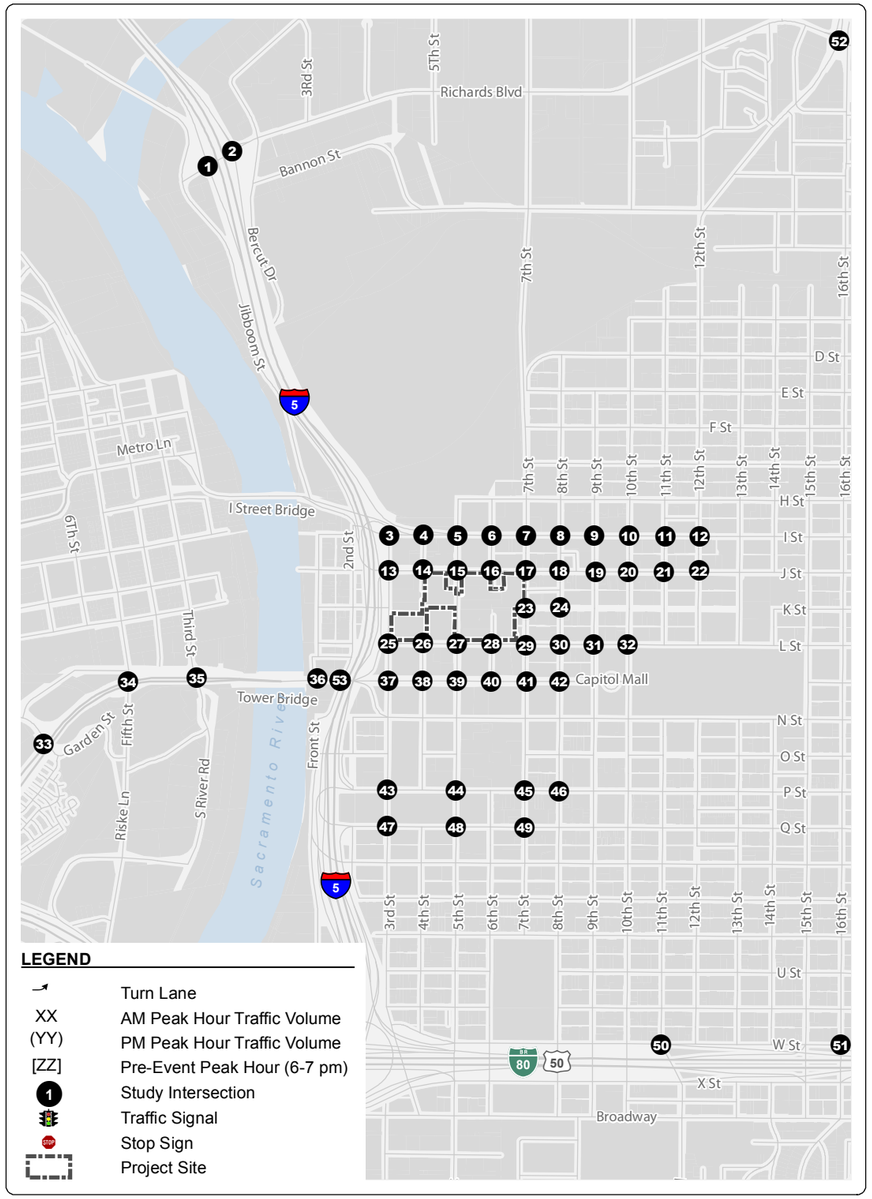
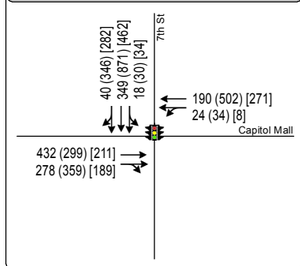
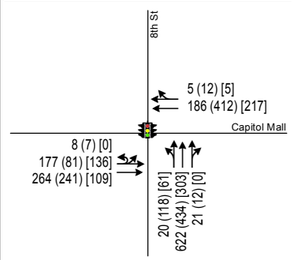


12/6/2013

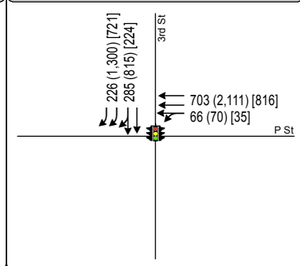
41. Capitol Mall/7th St



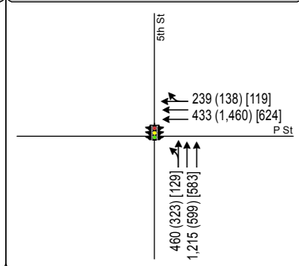
42. Capitol Mall/8th St



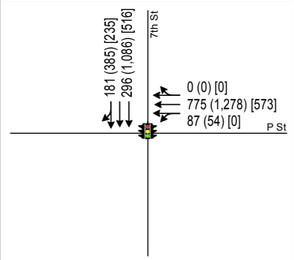
43. P St/3rd St



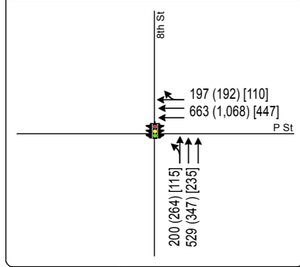
44. P St/5th St



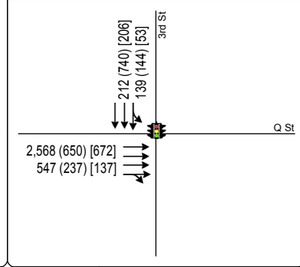
45. P St/7th St



46. P St/8th St



47. Q St/3rd St



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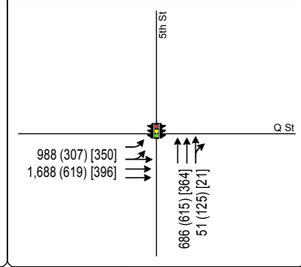
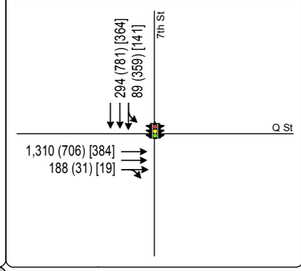
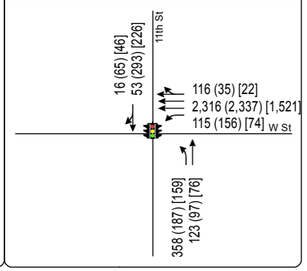


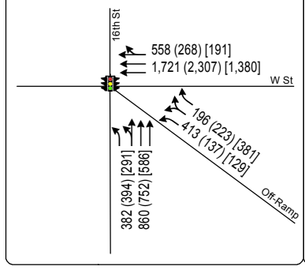
49. Q St/7th St



50. W St/11th St



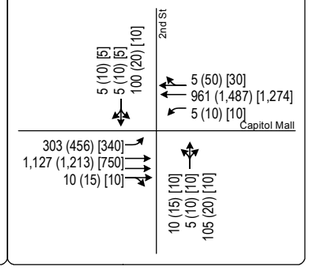
51. W St/16th St



52. SR 160/Richards Blvd

Intersection not Analyzed for Cumulative Plus Project Conditions

53. Capitol Mall/2nd St



Peak Hour Traffic Volumes and Lane Configurations - Cumulative Conditions

FIGURE 4.10-16C

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TABLE 4.10-31
INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS

		AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
	Intersection	Avg Delay	LOS	Avg Delay	LOS	Avg Delay	LOS
1.	Richards Blvd/I-5 SB Ramps	54.5	D	27.5	C	25.6	C
2.	Richards Blvd/I-5 NB Ramps	38.4	D	147.7	**F**	14.6	B
3.	I St/3rd St	10.7	B	80.3	F	13.1	B
4.	I St/4th St	15.8	B	29.9	C	19.9	B
5.	I St/5th St	10.2	B	42.6	D	7.9	A
6.	I St/6th St	261.2	F	138.7	F	17.9	B
7.	I St/7th St	639.3	F	344.0	F	33.4	C
8.	I St/8th St	269.6	F	155.1	F	12.9	B
9.	I St/9th St	22.9	C	19.2	B	8.0	A
10.	I St/10th St	8.0	A	20.2	C	10.2	B
11.	I St/11th St	9.5	A	8.7	A	8.7	A
12.	I St/12th St	13.4	B	13.2	B	13.4	B
13.	J St/3rd St/I-5 Off-Ramps	457.1	F	439.4	F	1391.5	F
14.	J St/4th St	39.6	D	50.8	D	29.2	C
15.	J St/5th St	92.5	F	35.5	D	18.7	B
16.	J St/6th St	88.2	F	49.4	D	37.7	D
17.	J St/7th St	159.4	F	49.7	D	33.2	C
18.	J St/8th St	80.7	F	18.9	B	4.2	A
19.	J St/9th St	20.4	C	9.6	A	8.5	A
20.	J St/10th St	8.3	A	17.6	B	22.0	C
21.	J St/11th St	13.9	B	3.9	A	2.8	A
22.	J St/12th St	17.4	B	17.2	B	18.2	B
23.	K St/7th St	197.1	F	113.7	F	57.6	E
24.	K St/8th St	64.2	E	36.7	D	13.3	B
25.	L St/3rd St	121.0	F	43.4	D	35.4	D
26.	L St/4th St	48.8	D	66.7	E	18.3	B
27.	L St/5th St	143.7	F	70.6	E	17.6	B
28.	L St/6th St	87.0	F	31.6	C	29.1	C
29.	L St/7th St	115.3	F	63.2	E	36.2	D
30.	L St/8th St	76.8	E	32.5	C	11.4	B
31.	L St/9th St	16.5	B	26.0	C	18.8	B
32.	L St/10th St	11.1	B	12.0	B	9.8	A
33.	Tower Bridge Gateway/Garden St	53.4	D	71.4	E	32.7	C
34.	Tower Bridge Gateway/5th St	54.7	D	**94.1**	**F**	42.3	D
35.	Tower Bridge Gateway/3rd St	**77.3**	**E**	**160.1**	**F**	41.9	D
36.	Capitol Mall/ Neasham Circle	13.0	B	15.5	B	7.4	A
37.	Capitol Mall/3rd St	32.7	C	94.1	F	37.7	D
38.	Capitol Mall/4th St	13.4	B	30.5	C	11.4	B
39.	Capitol Mall/5th St	42.8	D	53.2	D	20.1	C
40.	Capitol Mall/6th St	13.4	B	49.8	D	23.5	C

TABLE 4.10-31 (Continued)
INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS

	Intersection	AM Peak Hour Avg Delay	AM Peak Hour LOS	PM Peak Hour Avg Delay	PM Peak Hour LOS	Pre-Event Peak Hour Avg Delay	Pre-Event Peak Hour LOS
41.	Capitol Mall/7th St	21.6	C	39.4	D	23.3	C
42.	Capitol Mall/8th St	23.2	C	21.6	C	19.9	B
43.	P St/3rd St	8.6	A	81.5	F	9.3	A
44.	P St/5th St	10.6	B	10.8	B	7.1	A
45.	P St/7th St	6.9	A	10.2	B	7.9	A
46.	P St/8th St	12.4	B	14.5	B	11.3	B
47.	Q St/3rd St	12.2	B	3.9	A	6.5	A
48.	Q St/5th St	17.2	B	8.8	A	13.7	B
49.	Q St/7th St	12.4	B	6.8	A	9.2	A
50.	W St/11th St	55.8	E	45.1	D	16.3	B
51.	W St/16th St	56.4	E	91.8	F	26.7	C
52.	Richards Blvd/16th St/SR 160			N/A			
53.	Capitol Mall/2nd St/Front St	19.5	B	38.5	D	35.5	D

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. For side-street stop controlled intersections, LOS and average delay for the movement with the most delay are reported in parentheses along with the overall intersection delay.

N/A: Planned lane configuration is not known. Therefore, level of service analysis was not reported at this location

Bolded, underlined cells represent significant intersection impacts. LOS F is allowed at intersections located in the Core Area of the City, per General Plan Policy M 1.2.2(a). Therefore, they are not highlighted in above table.

SOURCE: Fehr & Peers, 2013.

This congestion would be due to overall increases in traffic into downtown as well as the extensions of 5th and 6th Streets in the Railyards Specific Plan area. These facilities would substantially increase north/south traffic in the downtown core.

Under cumulative conditions, operations would also be at LOS F during the PM peak hour at several locations outside downtown including: Richards Boulevard/I-5 northbound ramps, and the intersections of Tower Bridge Gateway/5th Street, and Tower Bridge Gateway/3rd Street in West Sacramento (as noted in bold in Table 4.10-31).

Under cumulative conditions, operations would be at LOS E or better for the pre-event peak hour at all study intersections with the exception of the J Street/3rd Street/I-5 off-ramps intersection, which would operate at LOS F.

Table 4.10-32 displays peak hour operations on the study freeway facilities under cumulative conditions. The following summarizes expected freeway operations during each peak hour. Although an HOV lane is assumed in place in each direction of I-5, operations are projected to be at LOS F conditions at a variety of freeway facilities under cumulative conditions.

TABLE 4.10-32
FREEWAY OPERATIONS – CUMULATIVE CONDITIONS

	Freeway Facility	Type	AM Peak Hour		PM Peak Hour		Pre-Event Peak Hour	
			Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
1.	I-5 Northbound – Off-ramp to Business 80/US-50	Major Diverge	-	F	19.4	B	-	F
2.	I-5 Northbound – Off-ramp to Q Street	Diverge	27.4	C	12.4	B	21.3	C
3.	I-5 Northbound – on-ramp from EB Business 80/US-50 connector	Merge	33.2	D	19.8	B	27.5	C
4.	I-5 Northbound – on-ramp from WB Business 80/US-50 connector	Major Merge	-	F	30.1	D	26.1	D
5.	I-5 Northbound – P street on-ramp to J Street off-ramp	Weave	-	**F**	-	E	-	D
6.	I-5 Northbound – On-ramp from L Street	Merge	29.9	D	-	**F**	19.7	B
7.	I-5 Northbound – I street on-ramp to Richards Boulevard off-ramp	Weave / Basic[2]	-	E	-	**F**	16.7	B
8.	I-5 Northbound – Richards Boulevard on-ramp to Garden Hwy. off-ramp	Weave	-	E	-	**F**	-	B
9.	I-5 Northbound –Garden Hwy. on-ramp to West El Camino off-ramp	Weave	-	E	-	**F**	-	B
10.	I-5 Northbound – Off-ramp to I-80	Major Diverge	24.1	C	-	**F**	16.4	B
11.	I-5 Southbound – On-ramp from I-80	Major Merge	31.1	D	22.7	C	24.7	C
12.	I-5 Southbound – On-ramp from WB West El Camino	Merge	-	**F**	24.0	C	22.0	C
13.	I-5 Southbound – Off-ramp to Garden Highway	Diverge	-	**F**	23.7	C	22.6	C
14.	I-5 Southbound – On-ramp from Garden Highway	Merge	-	**F**	33.5	D	30.5	D
15.	I-5 Southbound – Off-ramp to Richards Boulevard	Diverge	-	**F**	24.0	C	28.4	D
16.	I-5 Southbound – Richards Blvd. on-ramp to J Street off-ramp	Weave	-	E	-	E	-	C
17.	I-5 Southbound – On-ramp from I Street	Merge	27.5	C	35.2	E	19.5	B
18.	I-5 Southbound – Off-ramp to Q Street	Diverge	30.6	D	29.7	D	21.5	C
19.	I-5 Southbound – Off-ramp to Business 80/US-50	Major Diverge	20.0	C	21.6	C	13.7	B
20.	Eastbound SR 160 – Richards Boulevard to Del Paso Blvd.	Mainline	12.9	B	29.2	D	8.2	A
21.	Westbound SR 160 – Del Paso Boulevard to Richards Boulevard	Mainline	30.3	D	21.9	C	28.5	D

1. Density measured in passenger car equivalents per lane per mile. Density not calculated for weaving segments.
2. Under the Pre-Event scenario, ramp volumes are too low to constitute the segment as a weave. Therefore, the segment is analyzed as a basic segment.

Bolded, underlined cells represent significant impacts.

SOURCE: Fehr & Peers, 2013.

During the pre-event peak hour, all freeway facilities are expected to operate at LOS D or better with the exception of the I-5 northbound off-ramp to Business 80/US-50, which would operate at LOS F. The generally low level of congestion on area freeways during the pre-event peak hour would be attributable to additional capacity on I-5 (via the new HOV lane) and pre-event volumes being within the freeways' increased capacity.

During all three peak hours, traffic is projected to spillback from the J Street/3rd Street/I-5 off-ramps intersection onto the southbound I-5 mainline. These vehicles would queue in the auxiliary lane. This occurs occasionally during the AM peak hour currently, but would do so more frequently under cumulative conditions.

Impacts and Mitigation Measures

Impact 4.10-1: The Proposed Project would worsen conditions at intersections in the City of Sacramento.

The addition of project trips to the J Street/3rd Street/I-5 off-ramps intersection would further degrade LOS F operations during the AM peak hour, and worsen operations from LOS C to F during the pre-event peak hour. Policy M 1.2.2(a) of the City's General Plan allows for LOS F during peak hours in the Core Area (which includes this intersection) provided that the project improves other parts of the citywide transportation system within the vicinity of the project site. The Proposed Project would include the following generalized travel benefits and specific multi-modal improvements:

1. The Proposed Project would improve the pedestrian environment in the project vicinity through wider crosswalks, enhanced pedestrian signal crossing equipment, Americans with Disabilities Act (ADA) improvements, and other pedestrian amenities. The project would also accommodate bicycle travel through bike share/valet programs, and designated bike parking areas.

2. The Proposed Project, by relocating the arena from Natomas to downtown, would enhance the opportunity for event attendees to use non-auto travel modes in furtherance of 2030 General Plan goals and policies, as well as goals and policies of the SACOG MTP/SCS. By reducing per attendee VMT by nearly 20 percent over existing conditions, the Proposed Project would improve roadway capacity on a citywide basis. By increasing ridership on RT and other regional transit provider routes, the project would provide further support/justification for additional enhancements to transit service in the downtown area.

These measures meet the intent of Policy M 1.2.2(a) of the City's General Plan in that they provide long-term improvements to the City's local and regional transportation system. However, the street system in the vicinity of the project could experience substantial congestion immediately before, during, and after events unless circulation is managed effectively. The project has proposed to implement an Event Transportation Management Plan (TMP) that would be intended to manage vehicular circulation near the project site, and to optimize the safe and efficient use of multiple modes of transportation to and from events at the ESC (see Appendix L).

Because the TMP has not yet been finalized and approved by the City, it cannot yet be determined that the project would adequately "improve other parts of the citywide transportation system in the vicinity of the project site." Accordingly, project impacts to intersections in the City of Sacramento are considered ***significant***.

Mitigation Measure

4.10-1 (ESC)

The applicant shall be required to prepare and implement an Event Transportation Management Plan (TMP) that would provide a range of transportation management strategies designed to address the travel associated with various events at the ESC, and to improve operations in downtown before, during, and after ESC events. The TMP will be subject to review and approval of City of Sacramento Traffic Engineer, in consultation with affected agencies such as Caltrans and Regional Transit.

Impact Significance After Mitigation: Because the TMP would improve and/or manage other parts of the transportation system within the project vicinity, once approved by the City, the Proposed Project would meet the intent of Policy M 1.2.2(a) of the City's General Plan, which allows for LOS F during peak hours in the Core Area under certain conditions. The implementation of this mitigation would reduce this impact to ***less than significant.***

Impact 4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.

The addition of project trips would cause the following significant impacts to Caltrans freeway facilities:

- Existing LOS F operations during the AM peak hour on the northbound I-5 weave section between P Street and J Street would be worsened to a significant degree (based on the amount of project traffic added).
- The I-5 northbound weave section between I Street and Richards Boulevard would worsen from LOS E to F during the PM peak hour.
- Existing LOS F operations during the PM peak hour on the northbound I-5 weave sections between Richards Boulevard and West El Camino Avenue would be worsened to a significant degree (based on the amount of project traffic added).

The degraded operation of these segments is considered a ***significant impact***.

Project-related impacts at all other study freeway facilities would either be less than significant or beneficial. As noted previously, relocation of the arena from Natomas to downtown would result in a net 17 percent decrease in freeway VMT during a Kings game. Meaningful decreases (during the pre-event peak hour) would occur on NB I-5, WB I-80, and EB I-80.

Mitigation Measure

4.10-2 (ESC/SPD)

Prior to the issuance of each building permit for the project, the project applicant shall pay its fair-share contribution to fund planned transportation improvements which are included in the SACOG Metropolitan Transportation Plan (MTP) and are located within the I-5 freeway corridor in proximity to the project. The payment shall cover the fair-share portion allocable to the portion of the project subject to the building permit. This mitigation measure is required with each phase of development, regardless of whether it is the ESC or a non-ESC land use.

The City is participating in a multi-agency effort to identify freeway, roadway, and transit improvements, included in the MTP, which would reduce projected cumulative mainline traffic impacts along the I-5 freeway corridor extending from the American River to the City of Elk Grove. The agencies have prepared the I-5 Freeway Subregional Corridor Study dated April 30, 2009, which identifies the planned improvements, allocates a portion of the cost of the improvements to be funded by new development based on land use type and location, and identifies proposed impact fees.

Caltrans District 3 staff has reviewed and approved a methodology proposed by the City to calculate the fair share fee. Caltrans concurs that the fair share fees can be applied to any of the projects currently shown on the Fee Program project list or those projects referenced in their NOP comment letter.[17]

Impact Significance After Mitigation: Although payment of the fair share contribution would assist in mitigating the project's mainline freeway impacts, the impacts may not be fully mitigated with the planned transportation improvements and the timing and funding for the improvements are uncertain. Because payment of the fee does not ensure that the project's impacts on the I-5 freeway would be fully mitigated, this impact is considered ***significant and unavoidable.***

Impact 4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.

The addition of project trips would cause vehicle queues on the southbound I-5 off-ramp at J Street to spill back beyond the gore point onto the freeway mainline during the AM and pre-event peak hours. The project would also cause vehicle queues on the northbound I-5 off-ramp at J Street to spill back beyond the gore point onto the freeway mainline during the AM peak hour. This degradation is considered ***significant***.

[17] California Department of Transportation, 2013.Written correspondence to Jerry Way, City of Sacramento Department of Public Works, from Jody Jones, District Director, California Department of Transportation. December 6, 2013.

Project-related queuing effects at all other study freeway off-ramps are less than significant. Project effects will benefit interchanges on I-5 and I-80 that currently experience queuing prior to the beginning of Kings games.

Mitigation Measure

4.10-3 (ESC/SPD)

The City shall coordinate with Caltrans, as necessary, to implement the following measures to benefit operations at the J Street/3rd Street/I-5 off-ramps intersection:

a) *AM Peak Hour: Street/3rd Street/I-5 off-ramps Intersection – Revise the traffic signal green splits for the 3rd Street north-south, southbound off-ramp, and northbound off-ramp phases. The applicant shall be required to pay a fair share contribution to the City Traffic Operation Center (TOC) to revise the signal timing at this intersection.*

b) *Pre-Event Peak Hour (for large events): Implement Mitigation Measure 4.10-1 (Prepare/Implement TMP which includes potential traffic management strategies at the J Street/3rd Street/I-5 off-ramps intersection for pre-event conditions).*

c) *Pre-Event Peak Hour (for large events): The City shall coordinate with Caltrans to use existing changeable message signs (CMS) located on southbound I-5 (south of West El Camino Ave.), northbound I-5 (at Sutterville Road), and westbound Capital City Freeway (at 9th Street) to broadcast real-time information to travelers regarding preferred travel routes to access the ESC. These broadcasts would operate in conjunction with City, State, and ESC Traffic Management Centers.*

The effectiveness of the signal timing adjustment (in part a) was tested using the SimTraffic micro-simulation model. As shown in Table 4.10-33, the proposed signal timing changes for the AM peak hour would reduce queuing on the I-5 off-ramps at J Street and decrease delays at the J Street/3rd Street/I-5 off-ramps intersection. However, queues would still extend back onto the I-5 NB mainline and intersection operations would remain at LOS F. However, the severity of queuing and delays would be reduced.

TABLE 4.10-33
ANALYSIS OF J STREET/3RD STREET/I-5 OFF-RAMPS –
EXISTING PLUS PROJECT WITH MITIGATION CONDITIONS

	Existing Conditions	Existing Plus Project	Existing Plus Project with Mitigation
Measure of Effectiveness	**AM Peak Hour**	**AM Peak Hour**	**AM Peak Hour**
95th Percentile Vehicle Queues			
I-5 SB Off-Ramp (1,500 ft. storage)	1,150	**3,325**	**1,425**
I-5 NB Off-Ramp (1,000 ft. storage)	975	**3,050**	**2,725**
Average Delay (LOS)			
J Street/3rd Street/I-5 Off-ramps	93 sec. (LOS F)	248 sec. (LOS F)	155 sec. (LOS F)

1. Refer to above text for description of mitigation.

Bolded, underlined values imply 95th percentile queue exceeds available storage. Values rounded to the nearest 25 feet.

SOURCE: Fehr & Peers, 2013.

The TMP describes several potential traffic management strategies that could implemented at the J Street/3rd Street/I-5 off-ramps intersection. Since these strategies have not been fully analyzed by the City, a preferred strategy is not presented in this chapter.

The effects of implementation of Mitigation Measure 4.10-3c (real-time information via CMS) was not quantitatively analyzed due to the uncertainty of how the information would be broadcast and how motorists would react. Nonetheless, this measure would be a valuable mitigation tool for achieving an equitable distribution of inbound traffic across multiple freeway off-ramps.

It should be noted that a physical improvement that would increase the capacity at the J Street/3rd Street/I-5 off-ramps intersection was identified. However, consultations with Caltrans (who would need to review/approve the project) led to the conclusion that it was not feasible due to certain geometric design standards not being met. Therefore, it is not included in the above list of mitigations because it is considered infeasible.

Impact Significance After Mitigation: The identified improvements would reduce vehicular queues on the I-5 off-ramps, but not to acceptable or "no project" levels. This mitigation measure is required as part of the ESC construction and/or operation. Therefore, this impact would remain ***significant and unavoidable.***

Impacts 4.10-4, 4.10-5, and 4.10-6 address potential effects on transit, as presented below:

- Impact 4.10-4 addresses the transit system's (both bus and light rail) ability to transport the expected number of riders (i.e., is the bus/train capacity exceeded?) generated by the Proposed Project.

- Impact 4.10-5 evaluates how the Proposed Project would affect physical access to bus transit, with a specific focus placed on the relocation of bus stops.

- Impact 4.10-6 evaluates how the Proposed Project would affect physical access to light rail transit. This impact addresses LRT ticket purchases (i.e., which can affect access if not properly provided for), queuing of riders while waiting for trains, and loading of riders onto trains.

Impact 4.10-4: The Proposed Project would adversely affect the transit system's ability to accommodate the projected ridership demand.

The Proposed Project would generate both new bus and LRT transit riders. Surveys of other downtown arenas indicate that most attendees for large events (i.e., NBA games, concerts, major community events, etc.) use rail transit such as subway, commuter rail, and/or light rail rather than bus to access the arena. This is because most major events are scheduled in the evenings when bus service is often not available or scaled back, especially after events that end in the late evening hours. Data also indicate that the post-game destinations of most Kings' attendees are located in areas not well-served by existing bus routes.

It is projected that ESC sporting event attendees would primarily use the existing RT light rail lines for transit access to and from ESC events. Table 4.10-18 shows that all LRT lines would be under capacity in the peak direction during each peak hour with the addition of project riders. Thus, the level of projected LRT ridership would not exceed capacity or otherwise exceed the system's ability to accommodate demand.

Most of the projected bus ridership for the project would be generated by employees and patrons of the non-ESC land uses. It is estimated that the Proposed Project would generate 80 AM peak hour bus riders and 65 PM peak hour bus riders. Given the level of anticipated bus ridership and the number of bus routes (over 40) that serve the project vicinity, this analysis does not estimate the specific routes that would be used by project riders. Given the number of bus routes and estimated number of project riders, this analysis concludes that the Proposed Project would not adversely affect the bus system's ability to accommodate the projected level of ridership.

Because adequate capacity exists to support project-related increased ridership on both bus and LRT systems, project impacts on transit system capacity are considered ***less than significant***.

Mitigation Measure

None required.

Impact 4.10-5: The Proposed Project would cause inadequate access to bus transit.

Currently, there are two bus stops located on L Street between 5th Street and 7th Street. These bus stops serve up to 22 different bus routes during typical weekdays. During the PM peak hour, a total of 43 buses stop at these bus stops. The bus stop located between 5th and 6th Streets is a single stop approximately 100 feet in length. The bus stop located between 6th and 7th Streets is a double stop approximately 200 feet in length. The Proposed Project would require the permanent relocation of these stops for the following reasons:

- The segment of L Street between 6th and 7th Streets would include a new vehicular driveway entrance and a dedicated space for VIP/Charter Bus/Paratransit drop-offs and pick-ups. The distance between the new driveway entrance and 7th Street would be about 100 feet. During a field visit on December 10, 2013, RT staff indicated that this spacing would not be sufficient for a bus stop due to the stop's proximity to the driveway.

- The segment of L Street between 5th and 6th Streets would include a new truck loading vehicular (inbound-only) driveway. In addition, this frontage would accommodate media vans and auto drop-offs (closer to 6th Street). The segment of L Street just east of 5th Street would have a 30-foot plaza walkway.

Failure to provide adequate replacement bus stops for the eliminated bus stops would adversely affect access to bus transit for numerous bus riders who use RT and other transit provider bus services to travel to and from downtown Sacramento.

The Proposed Project has not identified the relocation of bus stops to any particular locations. An existing bus stop on J Street between 4th and 5th Street may need to be temporarily relocated during construction. This is addressed in Impact 4.10-10 (Construction Impacts). As described in Impact 4.10-6, 7th Street is being contemplated for a temporary closure between J Street and L Street for post-event traffic management and train loading purposes. To the extent buses are traveling south on this segment of 7th Street during the post-event time period, they would be permitted (along with LRT vehicles) to access the 7th Street bus stop.

Project impacts on bus transit access would be considered ***significant***.

Mitigation Measure

4.10-5 (ESC)

The project applicant, in coordination with the City of Sacramento, Regional Transit, and other transit providers within the project vicinity, shall identify new bus stop locations and cause replacement bus stop facilities to be constructed. Service providers should then collaborate/agree on which bus routes should use which relocated stops. The proposed bus stop location would be located on the north side of Capitol Mall between 8th Street and 7th Street.

The bus stop location on the north side of L Street east of 7th Street could extend for approximately 140 feet, measured from the limit line at 7th Street to the bollards forming the entrance to nearby parking garage. A site visit, which included RT staff, identified the need for various potential improvements to support a bus stop including curb/gutter modifications, prohibition of on-street parking, a new transit shelter, removal of one street tree, and other relocations/modifications. The resulting bus stop could simultaneously load two buses.

The bus stop location on the west side of 6th Street north of Capitol Mall would measure about 75 feet, which is sufficient to load one bus. To the north, the curb is painted yellow with "Loading Zone" markings. If this loading zone area were to be relocated slightly further north on 6th Street, the bus stop could be of sufficient length to simultaneously load two buses. A site visit, which included RT staff, identified the need for various potential improvements to support a bus stop including prohibition of on-street parking, a new transit shelter, and the potential removal of decorative tree/shrubs.

Impact Significance After Mitigation: This mitigation measure would be required as part of the ESC construction and/or operation. Implementation of Mitigation Measure 4.10-5 would reduce this impact to ***less than significant.***

Impact 4.10-6: Access to light rail transit would be inadequate.

During the post-event peak hour, approximately 920 riders would be expected to board LRT trains. The majority of boardings would occur at the 7th/I, 7th/K (St. Rose of Lima Park), 7th/Capitol, 8th/Capitol, or 9th/K stations.

The 7th/K (St. Rose of Lima Park) LRT stop has limited space for transit riders to wait for the train's arrival (see photo on following page). Currently, doors open on the left side of trains at this station. Further, the demand for the first two-car train after the end of the basketball game would likely exceed the train's capacity, meaning that some riders would be required to wait for the arrival of a second train. Pedestrian access is further complicated by two different lines (Gold line and Blue line to Meadowview) that stop at this station. This could cause rider confusion, uncertainty, and frustration (i.e., "where do I stand to wait for a train?") during high demand post-event conditions.

Part of the light rail access evaluation relates to passenger ticketing for the post-game ride. Currently, RT passes are valid for up to two hours after purchase. Since NBA games last at least two hours, transit riders would need to purchase a ticket during or after the game for the post-game ride. According to RT, each light rail station includes two fare vending machines (FVM). According to RT staff, each FVM can serve about three patrons per minute, with about 60 percent of riders needing to purchase or validate a pass before riding. Based on these characteristics, approximately 450 riders could be accommodated at a given light rail station during a 45-minute interval (i.e., 60% of 450 is 270 riders, which are served by two machines every 20 seconds for 45 minutes; the remaining 40% of 450 riders do not need to use FVMs). As noted in Table 4.10-18, usage of each of the three outbound lines is expected to be comparable (40% / 30% / 30%) with total post-game peak hour ridership of 920. This suggests that if a different station is used for each outbound line, then the FVMs would have sufficient capacity to accommodate the projected number of riders (based on the above inputs) over the course of a 45-minute period. However, since departing ESC attendees will not arrival uniformly over the 45-minute period, there is a likelihood of queue formation at the FVMs, which could adversely affect LRT access.

The project impact is caused by a combination of factors. The project would generate a large number of LRT riders in a short amount of time. Many of those riders would access trains from the 7th/K (St. Rose of Lima Park) station, which features certain design/physical constraints that may cause boarding challenges (see photo below). In addition, some transit riders will want to walk easterly on K Street through this stop to access Blue line to Watt/I-80 trains, further complicating the boarding/queuing process.

Project impacts on light rail transit access are considered ***significant***. Impact 4.10-8 discusses impacts associated with the pedestrian environment including how pedestrians would travel between the ESC and light rail transit stations.

View of LRT stop at 7th/K (St. Rose of Lima Park) – Transit riders would board trains at this station to travel southerly on the Blue line toward Meadowview and easterly on the Gold line toward Folsom after ESC events.

Mitigation Measure

4.10-6 (ESC)

The project applicant, the City of Sacramento, and Regional Transit shall identify and implement feasible operational strategies to improve access to light rail transit before and after events at the ESC. These strategies, which shall be documented in the TMP, may include, but are not limited to, the following:

a) *7th Street Closure (City/Applicant responsibility): Close 7th Street between J Street and L Street to vehicular traffic (buses and LRT trains would be permitted on 7th Street) prior to the completion of an evening event and extending for a certain period after the event ends (events warranting closure and duration of closures to be identified in the TMP).*

b) *Train Boarding/Queuing at 7th/K Station (City/RT responsibility): During post-event conditions, permit pedestrians to board trains at the 7th/K (St. Rose of Lima Park) stop from both the left and right sides of the train. This measure would increase pedestrian staging space, and provide improved access to trains. Also implement strategies (wayfinding, barriers, personnel) that would enable transit riders to "queue" (stand in line) while waiting for post-game trains.*

c) *Alternative Station Loading Strategies (City/RT/Applicant responsibility): To better distribute passenger loadings, consider loading the Gold line and Blue line (to Meadowview) from different stations (i.e., one would load only at 7th/K and the other would load only at 7th/Capitol). Also consider a mid-block loading location for the Gold line on the closed portion of 7th Street from J to K Streets.*

d) *Enhanced LRT Service (City/RT/Applicant responsibility): As warranted, operate the first post-event trains (i.e., after the game ends) in each direction with four cars (versus current two-car capacity) to provide a spike in transit system capacity in response to demand.*

e) *Enhanced LRT Ticket Purchasing (City/RT/Applicant responsibility): Consider approaches such as selling LRT passes inside the ESC, special passes (valid for use on trains until midnight) sold at the box office, smartphone applications, and/or special transit ticket provisions.*

Impact Significance After Mitigation: While some of these strategies and programs would be within the City and applicant's control, others require approval by and implementation from Regional Transit. This mitigation measure would be required as part of the ESC construction and/or operation. Since the City cannot guarantee that all needed improvements would be implemented in a reasonable period of time, this impact therefore is considered ***significant and unavoidable*** despite a number of these mitigations being feasible and within the control of the City and the project applicant.

Impact 4.10-7: The Proposed Project would adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.

The Proposed Project would include short-term and long-term bicycle parking, and may also include bike share and bike valet parking facilities. The current bicycle plan (see Figure 2-24) shows four short-term bicycle parking locations, four possible bike share docking locations, and one long-term bicycling parking location. If demand is sufficient, bike valet parking could be provided at the project site, with possible locations being at St. Rose of Lima Park or 6th Street south of L Street. The project would provide amenities and facilities to accommodate bicyclists and would not adversely affect any existing or planned bicycle facilities. Therefore, project impacts on the bicycle system are considered ***less than significant*** and no mitigation measures are required.

Mitigation Measure

None required.

Impact 4.10-8: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.

During the pre-event and post-event peak hours, thousands of pedestrians would travel to and from the ESC and nearby parking garages, transit stops, businesses, and residences. Table 4.10-24

indicated that several signalized crosswalks would have pedestrian flows that would reflect LOS D or E conditions during pre-event periods. Pedestrian flow conditions would be even busier during post-event periods as a greater proportion of attendees exit the facility. Project impacts on the pedestrian system are considered ***significant***.

Mitigation Measure

4.10-8 (ESC)

The project applicant, in coordination with the City and subject to the City's Traffic Engineer approval, shall implement pedestrian system enhancements consistent with the Project's TMP to accommodate pedestrian access before and after special events at the ESC. Potential improvements may include, but are not limited to, the following:

a) *Upgrade traffic signals (if necessary) at the following locations to include pedestrian countdown heads (i.e., displays number of seconds remaining in "flashing don't walk" phase) and other required enhancements (e.g., special signage or signal control equipment for temporary closures) subject to the review and approval by the City Traffic Engineer:*

- *L Street/4th Street*
- *L Street/5th Street*
- *L Street/6th Street*
- *L Street/7th Street*
- *Capitol Mall/5th Street*
- *J Street/5th Street*
- *J Street/6th Street*
- *J Street/7th Street*
- *K Street/7th Street*

b) Increase the width of the following crosswalks from 10 to 15 feet:

- *L Street/4th Street – crossing of L Street on the east side*
- *J Street/5th Street Intersection - crossing of J Street on the east side*
- *L Street/5th Street Intersection - crossing of L Street on the east side*
- *J Street/6th Street Intersection - crossing of J Street on the west side*
- *L Street/6th Street Intersection – crossing of L Street on the west side*
- *L Street/7th Street Intersection – crossing of L Street on the west side*
- *J Street/7th Street Intersection – all crossings of both J Street and 7th Street*
- *Capitol Mall/5th Street Intersection - crossing of Capitol Mall on the east side*

c) Position traffic control personnel, as determined in the TMP, at intersections on L Street, 7th Street, and J Street to monitor/assist with pedestrian travel during events that generate large pedestrian volumes (i.e. NBA games, concerts, major community events).

d) Modify traffic signal timings for the pre-event and post-event peak hours at each of the intersections listed in part a) above to provide longer WALK intervals for north-south travel, while maintaining signal coordination along each corridor.

Impact Significance After Mitigation: The effect of wider crosswalks and more favorable signal timings for pedestrians during the pre-event and post-event peak hours would be improved pedestrian LOS at these crosswalks. The crosswalk widening would provide an approximate 33 percent reduction in the pedestrian flow rate, which would improve the LOS. Due to the uncertainty of the exact types of signal timing changes, detailed analysis of such changes is not provided here. However, the combined effects of mitigations a) through d) would be improved pedestrian access. This mitigation measure is required as part of the ESC construction and/or operation. This impact is considered ***less than significant*** with mitigation.

Impact 4.10-9: The Proposed Project would result in inadequate emergency access.

According to the project site plan, emergency vehicles would be able to access the project site from all perimeter roads (i.e., J Street, 7th Street, and L Street). Fire stations are located to the northeast and southeast of the project, less than one mile from the site. The Sacramento Police Department Central Command facility is located on Richards Boulevard, slightly one mile north of the site. The project site plan shows delineated 20-foot emergency vehicle access routes through the plaza from the north (via J Street) and east (via 7th Street). During certain specific events, medical personnel will be present on-site along with an ambulance. During larger events, traffic control officers will be present on all sides of the building to control crowds and facilitate emergency vehicle access if needed. Project impacts on emergency access are considered ***less than significant*** and no mitigation measures are required.

Mitigation Measure

None required.

Impact 4.10-10: The Proposed Project would cause construction-related traffic impacts.

The proposed construction traffic control plans (Figure 2-20) call for the following lane closures:

ESC Construction-Related Closures

- Closure of the south curbside lane on J Street between 5th and 6th Street for a two-year construction period. During this time, on-street parking on the north side of J Street between 5th and 6th Street would be prohibited. The number of travel lanes on eastbound J Street in this segment would be maintained by shifting the lanes to the north during construction.

- Closure of the north curbside lane on L Street between 5th and 7th Street for a two-year construction period. During this time, on-street parking on the south side of L Street between 6th and 7th Street would be prohibited. The number of travel lanes on westbound L Street in this segment would be maintained by shifting the lanes to the south during construction. This lane closure would require the temporary relocation of bus stops on the north side of L Street between 5th and 7th Streets.

- Closure of 5th Street, between J Street and L Street, for approximately 6-8 weeks during the initial demolition period for the ESC project. All lanes on 5th Street would be closed. This closure would require implementation of detour routes for bicyclists, pedestrians, autos, buses, trucks, and emergency vehicles that travel along this segment of 5th Street.

Non-ESC Land Uses Construction-Related Closures

- Closure of the south curbside lane on J Street between 5th and 6th Street for a two-year construction period. During this time, on-street parking on the north side of J Street between 5th and 6th Street would be prohibited. The number of travel lanes on eastbound J Street in this segment would be maintained by shifting the lanes to the north during construction.

- Closure of the north curbside lane on L Street between 5th and 7th Street for a two-year construction period. During this time, on-street parking on the south side of L Street between 6th and 7th Street would be prohibited. The number of travel lanes on westbound L Street in this segment would be maintained by shifting the lanes to the south during construction. This lane closure would require the temporary relocation of bus stops on the north side of L Street between 5th and 7th Streets.

- Closure of the south curbside lane on J Street between 4th and 5th Street during construction of the adjacent mixed-use development. During this time, on-street parking on the north side of J Street between 5th and 6th Street would be prohibited. This lane closure would require the temporary relocation of bus stops on the south side of J Street between 4th and 5th Streets.

Closure of curbside lanes on the south side of J Street and the north side of L Street would require the temporary relocation of existing bus stops used by multiple transit providers. The full closure of 5th Street would require the dissemination of information as well as the implementation of multiple detours and related signage to serve bicyclists, pedestrians, buses, autos, trucks, and emergency vehicles.

These project impacts to roadway users in the City of Sacramento are considered ***significant***.

Mitigation Measure

4.10-10 (ESC/SPD)

The applicant shall be required to implement the following mitigation measures.

a) Before issuance of demolition permits for the project site, the project applicant shall prepare a detailed Construction Traffic Management Plan that will be subject to review and approval by the City Department of Public Works, in consultation with Caltrans, affected transit providers, and local emergency service providers including the City of Sacramento Fire and Police departments. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. At a minimum, the plan shall include:

- *The number of truck trips, time, and day of street closures*
- *Time of day of arrival and departure of trucks*
- *Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting*
- *Provision of a truck circulation pattern*
- *Identification of detour routes and signing plan for street closures*
- *Provision of driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas)*
- *Maintain safe and efficient access routes for emergency vehicles*
- *Manual traffic control when necessary*
- *Proper advance warning and posted signage concerning street closures*
- *Provisions for pedestrian and bicycle safety*

A copy of the construction traffic management plan shall be submitted to local emergency response agencies and transit providers, and these agencies shall be notified at least 30 days before the commencement of construction that would partially or fully obstruct roadways.

b) The project applicant, in coordination with the City of Sacramento, Regional Transit, and other transit providers within the project vicinity and subject to their approval, shall identify temporary bus stop locations and cause ADA-compliant replacement bus stop facilities to be constructed. Potential bus stop locations include (but are not limited to): J Street to the west of 4th Street, J Street to the west of 5th Street, and J Street to the east of 6th Street. The relocation of bus stops may have a secondary impact related to the loss/relocation of a small number of on-street parking spaces and/or loading zones. This secondary impact would not be significant.

c) The project applicant shall implement the planned conversion of 3rd Street, from Capitol Mall to L Street, from its current one-way (southbound-only) configuration to a two-way configuration prior to the closure of 5th Street. This project will provide an alternative travel route during the 5th Street closure. This shall include

the installation of lane/intersection restriping, signing, and traffic signal modifications. It may include the elimination of on-street parking on the east side of 3rd Street. The improvements shall include the provision for eastbound buses on Capitol Mall to turn left on 3rd Street and travel along 3rd Street to J Street.

Impact Significance After Mitigation: This mitigation measure would be required as part of the ESC construction and/or operation. Parts of it may also be required for phased development of a non-ESC land use, at the discretion of the City of Sacramento. The implementation of the above mitigation measures would reduce this impact to ***less than significant.***

Cumulative Impacts

Impact 4.10-11: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of Sacramento.

The addition of project trips would contribute to LOS F conditions at intersections in the Core Area of the City. The addition of project trips would further degrade LOS F operations at the I-5 NB Ramps/Richards Boulevard intersection. The incremental addition of project trips would cause an approximate 14 second increase in delay. Since this intersection is located outside of the Core Area but within an Urban Corridor/District, it is subject to a LOS E threshold. The project's contribution may be considered acceptable at these locations under Policy M 1.2.2(a) of the City's General Plan provided that the project improves other parts of the citywide transportation system within the vicinity of the project site. The Proposed Project would include the following generalized travel benefits and specific multi-modal improvements:

1. The Proposed Project would improve the pedestrian environment in the project vicinity through wider crosswalks, enhanced pedestrian signal crossing equipment, Americans with Disabilities Act (ADA) improvements, and other pedestrian amenities. The project would also accommodate bicycle travel through bike share/valet programs, and designated bike parking areas.

2. The Proposed Project, by relocating the arena from Natomas to downtown, would enhance the opportunity for event attendees to use non-auto travel modes in furtherance of 2030 General Plan goals and policies, as well as goals and policies of the SACOG MTP/SCS. By reducing per attendee VMT by nearly 20 percent over existing conditions, the Proposed Project would improve roadway capacity on a citywide basis. By increasing ridership on RT and other regional transit provider routes, the project would provide further support/justification for additional enhancements to transit service in the downtown area.

These measures meet the intent of Policy M 1.2.2(a) of the City's General Plan in that they provide long-term improvements to the City's local and regional transportation system. However, the street system in the vicinity of the project could experience substantial congestion immediately before, during, and after events unless circulation is managed effectively. The project has proposed to implement an Event Transportation Management Plan (TMP) that would

be intended to manage vehicular circulation near the project site, and to optimize the safe and efficient use of multiple modes of transportation to and from events at the ESC (see Appendix L). Because the TMP has not yet been finalized and approved by the City, it cannot yet be determined that the project would adequately "improve other parts of the citywide transportation system in the vicinity of the project site." Accordingly, project impacts to intersections in the City of Sacramento are considered ***significant***.

Mitigation Measure

4.10-11 (ESC/SPD)

Implement Mitigation Measure 4.10-1.

Impact Significance After Mitigation: Because the TMP would improve and/or manage other parts of the transportation system within the project vicinity, once approved by the City, the Proposed Project would meet the intent of Policy M 1.2.2(a) of the City's General Plan, which allows for LOS F during peak hours in the Core Area under certain conditions. The implementation of this mitigation would reduce this impact to ***less than significant.***

Impact 4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.

The addition of project trips would worsen to a significant degree LOS E or F operations at the Tower Bridge Gateway/5th Street (PM Peak Hour) and Tower Bridge Gateway/3rd Street (AM and PM Peak Hour) intersections in the City of West Sacramento. These intersections would experience a five-second or more increase in delay as a result of the project. It should be noted that although the project adds trips to the Tower Bridge Gateway/Garden Street intersection, the resulting increase in delay is less than five seconds, and therefore not considered significant. Thus, project impacts to the Tower Bridge Gateway/5th Street and Tower Bridge Gateway/3rd Street intersections are considered ***significant***.

Mitigation Measure

None available (both intersections are currently constructed to provide as much capacity as is physically possible).

Impact Significance After Mitigation: This impact is considered ***significant and unavoidable***.

Impact 4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.

The addition of project trips would worsen cumulative LOS F conditions on the following segments of I-5:

- Projected LOS F operations during the AM peak hour on the northbound I-5 weave section between P Street and J Street would be worsened to a significant degree (based on the amount of project traffic added).

- Projected LOS F operations during the AM peak hour on the I-5 southbound weave sections from West El Camino Avenue to Richards Boulevard would be worsened to a significant degree (based on the amount of project traffic added).

- Projected LOS F operations during the PM peak hour on northbound I-5 from L Street to I-80 would be worsened to a significant degree (based on the amount of project traffic added).

The degraded operation of these segments is considered a ***significant impact***.

Project-related impacts at all other study freeway facilities would either be less than significant or beneficial. As noted previously, relocation of the arena from Natomas to downtown would result in a net 17 percent decrease in freeway VMT during a Kings game. Meaningful decreases (during the pre-event peak hour) would occur on NB I-5, WB I-80, and EB I-80.

Mitigation Measure

4.10-13 (ESC/SPD)

Implement Mitigation Measure 4.10-2.

Although payment of the fair share contribution would assist in mitigating the project's mainline freeway impacts, the impacts may not be fully mitigated with the planned transportation improvements and the timing and funding for the improvements are uncertain. Because payment of the fee does not ensure that the project's impacts on the I-5 freeway would be fully mitigated, this impact is considered ***significant and unavoidable.***

Impact 4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.

The addition of project trips would exacerbate AM peak hour, PM peak hour, and pre-event peak hour queuing on the southbound and northbound I-5 off-ramps at J Street, further worsening traffic spillback onto I-5. The degree to which queuing on each on-ramp would worsen under cumulative conditions can be determined by comparing the increase in delay at the 3rd Street/J Street/I-5 off-ramps intersection under existing plus project versus cumulative (with project)

conditions. Substantial increases in delay would occur between these scenarios, which are due to growth in background traffic. This impact is considered ***significant***.

Project-related queuing effects at all other study freeway off-ramps are less than significant. Project effects will benefit interchanges on I-5 and I-80 that currently experience queuing prior to the beginning of Kings games.

Mitigation Measure

4.10-14 (ESC/SPD)

Implement Mitigation Measure 4.10-3.

Impact Significance After Mitigation: The identified improvements would reduce vehicular queues on the I-5 off-ramps, but not to acceptable or "no project" levels. Therefore, this impact would remain ***significant and unavoidable*.**

Impact 4.10-15: The Proposed Project would adversely affect the transit system's ability to accommodate the projected ridership demand under cumulative conditions.

The Proposed Project would generate both new bus and LRT transit riders. As noted in Impact 4.10-4, most attendees for large events use rail transit such as subway, commuter rail, and/or light rail to access the arena. A variety of transit service enhancements are planned including streetcar lines, Bus Rapid Transit service, and reduced LRT headways. Since the project's added increase in transit riders is far less than the growth in the transit system capacity, the level of projected LRT ridership would not generate a significant project impact.

Most of the projected bus ridership for the project would access the non-ESC land uses. Given the number of bus routes and estimated number of project riders, this analysis concludes that the project would not adversely affect the bus system's ability to accommodate the projected ridership demand.

Because adequate capacity exists to support project-related increased ridership on both bus and LRT systems, project impacts on transit system capacity are considered ***less than significant***.

Mitigation Measure

None required.

Impact 4.10-16: The Proposed Project would cause inadequate access to bus transit under cumulative conditions.

The Proposed Project would require permanent relocation of two bus stops located on L Street between 5th Street and 7th Street. Failure to provide adequate replacement bus stops for the eliminated bus stops would adversely affect access to bus transit for numerous bus riders who use RT and other transit provider bus services to travel to and from downtown Sacramento.

Project impacts on bus transit access would be considered ***significant***.

Mitigation Measure

4.10-16 (ESC)

Implement Mitigation Measure 4.10-5.

Impact Significance After Mitigation: Implementation of this mitigation measure would reduce this impact to ***less than significant.***

Impact 4.10-17: Access to light rail transit would be inadequate under cumulative conditions.

As described in Impact 4.10-6, access to transit would be impeded by several factors including LRT ticket purchase convenience, queuing of riders while waiting for trains, and loading onto trains during 'post-game' ESC events. Project impacts on transit access are considered ***significant***.

Mitigation Measure

4.10-17 (ESC)

Implement Mitigation Measure 4.10-6.

Impact Significance After Mitigation: While some of these strategies and programs in Mitigation Measure 4.10-6 are within the City and applicant's control, others require approval by and implementation from Regional Transit. Since the City cannot guarantee that all needed improvements would be implemented in a reasonable period of time, this impact therefore is considered ***significant and unavoidable***.

Impact 4.10-18: The Proposed Project would adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.

The project site plan shows four short-term bicycle parking locations, four possible bike share docking locations, and one long-term bicycling parking location. Bike valet parking would be

provided at the project site as required, with possible locations being at St. Rose of Lima Park or 6th Street south of L Street. As is noted in the Event Transportation Management Plan, the bike valet parking would be scalable, and could increase capacity in the event that the demand for bicycle parking increases over time. Further, with the management of travel through key intersections around the project site subject to control by Traffic Control Officers (anticipated to be City of Sacramento Police Department officers), measures would be in place to facilitate bicycle travel to and from the project site during event conditions in both the short-term and in the long-term. The project would provide amenities and facilities to accommodate bicyclists and would not adversely affect any existing or planned bicycle facilities. Therefore, cumulative impacts on the bicycle system are considered ***less than significant*** and no mitigation measures are required.

Mitigation Measure

None required.

Impact 4.10-19: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.

During the pre-event and post-event peak hours, thousands of pedestrians would travel to and from the ESC and nearby parking garages, transit stops, businesses, and residences. Because the size of the proposed ESC is fixed, the pedestrian flows to and from events would be the same under existing plus project or under cumulative conditions. Table 4.10-24 indicated that several signalized crosswalks would have pedestrian flows that would reflect LOS D or E conditions during pre-event periods. Pedestrian flow conditions would be even busier during post-event periods as a greater proportion of attendees exit the facility. Increased traffic flows on adjacent streets under cumulative conditions would not exacerbate projected pedestrian flows or degrade pedestrian LOS compared to existing plus project conditions because the anticipated capacity for pedestrian flows is not adversely affected by increased traffic flows (the pedestrian "walk" interval at signalized intersections is expected to be the same under cumulative conditions). Because pedestrian flows would reflect LOS D or E conditions under cumulative conditions, the cumulative impacts would be considered significant, and the project contribution would be considerable. Thus, cumulative impacts on the pedestrian system are considered ***significant***.

Mitigation Measure

4.10-19 (ESC)

Implement Mitigation Measure 4.10-8.

Impact Significance After Mitigation: The project contribution to the cumulative impact would be reduced to less-than-considerable as a result of implementation of this measure. This impact is considered ***less than significant*** with mitigation.

Impact 4.10-20: The Proposed Project would result in inadequate emergency access under cumulative conditions.

According to the project site plan, emergency vehicles would be able to access the project site from all perimeter roads (i.e., J Street, 7th Street, and L Street). Further, during operations, the Event Transportation Management Plan would be implemented, and is intended to allow the Police Department to adapt transportation management strategies to ensure safe access to and from the project site. Fire stations are located to the northeast and southeast of the project, less than one mile from the site. As is noted under Impact 4.9-4, under cumulative conditions, a new fire station would be provided within the Railyards Specific Plan area and would serve the project site. The Sacramento Police Department Central Command facility is located on Richards Boulevard, slightly one mile north of the site. As is noted under Impact 4.9-2, over time, new facilities and staff would be added to the Sacramento Police Department on an as-needed basis to allow continued achievement of City service goals. Thus, cumulative impacts on emergency access are considered ***less than significant*** and no mitigation measures are required.

Mitigation Measure

None required.

Impact 4.10-21: The Proposed Project would cause construction-related traffic impacts under cumulative conditions.

The cumulative context for construction impacts would be other projects in the immediate vicinity that would be constructed concurrently with the Proposed Project. Other known projects could include the City's Capitol Mall/2nd Street Connection project, and, potentially, the proposed Downtown/Riverfront Streetcar project. The 2nd Street Connection project would affect the slip ramp from L Street to Capitol Mall, and the Capitol Mall approach to Tower Bridge. According to SACOG, construction of the Streetcar project could begin in 2015 with a goal of completion by the end of 2017. If the Streetcar project were constructed concurrent with the Proposed Project, it would affect 3rd Street and 7th Street (between J and K Streets).

The proposed construction traffic control plans call for several lane and street closures during project construction (refer to Impact 4.10-10 for specific locations). Closure of curbside lanes on the south side of J Street and the north side of L Street would require the temporary relocation of existing bus stops used by multiple transit providers. The full closure of 5th Street would require the dissemination of information as well as the implementation of multiple detours and related signage to serve bicyclists, pedestrians, buses, autos, trucks, and emergency vehicles.

The only other known construction projects in the vicinity that could occur concurrently with the construction of the Proposed Project would be the City of Sacramento's Capitol Mall/2nd Street connection project and, potentially, the Downtown/Riverfront Streetcar project. The Capitol Mall/2nd Street connection project would affect the street system starting at 3rd/L Streets, and would include closure of the L Street-to-Capitol Mall slip ramp, as well as construction of a new

intersection on Capitol Mall at 2nd Street. The Streetcar project could affect 3rd Street and 7th Street adjacent to the project site. Because the proposed construction zones for the 2nd Street connection project would be approximately two blocks "downstream" from the Proposed Project construction zone (ending at 5th and L Street), the two projects would not affect the same segments of the street system at the same time. However, if the Streetcar project were to be constructed concurrently with the Proposed Project and the 2nd Street connection project, the construction zones could overlap. As a mitigating factor, all projects in Sacramento, including the Proposed Project (see Mitigation Measure 4.10-10), would be required to implement construction traffic management plans. The implementation of these plans would be coordinated with other City departments, including first responders at the Police Department and Fire Department. However, the three projects could collectively result in additional detours and street closures over a larger part of the system.

These cumulative impacts to roadway users in the City of Sacramento are considered ***significant***, and the project contribution would be considerable.

Mitigation Measure

4.10-21 (ESC/SPD)

Implement Mitigation Measure 4.10-10.

Impact Significance After Mitigation: This mitigation measure would reduce the magnitude of the project contribution to the cumulative impact to a less-than-considerable level. Thus, this impact is considered ***less than significant*** with mitigation.

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4.11 Utilities and Service Systems

This section provides a summary of existing utilities and service systems provided to the project site and vicinity including electricity, natural gas, water, stormwater, and sewer. Pertinent regulations and requirements at the federal, state, and local level are reviewed. Potential impacts on utilities and service systems that could result from project implementation are discussed, and mitigation measures are applied, as warranted, in order to minimize the intensity of potential utilities and service system-related impacts. Potential impacts on stormwater conveyance facilities are also discussed in this section. For a discussion of stormwater quality management on site, and construction stormwater/stormwater quality management, please refer to section 4.7, Hydrology and Water Quality.

The City received comments on the NOP related to utilities and service systems, which are addressed in this chapter to the extent they pertain to potential project impacts (see Appendix A). NOP comment letters received relevant to this section include a letter from the Sacramento Regional County Sanitation District (SRCSD), requesting that the City evaluate potential impacts on SRCSD facilities, noting that SRCSD has recently entered into an agreement to provide additional wastewater treatment capacity to the City's combined sewer system, and outlining applicable fees. Several questions were received regarding the ability of City utilities to serve the Proposed Project and the funding of needed upgrades. In its NOP comment, SRCSD inquired as to whether the City would replace the existing combined sewer system soon. The Sacramento Municipal Utility District also submitted a comment letter requesting that the Draft EIR acknowledge the Proposed Project's transmission line easements, electrical load and infrastructure demand, energy efficiency, utility line routing, and GHG emissions. This section addresses these items except for issues that do not pertain to the physical impacts of the Proposed Project, such as fees and funding of upgrades.

The analysis included in this section was developed based on project-specific construction and operational features, data provided by the City with respect to existing water use, and additional data and information gathered from the City of Sacramento 2030 General Plan, City of Sacramento 2030 General Plan and Master Environmental Impact Report, the City of Sacramento 2010 Urban Water Management Plan, the Downtown Infrastructure Study, CalRecycle's Solid Waste Information System, and the Sacramento Regional County Sanitation District.

4.11.1 Water Supply

Environmental Setting

Downtown Project Site

City Water Sources and Supplies

The City obtains the majority of its water supply from the Sacramento and American Rivers. Groundwater makes up the balance of supply.

Surface Water

Most of the City's water supply comes from surface water that the City diverts pursuant to the City's surface water rights and entitlements. These consist of water rights established before 1914, water rights established after 1914, and a settlement contract the City has with the United States Bureau of Reclamation (USBR). Each of these is discussed briefly below.

The City has pre-1914 appropriative rights, which entitle the City to water from the Sacramento River. The City's right is based on use of Sacramento River water since 1854. This pre-1914 appropriative right allows for direct diversion of 75 cubic feet per second (cfs) from the Sacramento River.

The City's post-1914 Sacramento River rights are reflected in five water rights permits issued by the State Water Resources Control Board (SWRCB) or its predecessor, the State Water Rights Board. These are summarized in Table 4.11-1. Permit 992 authorizes the City to take water from the Sacramento River by direct diversion, and has a priority date of March 30, 1920. Permit 992 authorizes the City to divert up to 81,800 acre-feet annually (AFA) with a maximum diversion of 225 cfs. This permit allows the City to use diverted Sacramento River water within the City limits, as this area changes from time to time through annexations.

The City has four additional water right permits authorizing diversions of American River water. Permits 11358 and 11361 authorize the City to divert water from the American River by direct diversion, and have priority dates of October 29, 1947, and September 22, 1954, respectively. These permits allow for diversions at the City's E.A. Fairbairn Water Treatment Plant (FWTP), and specify a combined maximum allowable rate of diversion of 675 cfs. The authorized place of use (POU) for both permits is 79,500 acres within and adjacent to the City.

The final two permits (Permits 11359 and 11360) authorize re-diversion for consumptive uses of American River tributary water previously diverted by the Sacramento Municipal Utility District's (SMUD) Upper American River Project (UARP). Permits 11359 and 11360 have priority dates of February 13, 1948, and July 29, 1948, respectively, and the POU for both permits is 96,000 acres within and adjacent to the City. These permits allow for diversions at the FWTP and at the City's SRWWTP. The combined maximum allowable diversion under these permits includes re-diversion of up to 1,510 cfs of UARP direct diversion water and up to 589,000 AFA of UARP stored water.

The City also has a water rights settlement contract entered into in 1957 by the City and the USBR. In the settlement contract, the City agreed to limit its combined rate of diversion under its American River water rights permits to a maximum of 675 cfs, and up to a maximum amount of 245,000 acre-feet per year in the year 2030. The City also agreed to limit its rate of diversion under its Sacramento River water rights permit to a maximum of 225 cfs and a maximum amount of 81,800 acre-feet per year. This limits the City's total diversions of Sacramento and American river water to 326,800 acre-feet per year in the year 2030 as shown in Table 4.11-1. The contract also specifies an annual build-up schedule to this maximum amount, as shown in Table 4.11-2.

TABLE 4.11-1
SUMMARY OF CITY'S POST-1914 WATER RIGHTS

Application or License Number	Priority Date	River Source	Maximum Amount Specified[1] (cfs)	Maximum Amount Specified[1] (afy)	Purpose of Use	Season of Diversion and Re-Diversion	Place of Use	Deadline to Perfect Full Use
A. 1743 P. 992	3/30/1920	Sacramento	225	81,800	Municipal	Jan 1 to Dec 31	City of Sacramento	12/31/2030
A. 12140 P. 11358	10/29/1947	American	675	245,000	Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to the City	12/1/2030
A. 12321 P. 11359	2/13/1948	Tributaries of the American			Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to the City	12/31/2030
A. 12622 P. 11360	7/29/1948	Tributaries of the American			Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to the City	12/31/2030
A. 16060 P. 11361	9/22/1954	American			Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to the City	12/1/2030
Maximum Diversion Amount			**900**	**326,800**				

1. Amounts shown reflect the settlement agreement, as discussed in text.

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. *Carollo Engineers*.p. 4-3.

TABLE 4.11-2
SETTLEMENT CONTRACT MAXIMUM DIVERSION SCHEDULE (ACRE-FEET PER YEAR)

Source	2010	2015	2020	2025	2030	2035
American River	145,700	170,200	196,200	222,200	245,000	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800
Total	**227,500**	**252,000**	**278,000**	**304,000**	**326,800**	**326,800**

Source: City of Sacramento, 2008. *Docks Area Specific Plan Draft EIR, Section 5.10 - Utilities*. August 2008. pp. 5.10-12 - 5.10-13.

In return, the contract requires USBR to make available at all times enough water in the rivers to enable the agreed-upon diversions by the City. The City agreed to make an annual payment to USBR for Folsom Reservoir storage capacity used to meet the USBR's obligations under the contract, beginning with payment for 8,000 acre feet of storage capacity in 1963 and building up, more or less linearly, to payment for the use of 90,000 acre feet of storage capacity in 2030. The settlement contract is permanent and not subject to deficiencies. The USBR contract, in conjunction with the City's water rights, provides the City with a very reliable and secure water supply.

The City's diversions of American River water at the FWTP are also subject during certain time periods to limitations specified in the Sacramento Water Forum (Water Forum) negotiations. The Water Forum was started in 1993 by a group of water managers, local governments, business leaders, agricultural leaders, environmentalists, and citizen groups with two "co-equal" objectives: to provide a reliable and safe water supply through the year 2030, and to preserve the wildlife, fishery, recreational, and aesthetic values of the Lower American River. After six years of intense interest-based negotiations, the Water Forum participants approved the 2000 Water Forum Agreement (WFA).

As part of the WFA, each water purveyor signed a purveyor specific agreement (PSA) that specified that purveyor's Water Forum commitments. The City's PSA limits the quantity of water diverted from the American River at the FWTP during two hydrologic conditions: extremely dry years called Conference Years in the WFA, and periods when river flows are below the criteria commonly known as Hodge Flows issued by Judge Richard Hodge in the Environmental Defense Fund v. East Bay Municipal Utility District litigation. These two conditions, collectively referred to as the PSA Limitations, are described in more detail below.

The City's PSA defines Conference Years as years in which the California Department of Water Resources (DWR) projects an annual unimpaired flow into Folsom Reservoir of 550,000 AFA or less, or the projected March through November unimpaired flow into Folsom Reservoir is less than 400,000 AFA. During Conference Years, the City has agreed to limit its diversions for water treated at the FWTP to 155 cfs and 50,000 AFA. Conference Years have occurred on the American River only twice during the 72-year period of recorded historical hydrology.

In addition to Conference Years, the City's PSA specifies limitations on the City's diversion rate at the FWTP when American River flows bypassing the FWTP are less than the Hodge Flow criteria. Hodge Flows specify minimum flows that must remain in the Lower American River as follows: October 15 through February - 2,000 cfs, March through June - 3,000 cfs, and July through October 14 - 1,750 cfs. Based on a previously completed CALSIM II analysis of the 1922 to 1994 climate data, 59% of years will experience flows below Hodge Flow conditions at some time during the peak months of June through August. When flows passing the FWTP are greater than the Hodge Flow criteria, and when Conference Year conditions do not exist, the PSA allows diversions of American River water up to the FWTP's current maximum rate of 310 cfs (200 million gallons per day (mgd)).

It is important to note that the WFA does not restrict diversion under the City's American River entitlements from a Sacramento River diversion point. Therefore, during a Conference Year condition the City's annual surface water diversion amounts are limited only by the FWTP

Conference Year condition and the diversion and treatment capacity at the SRWTP. Assuming a maximum treatment capacity of 50,000 AFA at the FWTP and 180,000 AFA at the SRWTP, the current drought-limiting scenario allows a surface water production of 230,000 AFA.

Groundwater

While the City obtains the majority of its water supply from surface water along the American and Sacramento rivers, groundwater makes up the balance of supply. Municipal Groundwater is extracted from the North Sacramento Groundwater Basin and the Central Sacramento Groundwater Basin. Groundwater is extracted from 27 municipal wells, most of which are located north of the American River. Of these, 14 groundwater wells provide non-potable water supply, while the remaining 13 provide potable water. Total capacity for the City's municipal groundwater wells is approximately 20.7 mgd.[1]

The City pumps groundwater from both the North American Subbasin and the South American Subbasin of the Sacramento Valley Groundwater Basin. The City is one of many water purveyors that use groundwater from these two subbasins. While the City pumps from both subbasins, approximately 95 percent of the amount pumped by the City each year is pumped from the North American subbasin.[2] For example, the City pumped 17,772 AF of groundwater from the North American subbasin and 665 AF from the South American subbasin for potable water consumption in 2010.[3]

The North American and South American subbasins are located within the larger Sacramento Valley Groundwater Basin. The North American Subbasin is bound by Bear River to the north, Feather River to the west, the Sacramento and American Rivers to the south, and a north-south line extending from the Bear River to Folsom Lake to the east. The South American Subbasin is bound by the Sierra Nevada to the east, the Sacramento River to the west, the American River to the north, and the Cosumnes and Mokelumne Rivers to the south. For additional description of water bearing layers, groundwater quality, and other aquifer characteristics as relevant to the project, please refer to section 4.7, Hydrology and Water Quality.

The Sacramento Groundwater Authority (SGA) prepared a Groundwater Management Plan (GMP) in 2008, for the portion of the North American Subbasin that is located north of the American River to the County line.[4] Additionally, as a result of the Water Forum Successor Effort, the Central Sacramento County Groundwater Forum (CSCGF) has developed the Central Sacramento County Groundwater Management Plan (CSCGMP).[5] These two studies, and references cited therein, identify sustainable yields within applicable areas of the North American and South American Subbasins, as relevant to the City of Sacramento.

1 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. p. 4-15.
2 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. p. 4-8.
3 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. p. 4-8.
4 Sacramento Groundwater Authority, 2008. *Groundwater Management Plan*. December 2008.
5 Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006.

The CSCGF and the SGA were developed in a consensus-based process, and these included stakeholders throughout both basins. GMPs are adaptive management tools and represent a critical step in establishing a framework for maintaining a sustainable groundwater resource for the various users overlying the basins. The GMPs are consistent with the provisions of California Water Code sections 10750 et seq. Within these programs, the SGA and the CSCGF will continually assess the status of the groundwater basin and make appropriate management decisions to sustain the basin. The City is a member of both the SGA and CSCGF.

The SGA and CSCGF share a common goal of the responsible management of the groundwater basin through a commitment to not exceed the long-term sustainable yield of the Subbasins. According to the WFA and GMPs, the SGA sustainable yield is estimated to be approximately 131,000 AFA, and the CSCGF sustainable yield is estimated to be approximately 273,000 AFA. The sustainable yields determined through the WFA provide for sufficient groundwater pumping to meet the projected level of groundwater demand through at least 2030.[6] The process to determine the sustainable yield took into account future pumping by the various groundwater users within the applicable subbasin, water quality, dewatering of wells, groundwater pumping costs, and ground subsidence.

SGA and CSCGF members, in accordance with the WFA, are proceeding with a conjunctive use program to responsibly manage and use the groundwater systems. This conjunctive use effort is part of the WFA 30-year agenda. A conjunctive use program accounts for the annual climatic variability of the region, whereby in normal or wet years of precipitation the water providers will divert more surface water and reduce or eliminate groundwater use, allowing the groundwater systems to recharge. In dry years when the in-stream flows must be maintained in the lower American River, groundwater pumping will be increased to supplement the reduced diversions from the river systems.

Under existing conditions, groundwater pumping in the portion of the North American Subbasin (including approximately 95% of the City's pumping) that is managed by SGA is less than the basin's sustainable yield. According to the SGA's 2008 GMP, groundwater pumping in the subbasin between 2000 and 2007 ranged from approximately 78,000 to 95,000 acre-feet per year, in comparison to an estimated sustainable yield of 131,000 acre-feet per year.[7]

Based on the information above, the supply of groundwater in the Subbasins from which the City's wells pump groundwater is sufficient to meet cumulative groundwater demands projected through 2030, and this is consistent with the sustainable yields determined for these areas, as discussed above.

Total Available Water Supply

Accounting for the surface water rights and constraints on those rights discussed above, as well as groundwater availability and pumping capacity, Table 4.11-3 provides a summary of total water

6 Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. p. 2-49.

7 Sacramento Groundwater Authority, 2008. *Groundwater Management Plan.* December 2008. p. 25.

supplies available for City use, including maximum wholesale and water wheeling requests anticipated through 2030.

TABLE 4.11-3
PROJECTED WATER SUPPLIES FOR CITY USE PLUS PROJECTED MAXIMUM WHOLESALE AND WATER WHEELING REQUESTS FOR 2010 THROUGH 2035 (ACRE-FEET PER YEAR)

Water Source	2010	2015	2020	2025	2030	2035
Total City Water Deliveries	108,276	146,300	138,300	149,200	160,100	171,100
Sales to Other Water Agencies	5,091	39,670	56,410	73,147	89,884	89,884
Total	**113,367**	**185,970**	**194,710**	**222,347**	**249,984**	**260,984**

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. Carollo Engineers. p. 3-18.

Water Demand

Existing water demand within the City is primarily residential, but also includes commercial, institutional, and landscape irrigation. As of 2010, there were approximately 53,300 water meters within the City's service area, equivalent to about 40 percent of total connections.[8] Generally, water demand decreased from 2000 to 2010, due to a combination of factors, including increased conservation efforts, deployment of water conserving fixtures, replacement of leaky pipelines, increased public awareness over drought conditions, the City's meter retrofit program, and the effects of the recent recession. The City also sells water to other regional agencies including Sacramento International Airport, Sacramento Suburban Water District, California American Water Company, and Sacramento County Water Agency. Table 4.11-4 provides a projection of total water demand by the City for 2005 through 2035. Table 4.11-5 presents a summary of water demands and available supply during multiple dry years. As discussed in the City's UWMP, the available water supply figures shown in Table 4.11-5 conform to the requirements of the Water Forum Agreement, including Hodge Flow requirements (discussed previously).

TABLE 4.11-4
CITY MAXIMUM TOTAL WATER DEMAND INCLUDING ALL WHEELING AND WHOLESALE CUSTOMERS FOR 2010 THROUGH 2035 (ACRE-FEET PER YEAR)

Water Use	2010	2015	2020	2025	2030	2035
Total Water Deliveries	108,276	146,300	138,300	149,200	160,100	171,100
Sales to Other Water Agencies	5,091	39,670	56,410	73,147	89,884	89,884
Total	113,367	185,970	194,710	222,347	249,984	260,984

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. Carollo Engineers. pp. 3-18, 4-25, 5-19.

8 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. Carollo Engineers. p. 6-11.

TABLE 4.11-5
CITY MULTIPLE DRY YEAR SUPPLY AND DEMAND COMPARISON, 2015 THROUGH 2035
(ACRE-FEET PER YEAR)

Year Scenario	Water Supply or Demand	2015	2020	2025	2030	2035
1st Year, Multiple Dry Year Scenario	Supply Total	290,800	310,300	329,800	346,800	346,800
	Demand Total	172,589	185,788	217,886	249,984	260,984
	Excess Supply	**118,211**	**124,512**	**111,914**	**96,816**	**85,816**
2nd Year, Multiple Dry Year Scenario	Supply Total	290,800	310,300	329,800	346,800	346,800
	Demand Total	172,589	185,788	217,886	249,984	260,984
	Excess Supply	**118,211**	**124,512**	**111,914**	**96,816**	**85,816**
3rd Year, Multiple Dry Year Scenario	Supply Total	290,800	310,300	329,800	346,800	346,800
	Demand Total	172,589	185,788	217,886	249,984	260,984
	Excess Supply	**118,211**	**124,512**	**111,914**	**96,816**	**85,816**

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. Carollo Engineers. p. 5-21.

Water Supply Facilities

Annually, the City provides more than 45 billion gallons of water for drinking, household use, fire suppression, landscaping, and commercial and industrial use. The City's water distribution system is a pipeline network, where surface water and groundwater is mixed within the system. The City Department of Utilities operates and maintains the City's two water treatment plants, eight pump stations, 10 storage reservoirs, as well as municipal groundwater wells, fire hydrants, and approximately 1,500 miles of pipeline to convey water to homes and businesses throughout the City. The City's service area includes the Downtown project area, and also spans north to Elkhorn Boulevard in North Natomas, east to Watt Avenue and Highway 50, west to the Sacramento River and south to Sheldon Road. The City diverts surface water derived from the American and Sacramento Rivers. The City's Sacramento River Water Treatment Plant (SRWTP), located along the Sacramento River just downstream of its confluence with the American River, currently has a reliable capacity of approximately 135 mgd, although the City is currently rehabilitating the facility to return capacity to 160 mgd.

The City's FWTP is situated on the American River, about 7 miles upstream of its confluence with the Sacramento River. The facility has a diversion capacity of 200 mgd, although regulations can limit diversions to 100 mgd under certain river flow conditions, as discussed below.[9]

The City uses water storage 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. Storage infrastructure owned and maintained by the City includes 89 million gallons of storage capacity, and pumping facilities at the City's diversion and storage facilities.

9 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. pp. 2-4 through 2-6.

The City conveys water using its system of larger transmission pipelines, which are at least 18 inches in diameter, and smaller distribution mains, which range in diameter from 4 to 16 inches in diameter. Transmission pipelines are used solely for the conveyance of large volumes of water; they are generally not tapped for water or fire services.[10,11]

Within the Downtown project site and vicinity, the Sacramento downtown area in general is supplied by several transmission lines that range up to 42 inches in diameter, and by distribution mains that range in size from 6 inches to 12 inches in diameter. Water from the SRWTP is piped into a 42-inch line that extends from the intersection of 5th and I Streets to the east along I Street. A 24-inch branch off of this line at 6th Street runs toward the Downtown project site. This line runs easterly along J Street and then routes south along 7th Street, within the Downtown project site. A second 18-inch main branches off of the transmission line along I Street. This second branch occurs at the intersection of I Street and 9th Street, and continues along 9th Street to Capitol Mall, southeast of the Downtown project site. Existing distribution lines within the Downtown project site are primarily 10-inch mains, with some 6-inch to 1- inch mains, and various small-scale distribution lines serving individual parcels.[12]

These transmission lines branch into a network of distribution mains that extend throughout the Downtown project site and surrounding areas. These mains provide a relatively high level of service within the Downtown project site and its vicinity. However, some existing water mains are composed of cast iron pipe, many of which are reaching the end of their anticipated lifetime. The City maintains a water main replacement program, although timing for water main replacement in the downtown area under this program has not yet been identified. The City does not supply recycled water to the Downtown project site or its vicinity.[13,14]

The existing system is considered to be generally adequate for water supplied for both domestic and fire flows. However, certain strategic upgrades would be needed in order to serve anticipated development within downtown Sacramento. Key aspects relevant to the Proposed Project include extensions of the existing service main system using new 12-inch water mains, to be located in the vicinity of the Downtown project site along K Street between 7th and 12th Streets.[15] Planning for these proposed improvements was initiated before the Proposed Project was proposed, and currently remains in the initial stages.

10 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan.* October, 2011. Carollo Engineers. p. 2-6.
11 Nolte, 2011. *Downtown Infrastructure Study.* September 2011. p. V-1.
12 Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006.
13 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan.* October, 2011. Carollo Engineers. p. 4-22.
14 Nolte, 2011. *Downtown Infrastructure Study.* September 2011.
15 Nolte, 2011. *Downtown Infrastructure Study.* September 2011. p. V-5.

Offsite Digital Billboards

Depending upon the final sites selected for the proposed signs, water supply would be available either from the City of Sacramento or would be trucked in as needed. The proposed offsite digital billboards would not require a water supply following the completion of construction.

Regulatory Setting

The following discussion provides a summary of state and local regulations and requirements that are applicable to the Proposed Project.

State

Drinking Water Quality

The California Department of Health Services (DHS) is responsible for implementing the federal Safe Drinking Water Act of 1974 and its updates, as well as California statutes and regulations related to drinking water. As part of their efforts, the DHS inspects and provides regulatory oversight for public water systems within California. In the Sacramento area, the CVRWQCB also has the responsibility for protecting the beneficial uses of the State's waters, including groundwater, and these include municipal drinking water supply, as well as various other uses. Public water system operators are required to monitor their drinking water sources regularly for microbiological, chemical, and radiological contaminants to show that drinking water supplies meet the regulatory requirements listed in Title 22 of the California Code of Regulations (CCR) as primary maximum contaminant levels (MCLs). Primary standards are developed to protect public health and are legally enforceable. Among these contaminants are approximately 80 specific inorganic and organic contaminants and six radiological contaminants that reflect the natural environment, as well as human activities. Examples of potential primary inorganic contaminants are aluminum and arsenic, while radiological contaminants can include uranium and radium.

Public water system operators are also required to monitor for a number of other contaminants and characteristics that deal with the aesthetic properties of drinking water. These are known as secondary MCLs. Secondary standards are generally associated with qualities such as taste, odor, and appearance, but these are generally non-enforceable guidelines. However, in California secondary standards are legally enforceable for all new drinking water systems and new sources developed by existing public water suppliers. The public water system operators are also required to analyze samples for unregulated contaminants, and to report other contaminants that may be detected during sampling.

Urban Water Management Planning Act

California Water Code Section 10610 et seq. applies to all public water systems that provide municipal water to more than 3,000 customers, or that supply at least 3,000 AF/yr. These public water suppliers are required to prepare an Urban Water Management Plan (UWMP).

UWMPs represent key water supply planning documents for municipalities and water purveyors in California, and often form the basis of Water Supply Assessments (see below) prepared for individual projects.

Water Supply Assessment

Public Resources Code (PRC) §21151.9 requires that a Water Supply Assessment (WSA) be prepared for proposed projects as defined in the statute to ensure that long term water supplies are sufficient to meet the project's demands in normal, single dry and multiple dry years for a period of 20 years. Preparation of a WSA is required if a proposed action meets the statutory definition of a "project," which includes at least one of the following (Water Code § 20912(a)):

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area; or
- A mixed use project that includes one or more of the projects specified in the above bullets.

Completion of a WSA requires collection of proposed water supply data and information relevant to the project in question, an evaluation of existing/current use, a projection of anticipated demand sufficient to serve the project for a period of at least 20 years, delineation of proposed water supply sources, and an evaluation of water supply sufficiency under single year and multiple year drought conditions.

Senate Bill (SB) 221- Written Verification of Water Supply

Government Code Section 66473.7(a)(1) requires an affirmative written verification of sufficient water supply. SB 221 is intended to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. Government Code section 66473.7 (b)(1) states:

> The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or

> local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.

Thus, following project certification, additional water supply verification is required to be completed at the Tentative Map stage, prior to adoption of the Final Map, for certain tentative maps. Pursuant to Government Code §66473.7(i), additional water supply verification is *not* required for:

> Any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low income households.

Therefore, while the Proposed Project requires completion of a WSA, residential development in the SPD area, located downtown, would not be subject to additional water supply verification at the Tentative Map stage pursuant to SB 221.

Local

Model Water Efficient Landscape Ordinance

Pursuant to CCR Title 23, Division 2, Chapter 2.7, the California Department of Water Resources (DWR) approved the Model Water Efficient Landscape Ordinance. Local agencies, including the City of Sacramento, were required to adopt the ordinance or a local water efficient landscape ordinance by January 1, 2010, and notify DWR of the adoption by January 31, 2010. In accordance with these requirements, the City's Model Water Efficient Landscape Ordinance (MWELO) became effective on January 1, 2010. (California Code of Regulations Title 23, Division 2, Chapter 2.7 as amended). Key objectives of the MWELO are:

- Promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
- Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects;
- Establish provisions for water management practices and water waste prevention for existing landscapes;
- Use water efficiently without waste by setting a Maximum Applied Water Allowance (MAWA) as an upper limit for water use and reduce water use to the lowest practical amount;
- Promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;

- Encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and

- Encourage local agencies to designate the necessary authority that implements and enforces the provisions of the MWELO or its local landscape ordinance.

The MWELO applies to public and private projects that would include a landscaped area of at least 2,500 square feet and require a building or landscape permit, plan check, or design review. For the Proposed Project, MWELO would be implemented when the project applicant submits a Landscape Documentation Package for review and approval by the City. The Landscape Documentation Package must contain the following information: project information, a Water Efficient Landscape Worksheet, a soil management report, a landscape design plan, an irrigation design plan, and a grading design plan. Each of these components is defined under the MWELO.

Water Forum Agreement

The Water Forum is a group of water managers and other water supply stakeholders that was organized in 1993. The group's stated purpose is to address water supply issues in the American River watershed, and in particular along the Lower American River. The group adopted the Water Forum Agreement as a solution to present and anticipated future water supply issues in the region.

The Water Forum Agreement implements a series of actions with the objectives of providing a reliable and safe water supply to support economic health and planned development in the region through 2030, and to preserve fishery, wildlife, recreational, and aesthetic values along the Lower American River. As part of the Water Forum Agreement, each purveyor (including the City) signed a purveyor specific agreement that specifies that purveyor's Water Forum commitments. The City's agreement limits the quantity of water diverted from the American River to the Fairbairn Water Treatment Plant during two conditions: extremely dry years (i.e., "Conference Years") and periods when river flows are below the "Hodge Flow Criteria" issued by Judge Richard Hodge in the *Environmental Defense Fund v. East Bay Municipal Utility District* litigation. These flow restrictions are discussed previously in this chapter.

City of Sacramento Urban Water Management Plan

The City's UWMP was prepared in accordance with California's Urban Water Management Planning Act of 1983, which requires urban water suppliers servicing 3,000 or more connections or 3,000 AF per year or more to prepare a UWMP. The 2010 UWMP serves as an update to the 2005 UWMP. It presents a description of the City's current water supply system and facilities including water treatment facilities, distribution, and storage; identifies key water demands that are or that will need to be met by the City; reviews available water supplies; discusses water supply reliability and a water shortage contingency plan; reviews demand management measures; and discusses complicating factors surrounding climate change.

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to utilities with respect to the Proposed Project.

Goal U 1.1 High-Quality Infrastructure and Services. Provide and maintain efficient, high quality public infrastructure facilities and services throughout the city.

Policies

- **U 1.1.1 Provision of Adequate Utilities.** The City shall continue to provide and maintain adequate water, wastewater, and stormwater drainage utility services utility services to areas in the city currently receiving these services from the City, and shall provide and maintain adequate water, wastewater, and stormwater drainage utility services to areas in the city that do not currently receive these City services upon funding and construction of the infrastructure necessary to provide these City services.

- **U 1.1.6 Growth and Level of Service.** The City shall require new development to provide adequate facilities or pay its fair share of the cost for facilities needed to provide services to accommodate growth without adversely impacting current service levels.

Goal U 2.1 High-Quality and Reliable Water Supply. Provide water supply facilities to meet future growth within the City's Place of Use and assure a high-quality and reliable supply of water to existing and future residents.

Policies

- **U 2.1.9 New Development.** The City shall ensure that water supply capacity is in place prior to granting building permits for new development.

General Plan Consistency Analysis

The Proposed Project would be consistent with each of the General Plan goals and policies listed above. Consistent with Policies U 1.1.1 and U 1.1.6, project utilities would be appropriately sized and installed within the Downtown project site to maintain adequate service in light of the impact analysis provided below; the project applicant would pay a fair share of the cost for any needed upgrades, as warranted. With respect to Goal U 2.1 and Policy U.2.1.9, as discussed for impacts below, the City has issued a positive water supply assessment for the Proposed Project, and expects to be able to serve the Proposed Project in light of all other current and planned projects.

Methodology and Assumptions

The following impact analysis evaluates potential for the Proposed Project to result in changes to existing infrastructure and supply relating to water availability. The analysis focuses primarily on potential impacts to facilities located outside of the Downtown project site.

Construction period water demand was calculated assuming that dust suppression, compaction, and other construction period water requirements would amount to 0.05 AF/month per acre, on average, consistent with typical regional construction water consumption for urban projects. The construction water analysis conservatively assumes that all construction within the Downtown project site would occur at the same time, over a 3-year construction schedule. In actuality, construction will be dispersed in time as individual components are implemented. However, assuming that all construction water demand would occur at once provides an upper limit to the anticipated volume of water that could be consumed annually during project construction. Actual levels would likely be less than this maximum.

The analysis for water supply centers on a comparison of existing uses and demand to project future water demand. Project demand was determined by identifying gross water demand for the Proposed Project, then subtracting out existing demands that would be discontinued as a result of the Proposed Project (i.e., existing non-irrigation water demand at the Sleep Train Arena, and existing demand for areas of the Downtown Plaza that would be removed). This provided a net water demand value for the Proposed Project. Net water demand was then compared to water supplies available to the City, in accordance with City procedures, and a determination made regarding sufficiency of supply for the Proposed Project.

Significance Criteria

The Proposed Project would result in a significant impact on water supply if it would:

1. increase demand for potable water in excess of existing supplies;

2. result in inadequate capacity in the City's water supply facilities to meet the water supply demand, so as to require the construction of new water supply facilities; or

3. require or result in either the construction of new water treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental impacts.

Impacts and Mitigation Measures

Impact 4.11-1: The Proposed Project would increase demand for potable water.

Downtown Project Site

Construction

Project construction would require water for dust suppression, grading, and general demolition and construction activities. Within the Downtown project site, water would be supplied by existing water mains/connections provided by the City. Based on a 3-year construction schedule, it is estimated that, based on a 20-acre project area, project construction would require up to approximately 1.0 acre-foot of water per month, for a construction period demand of 12 AF/yr, or a total construction period demand of 36 acre-feet of water over a 3-year period. As discussed in

greater detail below, under existing conditions, water demand at the Downtown project site averaged 87.0 acre-feet per year during 2007 through 2013. During project construction, use of existing facilities on site would cease, and therefore would not require continued water demand. Because construction of the Proposed Project would result in a temporary net reduction in water demand on site (i.e., from 87.0 acre-feet per year to 12 acre-feet per year during construction), ***no impact*** would occur due to construction activities.

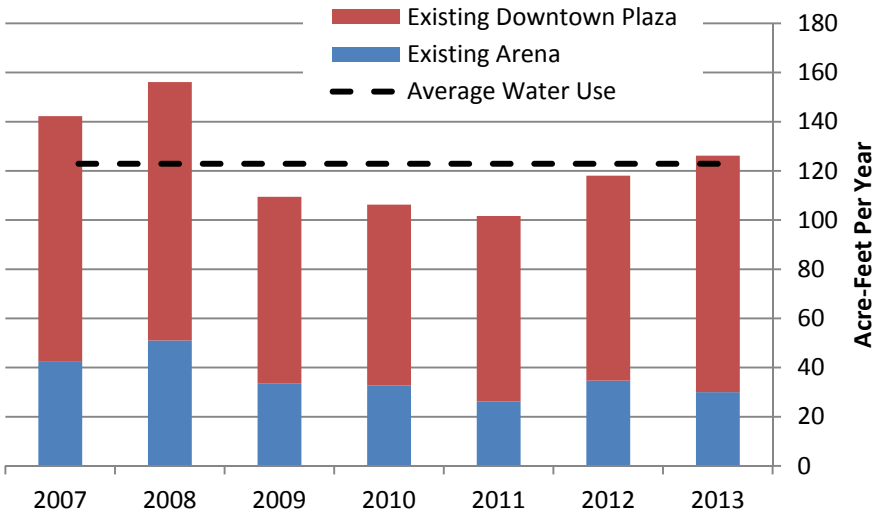
Operation

Under existing conditions, established levels of water use relevant to the Proposed Project include water use associated with the existing Downtown Plaza and Sleep Train Arena. Both are relevant because if the Proposed Project is approved and implemented, then current/existing water use for both facilities would no longer be required (refer to Chapter 2, Project Description). The estimates of water use assume that landscaping water at the existing Sleep Train Arena would remain in use at existing levels, in order to maintain on site landscaping. Table 4.11-6 and Figure 4.11-1 provide a summary of historic levels of water use for the existing Downtown Plaza that would be included in the Downtown project area, as well as the Sleep Train Arena. These figures were made available by the City and are based on metered flows for 2007 through 2013. Due to economic and other factors, water use at both the Downtown Plaza and the Sleep Train Arena has decreased notably since the onset of the recent recession, due to decreased occupancy. As a result, the water use numbers shown in Table 4.11-5 are notably lower than 2006 and earlier. The analysis presented below is therefore conservative in that it likely underestimates the water demand that could be expected from the Downtown Plaza and the Sleep Train Arena in the future, resulting in a larger estimate of additional use that could result from the project. Table 4.11-6 illustrates that the Proposed Project would result in the discontinuation of use of approximately 122.9 acre-feet of water per year.

TABLE 4.11-6
HISTORIC WATER USE AT THE DOWNTOWN PLAZA AND SLEEP TRAIN ARENA

Year	Downtown Plaza	Sleep Train Arena	Grand Total
2013	96.2	30.0	126.2
2012	83.3	34.7	118.0
2011	75.4	26.2	101.6
2010	73.5	32.7	106.3
2009	76.0	33.5	109.5
2008	105.1	51.1	156.1
2007	99.6	42.6	142.3
Average	**87.0**	**35.8**	**122.9**

SOURCE: City of Sacramento, 2013a. *Water Meter Data*.



SOURCE: City of Sacramento, 2013a. *Water Meter Data*.

Sacramento Entertainment and Sports Center & Related Development. 130423

Figure 4.11-1
Historic Water Use at the Downtown Plaza and Sleep Train Arena

Operation of the Proposed Project would result in new water demands. These anticipated demands would be associated with operation of the ESC as well as operation of the other proposed uses that would be implemented on site. Potential water demand for the Proposed Project was estimated based on land use type and intensity. Usage factors were derived from the 2011 Downtown Infrastructure Study.[16] Table 4.11-7 shows each of the proposed land use categories associated with the Proposed Project along with an estimate of the area (in square feet), number of rooms, or housing units that could be developed, as applicable, and the total associated annual water demand per category. Total existing demands are also shown, as well as the anticipated net increase in water supply required for the Proposed Project. The volume of water demand required assumes full buildout of the Proposed Project.

TABLE 4.11-7
ANTICIPATED NET INCREASE IN WATER USE UNDER THE PROPOSED PROJECT

Land Use Category	Area/Number	Units	Demand Factor	Water Use per Year (Acre-Feet)
Retail/Commercial	1,005	employees	0.09 AFY*/employee	90.45
Office	2,159	employees	0.02 AFY/employee	43.18
Hotel	250	rooms	0.23 AFY/room	58.25
Residential	550	units	0.12 AFY/unit	66.00
Proposed ESC	779,000	square feet	Estimated Total Use	63.68
Subtotal	**N/A**	**N/A**		**321.56**
Existing Use	N/A	N/A	Average 2007-2012 Use	122.86
Net Increase	**N/A**	**N/A**	**N/A**	**198.70**

*acre-feet per year

SOURCE: City of Sacramento, 2013b. City of Sacramento SB 610/SB 221 Water Supply Assessment and Certification Form. October 15, 2013. pp. 2-3. (See Appendix E of this EIR); additional calculations by ESA, 2013.

16 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. V-1 – V-5.

As shown, upon full buildout, the Proposed Project would result in a total water demand of 321.56 acre-feet per year, equivalent to a net increase of 198.70 acre-feet per year over existing conditions. Therefore, the total increase in water demand associated with the Proposed Project would be approximately 198.70 acre-feet per year. As discussed in Chapter 2, Project Description, the project proponents plan to obtain LEED Gold certification for the proposed ESC, and have identified a goal of reducing water levels by 25% below the amounts resulting from compliance with CalGreen Baseline. Therefore, water demand for the ESC portion of the Proposed Project is likely to be lower than indicated in Table 4.11-7.

The 2010 UWMP does not identify specific individual projects that are considered within that plan's water demand projections. The planning figures that the UWMP relies upon do, however, consider continued development within the downtown area, including the Downtown project site and vicinity. While an ESC project was not explicitly included in the downtown area planning in support of the UWMP, the water use from the existing Sleep Train Arena was assumed. Also, other development consistent with the remainder of the Proposed Project was considered in support of the UWMP water demand analysis.[17] Based on the findings of a WSA completed by the City in October 2013, the City has sufficient water supply to provide water to the Proposed Project through 2035.[18] For these reasons, the impact would be ***less than significant*.**

Offsite Digital Billboards

The Project would require limited water to support construction of each offsite digital sign. Based on approximately one acre of total construction area, construction of the proposed offsite digital billboards would require up to approximately 1.5 acre-feet of water in total (assuming 0.05 AF/acre-month required during construction of six 5,000-square foot sites, with construction occurring over a 5-month period), over the duration of the construction period. This volume of water would be readily available on site or via water truck, would not noticeably increase water demand within the area, and would not exceed existing supplies. This impact is considered ***less than significant***.

Mitigation Measures

None required.

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[17] City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan.* October, 2011. Carollo Engineers. pp. 1-1 – 2-11.

[18] City of Sacramento, 2013b. *City of Sacramento SB 610/SB 221 Water Supply Assessment and Certification Form. October 15, 2013*. p. 4. (See Appendix E of this EIR).

Impact 4.11-2: The Proposed Project could require additional water conveyance and treatment.

Downtown Project Site

Construction

As noted for Impact 4.11-1, the Proposed Project would result in a net reduction in water use during the construction process. Therefore, no new water supply infrastructure would be required for construction, and ***no impact*** would occur.

Operation

With respect to water conveyance and distribution facilities, the Proposed Project would require installation of new distribution pipelines within the Downtown project site and surrounding vicinity in support of the proposed facilities. While water use in the existing Downtown Plaza area is less than half of the proposed use, existing water supply connections are sufficient to supply a greater volume of water to the Downtown Plaza under existing conditions. This is because the Downtown Plaza is currently operating at only 50% to 60% of total occupied space, whereas existing infrastructure is sufficient to support a completely occupied facility. Under the Proposed Project, additional new connections would be installed, connecting to existing water mains located along J Street, L Street, 7th Street, and other adjacent water mains. The City's existing water supply and transmission system is adequate to support water supply within the downtown area, including the Downtown project site.

The City anticipates that major water supply infrastructure in the vicinity of the Downtown project site has sufficient capacity to serve the Proposed Project, and that large scale or major upgrades would not be required.[19] During the design phase, however, depending upon which pipelines the applicant would connect to, replacement, or minor upgrades to pipelines adjacent to the facility (i.e., outside of the Project area) may be required pursuant to City review of project plans. The City's standard practice requires that a project applicant work with the City to determine whether localized facility upgrades would be needed in the project vicinity, and requires that any upgrades needed to serve the project site be constructed by the applicant. The City requires completion of a water supply test at the final point of connection, combined with an evaluation of flow sufficiency and an evaluation of the extent to which localized distribution line upgrades would be required. The applicant would then be responsible for installing the proposed upgrades, located in the vicinity of the Proposed Project. This requirement would apply to the proposed ESC and SPD development.

[19] Ewart, Brett. 2013. Personal phone communication between Robert Eckard of ESA and Brett Ewart of the City of Sacramento. October 8, 2013.

Potential increases in water demand associated with the Proposed Project are not otherwise expected to exceed existing pumping or diversion capacity within the City's existing water supply system.[20]

With respect to treatment capacity, the City's existing surface water treatment plants maintain a total treatment capacity of 336 mgd or 376,617 AF/yr. Under existing conditions, the City currently treats less than 150,000 AF/yr of surface water; thus the City maintains over 200,000 AF/yr in available treatment capacity. Therefore, no new treatment infrastructure under current conditions would be needed as a result of the Project, and the impact would be ***less than significant***.

Based on available information regarding existing infrastructure, anticipated system upgrades would be limited. Nonetheless, construction of these facilities could result in minor, temporary increases in construction related traffic congestion, air quality emissions, and noise during the pipeline installation and upgrading process. The applicant would also be required to pay standard water development fees to the City for the anticipated increase in water use. Because these effects would be limited in area and duration, potential environmental impacts would be limited, and no further mitigation or analysis is warranted.

Offsite Digital Billboards

The Proposed Project would require limited water to support construction of each offsite digital billboard. Based on approximately 2 acres of total construction area for all signs combined, construction of the proposed offsite digital billboards would require up to approximately 0.5 acre-feet of water in total, over the duration of the construction period. This volume of water would be readily available on site or via water truck, and would not noticeably interfere with available water supplies or otherwise require installation of new water supply pipelines or other facilities. Additionally, the relatively small volumes of water needed for digital billboard construction would be available using the City's existing water distribution system. Upgrades to the City's distribution system would not be required in order to source this volume of water. This impact is considered ***less than significant***.

Mitigation Measure

None required.

Cumulative Impacts

The following discussion provides an analysis of cumulative level impacts that could occur as a result of project implementation. The cumulative context for water supply, treatment and conveyance includes the water service area for the City of Sacramento, including reasonably

[20] Ewart, Brett. 2013. Personal phone communication between Robert Eckard of ESA and Brett Ewart of the City of Sacramento. October 8, 2013.

foreseeable increases in water demand as identified in the City's 2030 General Plan Master EIR and 2010 UWMP.

Impact 4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.

The cumulative context for this impact includes the water service area for the City of Sacramento, including reasonably foreseeable increases in water demand as identified in the City's 2010 UWMP. As discussed previously, the 2010 UWMP does not identify specific development projects that were included in the City's water demand calculations. Instead, the UWMP proposes various categories of development within the City's service area for water supply. The UWMP considers water supply needed for future development as planned in the 2030 General Plan. Buildout within the downtown area is anticipated to be a mix of infill of vacant properties, and reuse and redevelopment of existing economically under-performing or obsolete developments. Based on a review of proposed development categories set forth in the 2030 General Plan and discussed in the 2030 General Plan Master EIR, and conversations with City staff, the Proposed Project would be consistent with development anticipated in the downtown area, including the Downtown project site, under the 2010 UWMP.[21]

As discussed in the 2010 UWMP and as noted previously in this chapter, Hodge flow conditions can result in diversion restrictions at the existing FWTP. As a result, the City has sufficient water production capacity to meet anticipated demands through the year 2030, but not beyond that year, under anticipated Hodge flow restrictions.[22] This assumes that no additional wholesale or water wheeling customers would be served, except for those listed in Table 4.11-8. Additionally, Table 4.11-9 includes additional likely future wholesale and wheeling customers, as discussed in the 2010 UWMP. No commitments have been made for these additional supplies, and such commitments would not be made unless sufficient water supply was made available.

TABLE 4.11-8
MAXIMUM DAY DEMAND INCLUDING CITY RETAIL DEMAND AND EXISTING WHOLESALE AND WHEELING CUSTOMERS (MILLION GALLONS PER DAY)

Customer	2015	2020	2025	2030	2035
City Retail Demand	240	234	246	259	281
Sacramento International Airport and Metro Air Park	2.8	2.8	2.8	2.8	2.8
California American Water Company	2.3	2.3	2.3	2.3	2.3
Sacramento County Water Agency Zone 40 Wheeling	11	11	11	11	11
Fruitridge Vista Water Company	3.2	3.2	3.2	3.2	3.2
Total	**259**	**253**	**266**	**278**	**300**

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. p. 3-14.

[21] Ewart, Brett. 2013. Personal phone communication between Robert Eckard of ESA and Brett Ewart of the City of Sacramento. October 8, 2013.

[22] City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011. Carollo Engineers. pp. 4-7, 4-8, 4-25.

TABLE 4.11-9
MAXIMUM DAY DEMAND INCLUDING CITY RETAIL DEMAND AND LIKELY FUTURE WHOLESALE AND WHEELING CUSTOMERS (MILLION GALLONS PER DAY)

Customer	2015	2020	2025	2030	2035
City Retail Demand	240	234	246	259	281
Sacramento International Airport and Metro Air Park	4.1	5.9	7.6	9.3	9.3
Sacramento Suburban Water District – Town and Country System	20	20	20	30	30
California American Water Company – Arden	0.8	1.6	2.4	3.2	3.2
California American Water Company – Rosemont	5.3	10.6	15.9	21.2	21.2
California American Water Company – Parkway	4.8	8.4	12.1	15.7	15.7
Sacramento County Water Agency Zone 40 Wholesale	4.8	9.5	14.3	19.0	19.0
Sacramento County Water Agency Zone 40 Wheeling	11	11	11	11	11
Fruitridge Vista Water Company	4.8	6.4	8.0	9.6	9.6
Total	**295**	**307**	**337**	**378**	**400**

SOURCE: City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October, 2011. Carollo Engineers. p. 3-15.

The Master EIR prepared for the 2030 General Plan, and certified in 2009, concluded similarly that the City would need additional diversion and treatment capacity to meet peak demand under Hodge flow conditions. (Master EIR, p. 6.11-33) The Master EIR referenced General Plan policies calling for sound planning for new development and reducing peak demand. (Master EIR, p. 6.11-34).

The mitigation measures in the Master EIR call for the City to act as a cost-sharing partner in the Sacramento River Water Reliability Study (Mitigation Measure 6.11-2a). The SRWRS is not being actively pursued by the City or the other parties to the effort, and this mitigation measure would not be effective to mitigate the Proposed Project's contribution to cumulative effects regarding water diversion and treatment. Mitigation Measure 6.11-2b in the Master EIR calls for the City to construct its own diversion and treatment facility. This is consistent with one of the mitigation approaches identified below and has, therefore, been incorporated into the mitigation strategy for the Proposed Project, as shown below.

While the City's existing water rights would be sufficient to provide water to meet foreseeable development within the City, including the Proposed Project, at least through 2030, the City's ability to divert water from existing facilities could become insufficient in or before 2030. This impact is considered ***potentially significant***.

Mitigation Measure

4.11-3 (ESC/SPD)

To ensure that sufficient capacity would be available to meet cumulative demands, the City shall implement, to the extent needed in order to secure sufficient supply, one or a combination of the following:

(a) Maximize Water Conservation

Chapter 6 of the 2010 UWMP outlines an array of Demand Mitigation Measures (DMMs). In order to further reduce water demands, the City could require the Proposed Project to implement additional DMMs, which would support water conservation on site, and a partial offset of anticipated water demand for the Project. DMMs discussed in the 2010 UWMP include the following:

- Water Survey Programs for Single Family and Multiple Family Residential Customers
- Residential Plumbing Retrofit
- System Water Audits, Leak Detection, and Repair
- Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections
- Large Landscape Conservation Programs and Incentives
- High Efficiency Washing Machine Rebate Program
- Public Information Programs
- School Education Programs
- Conservation Programs for Commercial, Industrial, and Institutional Accounts
- Wholesale Agency Programs
- Conservation Pricing
- Water Conservation Coordinator
- Water Waste Prohibition
- Residential Ultra-Low Flush Toilet Replacement Program

(b) Implement New Water Diversion and/or Treatment Infrastructure

The 2010 UWMP proposes implementation of three potential additional projects that would support additional surface water diversion and/or treatment capacity within the City. Potential projects include:

1. Installation of a new WTP – Install a new WTP along the Sacramento or American River to support additional diversion and treatment;
2. Expansion of the SRWTP – Use existing water entitlements and expand design and treatment capacity of the SRWTP; and
3. Construction of a raw water line to the FWTP in order to take advantage of available and existing treatment capacity at the FWTP.

Consistent with these approaches, the City is currently exploring an additional potential surface water intake along the Lower American River, downstream of the FWTP. Water would be piped to the FWTP for treatment prior to distribution. Under another alternative, raw water would be piped from the existing Sacramento River intake to the FWTP for treatment. These projects would be initiated by or before 2023, and would be completed by or before 2028. These projects would supplement the City's supply during Hodge Flow conditions, because the proposed facilities would not be restricted by Hodge Flow limitations as is the City's current diversion infrastructure.

Each of these projects, if implemented, would require its own environmental review, as well as compliance with all applicable regulatory requirements and restrictions. Construction and operation of these facilities could result in the following categories of potentially significant impacts:

- Exposure of soils to erosion and loss of topsoil during construction;
- Surface water quality degradation;
- Changes to natural drainage courses and hydrology;
- Construction-related air emissions;
- Construction and operations-related noise impacts;
- Visual and/or light and glare impacts;
- Loss of protected species and degradation or loss of their habitats;
- Conversion of existing agricultural lands or resources;
- Degradation of fisheries habitat; and
- Exposure to pre-existing listed and unknown hazardous materials contamination.

Any such project be subject to CEQA review. The CEQA document would identify mitigation measures to reduce any potentially significant impacts to the extent feasible. Due to the timing uncertainties associated with the long-term water supply infrastructure necessary to overcome the cumulative maximum day demands deficit in 2030, project-specific mitigation measures would need to be tailored to the selected project. The following are illustrative of the types of mitigation measures that could be implemented to avoid or reduce those impacts listed above:

- Reduction in operational and construction air emissions as required by SMAQMD;
- Avoidance of surface water pollution through control of on-site stormwater flows, protection of top soils or stock piles from wind and water erosion, and implementation of related BMPs;
- Minimization of operational and construction noise through the use of noise attenuation measures;

- Avoidance and/or implementation of appropriate measures to restore, create, preserve or otherwise compensate for effects to biological resources;
- Avoidance of effects to buried cultural resources through investigation and pre-testing, and/or on-site archaeological monitoring and implementation of appropriate steps if cultural resources are discovered during earth moving activities;
- Avoidance of hazardous materials effects through appropriate investigation and remediation of any on-site hazards; and
- Avoidance, preservation or other appropriate compensation for loss of or adverse effects to important farmlands.

The City, as a lead or responsible agency, would be required to implement environmental review and mitigation measures identified for each individual project. The City would not be responsible for the actions taken by other local jurisdictions or agencies.

(c) Implement Additional Groundwater Pumping

As discussed in the 2010 UWMP, in order to meet demands under Hodge Flow restrictions, the City could also construct new groundwater production capacity and employ a conjunctive use program in order to meet future demands.

The implementation of this mitigation measure would require environmental analysis to assess if the construction or operation of new wells would have any adverse environmental consequences; its implementation would require environmental evaluation. Any new wells, appurtenances and/or infrastructure could result in the following potentially significant environmental impacts:

- Exposure of soils to erosion and loss of topsoil during construction:
- Construction-related air emissions;
- Destruction of buried archeological or paleontological resources;
- Changes in natural drainage courses and hydrology;
- Construction and operations-related noise impacts;
- Visual and/or light and glare impacts;
- Conversion of existing agricultural lands or resources;
- Drawdown of groundwater in the North American Subbasin; and
- Exposure to pre-existing listed and unknown hazardous materials contamination.

In addition, although this groundwater pumping mitigation measure could supply potable water to meet proposed site demands and offset a service area capacity deficit, this mitigation measure could also cause rapid drawdown of a sustained groundwater basin. This would run counter to current groundwater management planning. Additionally, increasing groundwater withdrawals could adversely affect other groundwater pumping activities in the region, or cause notable changes to known and unknown groundwater contamination plumes in the subbasin.

Mitigation measures would be developed to reduce any potentially significant impacts to the extent feasible. Due to the timing uncertainties associated with the long-term water supply infrastructure necessary to maintain sufficient system capacity, project-specific mitigation measures would be responsive to and tailored to the design of the eventual project. The strategies identified above under (b) (new water diversion and/or treatment infrastructure) would be implemented as appropriate.

The City, as a lead or responsible agency, would be required to implement mitigation measures identified for each mitigation project. The City would not be responsible for the actions taken by other local jurisdictions or agencies.

Impact Significance After Mitigation: Mitigation Measure 4.11-3 would result in implementation of action for increasing diversion and treatment capacity. The timing and location of any such improvements are unknown. Nor can the effectiveness of the mitigation be known with certainty. The resulting impact, for these reasons, is ***significant and unavoidable.***

Impact 4.11-4: The Proposed Project would contribute to cumulative increases in demand for water conveyance in the vicinity of the Downtown project site.

The City's Downtown Infrastructure Study reviews existing infrastructure within the City's downtown area, and evaluates need for new infrastructure in light of planned growth within the downtown area.[23] The Downtown Infrastructure Study considers increases in water demand associated with planned increases in urban use in the downtown area.

The Proposed Project would be consistent with the types and magnitude of development considered within the study. Findings from the study indicate that the existing water supply system is generally adequate, but would require strategic upgrades to serve anticipated development. Specifically, development of the Sacramento Railyards area will require relocation or replacement of large transmission lines located along that area's southern boundary. Development within other parts of the downtown area could require extensions of the existing main service system in order to reach certain specific developments. These would be installed on a project-by-project basis to serve a particular project or group of projects. The existing system of 8-, 10-, and 12-inch service mains is not expected to require system-wide upgrading; however, localized upgrading at and near the connection points to the project could be required. The

[23] Nolte, 2011. *Downtown Infrastructure Study*. September 2011.

Proposed Project is located in an area that is capable of handling additional flows; as development proceeds, existing distribution lines will need to be extended on a project-by-project basis, with limited additional upgrading needed to ensure that distribution lines in the immediate vicinity of the project area would be appropriately sized. As discussed in Impact 4.11-2, the City requires that new development provide any needed upgrades to the local distribution system needed to serve the project in question, and to pay associated fees for any increase in use. Therefore, the cumulative increase in water conveyance would be less than significant, and the Proposed Project contribution would be less than cumulatively considerable.

For the above reasons, the cumulative impact on the local water conveyance system would be ***less than significant.***

Mitigation Measure

None required.

4.11.2 Wastewater and Stormwater

Environmental Setting

Sacramento Regional Wastewater Treatment Plant

The Sacramento Regional Wastewater Treatment Plant (SRWWTP) is located in Elk Grove, and is owned and managed by the Sacramento Regional County Sanitation District (SRCSD). SRCSD provides regional wastewater conveyance and treatment services to commercial, residential, and industrial end users within the City of Sacramento, several other areas including Sacramento County and the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, and West Sacramento, as well as the communities of Courtland and Walnut Grove. SRCSD maintains 177 miles of interceptor pipelines. The SRWWTP began service in 1982. The existing SRWTP currently maintains a maximum average dry weather treatment capacity of 181 mgd. As of 2012, actual average dry weather flow for the facility was approximately 115 mgd, substantially lower than the facility's capacity.[24] Treated effluent is discharged into the Sacramento River.

In 2010, the Central Valley Water Quality Control Board (CVRWQCB) released a draft permit for the SRWWTP that targeted ammonia reductions from the existing SRWWTP facility. The SRWWTP currently maintains secondary level treatment processes. In order to meet the target requirements, as well as other anticipated future discharge requirements, SRCSD is exploring options for upgrade of the SRWWTP. The proposed upgrade would include deployment of new treatment technologies and facilities, and would increase the quality of effluent discharged into the Sacramento River. The proposed upgrade would not, however, result in a net increase in permitted capacity of the SRWWTP.

[24] Sacramento Regional County Sanitation District, 2012. *2012 State of the District Repor*t. p. 4.

Sewer and Drainage

Sewer service and drainage within the Downtown project site is provided by the City. Sewer is provided by a combined sewer system (CSS), which underlies the area roughly bounded by 3rd Street to the west, 17th Street to the east, I Street to the north, and Capitol Avenue to the south (as well as other areas of the City). This area includes the whole of the Downtown project site. The combined sewer system is a legacy system that was designed to provide both stormwater and sanitary sewer service (combined into one set of pipes) within this area. However, stormwater service across most of the Downtown project site is also provided to the Downtown project site by a second system that routes stormwater runoff to Storm Drainage Basin 52 (see Figure 4.11-2).[25]

Combined sewer systems were constructed in the City until 1946. Because the system was designed to carry both stormwater and sanitary flows, the system is considerably oversized for managing sanitary flows generated within the applicable service area. However, it is insufficiently sized to meet the City's current design standard for drainage, which is to convey flows consistent with a 10-year storm event (i.e., a storm event of sufficient size that it has a 10% chance of annual occurrence). Because the system does not meet City standards for stormwater conveyance capacity, it is subject to outflow and, infrequently, overflow during major storm events.[26]

Under normal conditions, stormwater plus sanitary flows are routed in a westerly direction to Sump 1/1A and Sump 2, which are located along the Sacramento River. In order to provide secondary treatment, the City has entered into a contract with the SRWWTP to convey up to a total capacity of 108.5 million gallons per day (mgd) of wastewater combined from Sumps 2, 2A, 21, 55, and 119. These flows would be routed along SRCSD's Interceptor pipeline for conveyance to SRCSD's treatment facility, and ultimate treatment. This volume of capacity is sufficient for dry weather flows, with some additional capacity. [27]

During heavy storms when this capacity is exceeded, excess flows in the CSS are routed to the Combined Wastewater Treatment Plant, located along South Land Park Drive and 35th Avenue. This facility provides primary only treatment of up to an additional 130 mgd. If flows exceed this volume, additional water, up to a capacity of 350 mgd, is routed to the Pioneer Reservoir storage and treatment facility. When this facility too has reached capacity, excess flows are discharged from Sump 2 directly into the Sacramento River, without treatment. When the pipeline capacity is exceeded, excess flows flood local streets in the downtown area through maintenance holes and catch basins.

Within the Downtown project site and vicinity, the combined sewer system is composed of pipes that range from approximately 4 inches to 120 inches in diameter. However, most collection system piping ranges in size from 8 inches to 12 inches, located in alleyways and streets. Water flows within the system, generally, from the north to the south. Pipeline composition reflects historic installations as well as upgrades, and includes brick, polyvinyl chloride (PVC), reinforced concrete pipe (RCP), and vitrified clay pipe (VCP).

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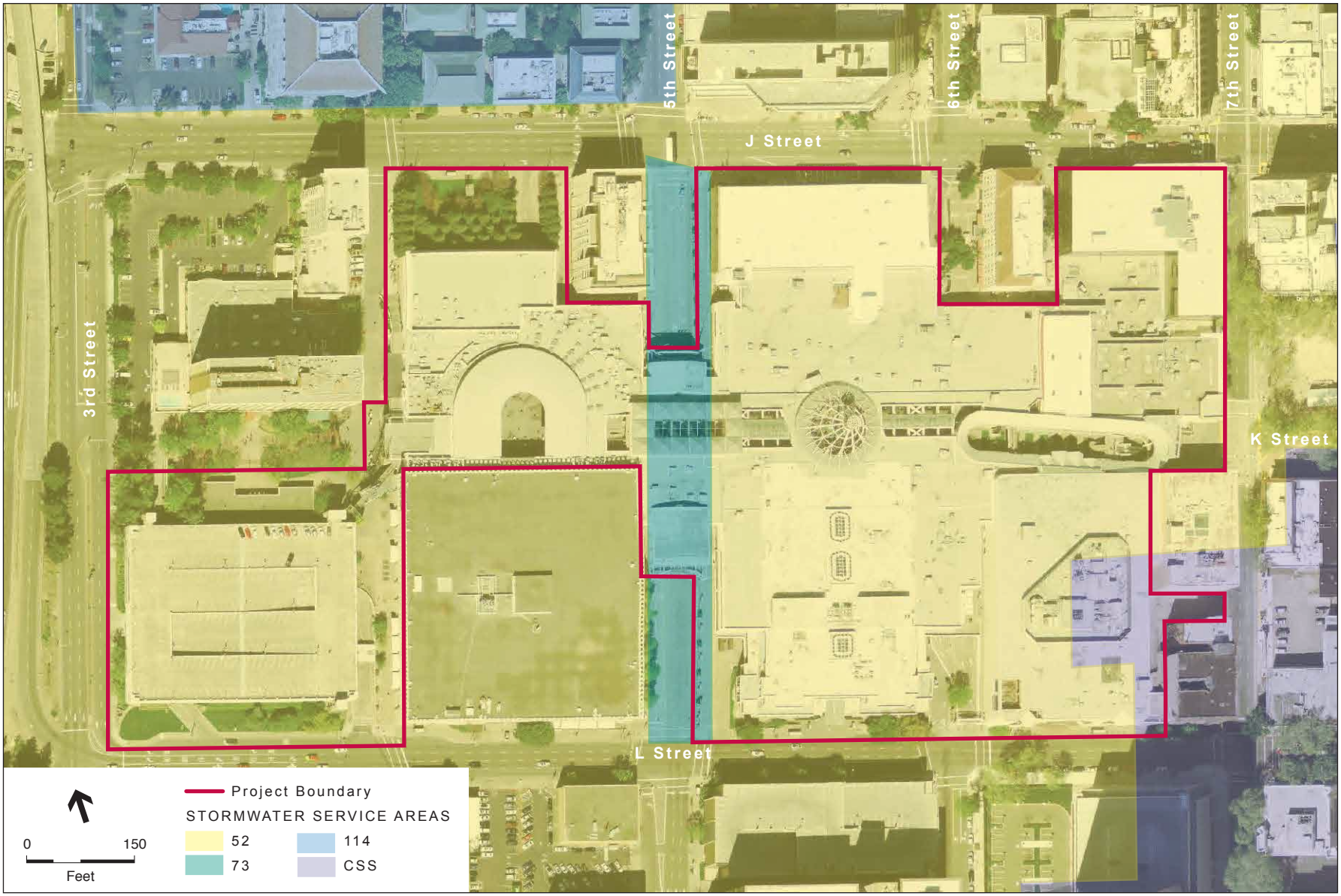
25 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. p. IV-12.

26 Outflow is defined as the discharge of water to City streets; overflow, which occurs rarely, is defined as discharges that spill untreated wastewater/stormwater from the combined system directly into the Sacramento River.

27 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. IV-1 – IV-11.



SOURCE: USGS, 2011; Nolte, 2011

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Figure 4.11-2
Existing Stormwater Service Areas

The area served by the combined system is currently operated under Cease and Desist Order No. 85-342 (C&DO), promulgated by the Central Valley Regional Water Quality Control Board (CVRWQCB). The order, which includes amendments, mandates that the City implement certain operational improvements in order to reduce system overflows, with the ultimate goal of providing 10-year capacity for the combined sewer system.

In order to address the requirements of the C&DO, the City has developed several strategies to reduce or avoid outflow and overflow events. Key improvements, in various stages of completion, are funded by fees imposed on new development to fund long term improvements to the CSS. These include:

- Rehabilitation and expansion of Sumps 1/1A and 2;
- Rehabilitating and converting Pioneer Reservoir into a treatment facility;
- Rehabilitating and up-sizing of sewer mains in the combined system; and
- Rehabilitating the Combined Wastewater Treatment Plant.

Basin 52 is one of many stormwater drainage basins that the City uses to manage stormwater within its service area. Basin 52 generally supports the westerly portions of downtown Sacramento west of 8th Street, including most of the Downtown project site. The approximate eastern half of the block bordered by K Street (within the existing Downtown Plaza) to the north, L Street to the south, 6th Street to the west, and 7th Street to the east, is served not by Basin 52 facilities, but instead by the combined sewer system. Water captured within portions of the Downtown project site served by Basin 52 is gravity-fed to Pump Station 52 (Sump 52), which is located near the Crocker Art Museum. From the pump station, water is discharged under I-5 and directly into the Sacramento River. The total area served by Basin 52 is approximately 320 acres.[28]

The pipelines that convey stormwater from Basin 52 to Sump 52 are currently over capacity. This situation results in notable street flooding of stormwater during storm events equivalent to or greater than the 2-year event (i.e., 50% annual chance of recurrence). Street flooding is not anticipated to affect at-grade structures, except during a 100-year or greater intensity storm event.[29]

The portion of 5th Street that cuts below grade to pass underneath the existing Downtown Plaza (i.e., between J Street and L St) is served by Basin 73. The sump for Basin 73 is located immediately west of 5th Street at the Downtown Plaza. Water from Basin 73 is routed to Sump

[28] Nolte, 2011. *Downtown Infrastructure Study*. September 2011. p. IV-2.
[29] Nolte, 2011. *Downtown Infrastructure Study*. September 2011. p. IV-2.

52, where it commingles with water from Basin 52 (and other basins) and is discharged to the Sacramento River.[30]

Within the Downtown project site and its vicinity, pipelines within the Basin 52 system range in diameter from 12 to 54 inches. Key collection mains are located along 3rd St, 4th St, and 7th Street. Flow within the system is generally routed from the Downtown project site toward the pump station.

The Basin 52 Stormwater Master Plan was completed in May 1996. The plan provides various recommendations for improvements within the Basin 52 area. These include:

- Construction of a new pump station (not completed),
- Construction of a new storage basin (not completed),
- Installation of new outfall lines to the Sacramento River (not completed),
- Upsizing of 8,800 feet of existing pipelines (partially completed), and
- Replacement in kind of 3,300 feet of existing/degrading pipelines (partially completed).

Timing for the completion of these proposed facilities is not presently known. Therefore, the analysis presented below assumes that these facilities would not be implemented.

Existing Dewatering

The parking area located below the existing Downtown Plaza is below grade and intersects with the groundwater table, with the lower level of the garage extending down to 11.5 feet above mean sea level (msl). As a result, in order to maintain the existing parking area free of water, a dewatering system is in operation. The dewatering system includes a subsurface drainage system that extends down to 2.65 msl, which is composed of a field of 21-inch combined vent/drainage pipe installed below the grade beam elevation. The drainage system drains into four sumps, which are installed at an elevation of -4.5 msl. All four sumps are connected, and discharge through a combined 10-inch force main into the CSS system on L Street near 5th Street.[31] A separate system is located under the existing Macy's East building. This includes perforated pipe with gravel backfill under the existing garage level. The pipe field drains into a sump with a 480 gallon per minute sump pump system, operated by a float. The system discharges to the CSS via an 8-inch connection along L Street.

The volume of water discharged from the dewatering system into the CSS is not metered, and therefore is not known precisely. Additionally, dewatering volumes are expected to vary seasonally, with high pumping rates required during/following major storm events and during

[30] Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. IV-2, IV-12.
[31] Hiser, Matt, 2013. Personal communication via email between Brian Boxer of ESA and Matt Hiser of Turner Construction. December 11, 2013.

other periods when groundwater levels are elevated. However, based on calculated estimates completed by the applicant's engineering team, it is likely that the existing dewatering system discharges an average of approximately 15.1 million gallons per month.[32] This is equivalent to 504,000 gallons per day.[33] Under existing conditions, water from the dewatering system enters the CSS, and is managed as previously discussed for flows in the CSS.

Offsite Digital Billboards

Land areas where offsite digital billboards would be located would also require drainage facilities. Under existing conditions, drainage from these areas is provided by existing stormwater infrastructure managed and maintained by the City and/or County of Sacramento. Digital signs would not generate sanitary wastewater, and therefore would not require a sewer connection.

Regulatory Setting

The following discussion provides a summary of federal, state, and local regulations and requirements that are applicable to the Proposed Project.

Federal

U.S. Environmental Protection Agency's National Combined Sewer Overflow Control Policy

The U.S. Environmental Protection Agency (EPA) initiated its Combined Sewer Overflow (CSO) Control Policy (40 CFR 122) in April, 1994. The CSO Policy provides a national level framework for the control and management of CSOs. The CSO Policy provides guidance regarding how to achieve Clean Water Act goals and requirements when faced with management of a CSO. Key components of the CSO Policy that are relevant to the Proposed Project include a requirement for Nine Minimum Controls (NMCs), which apply to every combined sewer system in the nation. The NMCs are minimum technology-based actions or measures that are designed to reduce CSOs and their effects on receiving water quality. The intent of the NMCs is to be implementable without extensive engineering studies or major construction. The policy requires that at least 85 percent of the average annual CSS storm flow must be captured and routed to at least primary treatment with disinfection prior to discharge.

Local

Sacramento Combined Sewer Development Fee

In order to support ongoing maintenance and upgrade efforts within the combined sewer system area, the City has adopted the Combined Sewer Development Fee.[34] This fee is designed to be an impact mitigation fee that requires mitigation of any significant increase in wastewater flows over the baseline/present level. To the extent that a proposed development project or other project

[32] Hiser, Matt, 2013. Personal communication via email between Brian Boxer of ESA and Matt Hiser of Turner Construction. December 11, 2013.
[33] Hiser, Matt, 2013. Personal communication via email between Brian Boxer of ESA and Matt Hiser of Turner Construction. December 11, 2013.
[34] City of Sacramento Code 13.08.490.

could have a significant impact on the combined sewer system, the City requires an acceptable mitigation plan. The mitigation plan generally requires payment of fees in order to mitigate that project's impacts to the sewer system. Alternatively, a developer may mitigate impacts on the combined sewer system by getting City approval on a Mitigation Plan. Such a plan would be required to include on-site storage, retention, sewer main up-sizing, stormwater best management practices (BMPs), diversion of flows, rerouting of pipelines, replacement of pipelines, connection to separated areas, or other upgrades as warranted.

Facility Impact Fee

In addition to the Combined Sewer Development Fee, the SRCSD levies a fee for planning, designing, construction, and other costs related to wastewater conveyance, treatment, and disposal using SRCSD's facilities. Fee amounts are determined in coordination with SRCSD, the project applicant, and Sacramento County.

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to utilities with respect to the project.

Goal U 1.1 High-Quality Infrastructure and Services. Provide and maintain efficient, high quality public infrastructure facilities and services throughout the city.

Policies

- **U 1.1.1 Provision of Adequate Utilities.** The City shall continue to provide and maintain adequate water, wastewater, and stormwater drainage utility services utility services to areas in the city currently receiving these services from the City, and shall provide and maintain adequate water, wastewater, and stormwater drainage utility services to areas in the city that do not currently receive these City services upon funding and construction of the infrastructure necessary to provide these City services.

- **U 1.1.6 Growth and Level of Service.** The City shall require new development to provide adequate facilities or pay its fair share of the cost for facilities needed to provide services to accommodate growth without adversely impacting current service levels.

Goal U 4.1 Adequate Stormwater Drainage. Provide adequate stormwater drainage facilities and services that are environmentally-sensitive, accommodate growth, and protect residents and property.

Policies

- **U 4.1.1 Adequate Drainage Facilities**. The City shall ensure that all new drainage facilities are adequately sized and constructed to accommodate stormwater runoff in urbanized areas.

- **U 4.1.4 Watershed Drainage Plans.** The City shall require developers to prepare watershed drainage plans for proposed developments that define needed drainage improvements per City standards, estimate construction costs for these improvements, and comply with the City's National Pollutant Discharge Elimination System (NPDES) permit.

- **U 4.1.5 New Development.** The City shall require proponents of new development to submit drainage studies that adhere to City stormwater design requirements and incorporate measures to prevent on- or off-site flooding.

General Plan Consistency Analysis

Policies U.1.1.1 and U.1.1.6 address the commitment of the City to ensure that adequate water, wastewater and drainage facilities are provided for development within the City. The Proposed Project would contribute toward these efforts through payment of applicable fees. With respect to Goal U 4.1 and associated policies, the Proposed Project would manage increases in stormwater flow on site by temporarily detaining stormwater (see impact analysis below) as warranted, in order to ensure that the City's stormwater/combined sewer system would not be further stressed. Applicable plans, permit compliance, and drainage studies would be completed prior to construction. Please also refer to the impact analysis discussion below.

Methodology and Assumptions

The following impact analysis evaluates potential for Proposed Project related facilities to result in changes to existing infrastructure and supply relating to wastewater and stormwater. The analysis focuses primarily on potential impacts to facilities located outside of the Downtown project site.

Discontinuation of use of the existing Sleep Train Arena, combined with discontinuation of use for areas of the Downtown Plaza that would be removed, would partially offset anticipated increases in demand for water and sewer services for the Proposed Project. Anticipated wastewater generation was estimated based on the City's standard wastewater generation factors, derived from the Downtown Infrastructure Study.[35] Wastewater generation was calculated by proposed type of use within the Downtown project site.

Significance Criteria

The Proposed Project would result in a significant impact on wastewater or storm drainage utilities if it would:

1. result in inadequate wastewater capacity to serve the project's demand in addition to existing commitments; or

[35] Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. IV-1 – IV-11.

2. require or result in either the construction of new wastewater treatment facilities or storm water drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental impacts.

Impacts and Mitigation Measures

Impact 4.11-5: The Proposed Project would discharge additional flows to the City's sewer and drainage systems, which could exceed existing infrastructure capacity.

Downtown Project Site

Construction

Excavation and pile driving during construction would encounter groundwater, which would require temporary dewatering. It is anticipated that approximately 1 million gallons per day (mgd) would be extracted over a period of 12 to 15 months during project construction. Groundwater extracted during construction would be discharged into either the City's combined sewer system (CSS) or into the separate drainage system that conveys stormwater flows to Storm Basin 52 before discharge to the Sacramento River (see section 4.6, Hazards and Hazardous Materials for a discussion of treatment and discharge of contaminated wastewater). During dry periods and minor storm events, these systems would have sufficient capacity to convey dewatering flows. However, in the event that construction period dewatering occurs during a major storm event, sufficient storm drain capacity in either the CSS or the Storm Basin 52 system might not be available to support dewatering discharges and existing capacity could be exceeded. This is considered a ***potentially significant*** impact.

Operation

Because the Downtown project site is served, in part, by the CSS, increases in wastewater and storm water runoff must be considered together. These three aspects of the Proposed Project would collectively have the potential to exacerbate periodic capacity shortfalls in the City's wastewater and stormwater conveyance systems. Each of these elements is discussed below.

Wastewater Flows

In order to calculate increases in wastewater for the Proposed Project, a comparison of existing flows from the Downtown project site was made. (Wastewater from the Sleep Train Arena does not discharge to the CSS or Basin 52, so it would not be considered in the calculations for conveyance, but is considered in the discussion of changes to wastewater treatment.)

Anticipated wastewater generation was estimated based on the City's standard wastewater generation factors, derived from the Downtown Infrastructure Study. Wastewater generation was calculated by proposed type of use within the Downtown project site. Table 4.11-10 and Figure 4.11-3 provide estimates of existing wastewater generation, assuming that approximately 90% of the water delivered to the indoor areas of the existing Sleep Train Arena (water delivered to the arena for landscape watering is not considered), and 85% of the water delivered to the

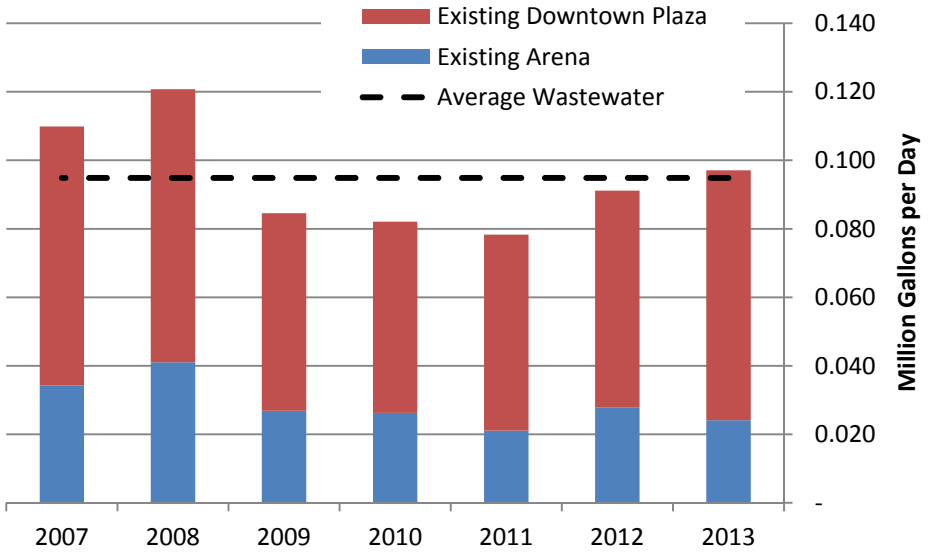
existing Downtown Plaza (slightly lower than the arena due to watering of limited landscaping) is eventually released to the City's sewer collection systems.

TABLE 4.11-10
ESTIMATED WASTEWATER GENERATION, 2007 TO 2013, MILLION GALLONS PER DAY

	Wastewater Generation (MGD)	
Year	**Downtown Plaza[1]**	**Sleep Train Arena[2]**
2013	0.073	0.024
2012	0.063	0.028
2011	0.057	0.021
2010	0.056	0.026
2009	0.058	0.027
2008	0.080	0.041
2007	0.076	0.034
Average	**0.066**	**0.029**

1. Assumes 85% of the water delivered to existing Downtown Plaza is released to City sewers as wastewater.
2. Assumes 90% of water delivered to the indoor areas of the existing Sleep Train Arena is released to City sewers as wastewater.

SOURCE: Calculated by ESA, 2013.



Source: Calculated by ESA, 2013.

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Figure 4.11-3
Estimated Wastewater Generation, 2007 to 2013, Million Gallons per Day

As shown in Table 4.11-11, the Proposed Project would result in a net increase of 0.17 mgd of wastewater within the Downtown project site. These flows would be discharged into the CSS.

TABLE 4.11-11
ANTICIPATED NET INCREASE IN WASTEWATER GENERATION FOR THE PROJECT

Land Use Category	Wastewater Generation Factor	Size	Units	Wastewater Generation (gpd*)
Retail/Commercial	62 gpd/1000 square feet	350,000	square feet	21,700
Office	62 gpd/1000 square feet	475,000	square feet	29,450
Hotel	170 gallons/ day per unit	250	rooms	42,500
Residential	170 gallons/ day per unit	550	units	93,500
Proposed ESC	N/A	N/A	N/A	48,710
Subtotal	**N/A**	**N/A**	**N/A**	**235,860**
Existing Arena	N/A	N/A	N/A	33,448
Existing Downtown Plaza	N/A	N/A	N/A	66,031
Net Increase Overall		**N/A**	**N/A**	**136,382**

* Gallons per day.
SOURCE: ESA, 2013.

As noted above, the CSS that serves the Downtown project site has more than enough capacity to convey wastewater flows during dry weather. During wet weather, wastewater in the CSS is commingled with stormwater. At these times, flow rates in the CSS can increase by a factor of approximately 2 to 3, and system capacity can be exceeded, particularly during peak flows.

The Proposed Project would increase wastewater average daily flows in the Downtown project site by approximately 0.17 mgd (see Table 4.11-11). During major storm events, additional capacity within the CSS could become limited by the influx of stormwater. During these periods, the Proposed Project plans to store peak wasteflows temporarily on site in one or more underground storage tank(s), as discussed in Chapter 2, Project Description. The proposed tank(s) would be sized to capture and hold peak flows from the ESC for 30 to 40 minutes, equivalent to 11,000 gallons of wastewater. Wastewater would be released from the vault incrementally, and/or would be held until additional capacity becomes available as stormwater flows subside.

Stormwater Flows

The Downtown project site is covered improved with impervious surfaces with the exception of a half-acre area at the southeast corner of 4th and J streets. After project implementation, the site would become completely impervious. The half-acre increase in impervious area that would result from project implementation would result in additional runoff from the site, but would not cause substantial alteration of onsite drainage, particularly because the parcel at the southeast corner of 4th and J streets slopes toward a connection with the storm drain system and minimal percolation currently occurs. During major storm events, stormwater conveyance capacity is limited in both the CSS and the Storm Basin 52 system. An increase in stormwater flows to these facilities during peak flow conditions would exacerbate capacity issues in both stormwater systems.

Dewatering

While portions of the proposed ESC would be constructed below grade, the facility would be waterproofed and therefore would not require dewatering. Therefore, this would result in a net reduction of the total volume of groundwater dewatered on site. More specifically, the portion of the subsurface parking for the existing Downtown Plaza that would be located within the ESC footprint would no longer require dewatering. The remaining subsurface parking area would be maintained (with reconfiguration to allow continued operation, if necessary) and would continue to be dewatered during operation. Groundwater from these areas would continue to be pumped into the CSS. The precise volume of near-term flow reductions to the CSS is not known, but is expected to vary seasonally and annually, concurrent with groundwater level fluctuations.

As Project development proceeds, it is anticipated that the City would require buildings with new foundations to be constructed so as to be waterproof, with existing dewatering phased out over time. This is anticipated to result in a total cessation of dewatering activity within the Proposed Project, with additional net reductions in dewatering flows to the CSS. Therefore, the project would result in a net benefit with respect to dewatering, in that the Proposed Project would reduce the volume of dewatering flows to the CSS, in comparison to existing conditions.

Summary

Under dry weather conditions and small storm events, there is adequate capacity in the City's sewer and drainage systems to accommodate project-related increases in wastewater, stormwater and groundwater discharges. Additionally, proposed reductions in operation period dewatering would reduce operation flows of dewatered groundwater to the CSS. However, during large storm events, the combined stormwater, wastewater and groundwater could exceed system capacity. This is considered a ***potentially significant*** impact.

Mitigation Measure

4.11-5 (ESC/SPD)

The project applicant shall manage wastewater, drainage and dewatered groundwater from the Proposed Project such that they shall not exceed existing CSS and Basin 52 system capacity by implementing one or more of the following or equally effective methods to be designed according to City standards and approved by the City Department of Utilities:

a. Install one or more tanks to hold wastewater, stormwater and/or construction period groundwater dewatering flows for a period of time and incrementally release flows at a rate that would not exceed existing capacity;

b. Suspend construction period dewatering activities during storm events; and/or

c. Design and implement off site improvements to increase capacity to accommodate project flows.

Impact Significance After Mitigation: Mitigation Measure 4.11-5 would require the implementation of measures to manage wastewater, drainage and dewatered groundwater flows in a manner that would not exceed existing capacity of the CSS and Basin 52 systems. Therefore, impacts to infrastructure capacity would be ***less than significant***.

Implementation of Mitigation Measure 4.11-5 could result in additional environmental effects, particularly if offsite improvements are constructed to upgrade the existing CSS or Basin 52 system. Because they would occur during construction, these impacts would be of short duration, and would be similar to the construction impacts identified in this Draft EIR, such as closure of traffic lanes, generation of air emissions and construction noise. Impacts resulting from installation of holding tanks within the Downtown project site are addressed throughout this Draft EIR. Suspension of groundwater pumping would not have adverse environmental effects.

Impact 4.11-6: The Proposed Project would discharge additional wastewater to the SRWWTP.

Downtown Project Site

Construction

Project construction would not result in additional wastewater discharges to the SRWWTP. Construction could result in a temporary decrease in flows to the SRWWTP, because existing facilities that generate wastewater within the Downtown project site would be discontinued. Up to 1.0 mgd of groundwater discharged to the SRWWTP during construction dewatering. However, as explained below, this is well within the SRWWTP's existing treatment capacity. Therefore, this impact is considered ***less than significant***.

Operation

As shown in Table 4.11-11, the Proposed Project would result in a minimal overall net increase in wastewater of 0.136 mgd. This change represents the net increase in wastewater flows that would require treatment by the SRWWTP under normal/dry weather conditions. The existing SRWWTP currently maintains a maximum average dry weather treatment capacity of 181 mgd. However, as of 2012, actual average dry weather flow for the facility was approximately 115 mgd, substantially lower than the facility's capacity.[36] Therefore, the SRWWTP has an available average dry weather treatment capacity of approximately 66 mgd. The proposed increase in wastewater flow amounts to 0.136 mgd. The SRWWTP would have sufficient capacity to serve the project. Additionally, existing flows within the CSS would be reduced by the proposed reduction in operation period dewatering, as discussed above. Available conveyance capacity in SRCSD's Interceptor pipeline is anticipated to be sufficient to meet project demand for wastewater, especially in light of dewatering reductions. Therefore, this impact is considered ***less than significant.***

[36] Sacramento Regional County Sanitation District, 2012. *2012 State of the District Report*.

Offsite Digital Billboards

The proposed offsite digital billboards would not generate wastewater. Therefore, there would be ***no impact*** on the SRWWTP.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for wastewater includes the service area for the SRWWTP. This includes the City of Sacramento, Citrus Heights, Folsom, Rancho Cordova, Elk Grove, West Sacramento, and select unincorporated areas of Sacramento County. For the combined sewer system, the cumulative context includes the area of downtown Sacramento that is served by the combined sewer system, including combined sewer system conveyance and wastewater treatment facilities. The cumulative context for stormwater includes the areas of the City served by the combined sewer system and Basin 52.

Impact 4.11-7: The Proposed Project would contribute to cumulative increases in demand for wastewater and stormwater facilities.

Anticipated cumulative development in the City of Sacramento, Citrus Heights, Folsom, Rancho Cordova, Elk Grove, West Sacramento, and applicable unincorporated areas of Sacramento County would result in a net increase in wastewater conveyed to the SRWWTP. Conveyance capacity needed for wastewater flows from Citrus Heights, Folsom, Rancho Cordova, and most of Elk Grove would be separate from the interceptor that serves the Downtown project site. Increasing demand for conveyance capacity from the remaining areas could put additional demands on the existing interceptor pipeline. The project's contribution to the cumulative impact is limited, however. As discussed previously, the Proposed Project would result in a net increase in wastewater generation requiring treatment by SRCSD of only 0.136 mgd per day. Also, the Proposed Project would include one or more on-site vaults in order to manage peak sewage generation flows from the proposed ESC, thereby minimizing large pulse flows during periods when the system is operating at or near capacity. The project's contribution to cumulative demand for wastewater treatment and conveyance would be less than cumulatively considerable.

Under existing conditions, the wastewater conveyance and storage systems within the Downtown area routinely flood and overflow during major storm events. The vast majority of existing land area within the areas served by these systems is hardscape and impervious. However, new project development that may occur in coming years could convert some of the limited remaining pervious areas to impervious surfaces. Therefore, new development in areas served by the combined sewer system or Basin 52 could result in a net increase in stormwater flows directed to these systems. This would result in a potentially significant cumulative impact to existing stormwater management facilities. In addition, as discussed in Impact 4.11-5, the Proposed

Project has several components—peak wastewater flows, increased stormwater runoff and dewatering--that could further tax the drainage system during major storm events. During these periods, the project contribution to cumulative increases in the CSS and Basin 52 could exacerbate the lack of capacity in the system.

The Downtown Infrastructure Study identifies a number of improvements to the drainage and sewer systems in the vicinity of the Downtown project site. If these improvements were fully implemented, there would be additional capacity within the system, which would reduce the potential for existing and future flows to exceed system capacity. However, funding for these improvements has not been secured and it is not known when they would be constructed. Because the existing system is already periodically at capacity, and new development and the Proposed Project would add flows to the system, the cumulative impact is considered ***significant***.

Mitigation Measure

4.11-7 (ESC/SPD)

Implement Mitigation Measure 4.11-5.

Impact Significance After Mitigation: Mitigation Measure 4.11-5 would fully offset the project contribution to the sewer and wastewater systems by requiring that the applicant construct appropriate facilities to delay discharge of wastewater, groundwater and/or stormwater. With mitigation, the project contribution would be ***less than significant***.

Impact 4.11-8: The Proposed Project would contribute to cumulative increases in demand for wastewater treatment capacity at the SRWWTP.

As development occurs throughout the region, wastewater flows requiring treatment at the SRWWTP will increase. The SRWWTP currently has an excess capacity of 66 mgd, which would be available for a substantial portion of growth in the region. The SRCSD's 2020 Master Plan identifies improvements needed to expand to 207 mgd, in order to accommodate growth in its service area through 2020 based on SACOG projections. Additionally, the SRCSD is considering upgrades to enable compliance with revised and anticipated Regional Board effluent requirements.

The project's contribution to cumulative scenario significant impacts would be minor. The Proposed Project would increase wastewater requiring treatment by 0.136 mgd and the Proposed Project would fit within the growth projections used to prepare the 2020 Master Plan. Therefore, the project contribution would not be considerable, and the resulting impact would be ***less than significant.***

Mitigation Measure

None required.

4.11.3 Solid Waste

Environmental Setting

Solid Waste Management

On an annual basis, the City sends approximately 400,000 tons of solid waste to landfills, including approximately 292,000 tons sent to landfills.[37] Several facilities provide solid waste disposal services to the City of Sacramento. These include the following:

- Lockwood Landfill, located in Sparks, Nevada. The landfill currently receives approximately 5,000 tons per day of waste including municipal solid waste (MSW) and construction debris. It has a total capacity of 302.5 million cubic yards, including approximately 270 million cubic yards of available capacity.[38] Approximately 800 tons per day arrive from the City of Sacramento.

- Kiefer Landfill, located in Sloughouse, California, is operated by Sacramento County and maintains a permitted capacity of 10,815 tons per day. The landfill has nearly 113 million cubic yards of available capacity, and is estimated to have sufficient capacity to maintain operations through 2064.[39]

- L and D Landfill, located off of Fruitridge Road in Sacramento, California, is operated by L and D Landfill, LP. The landfill has a maximum capacity of 2,540 tons per day, with a maximum permitted capacity of 6,031,055 cubic yards, sufficient to provide service through 2023. A large volume transfer facility is also located on site.[40]

- Yolo County Central Landfill, located north of Davis, California, is operated by the Yolo County Planning and Public Works Department. The facility maintains a maximum daily throughput of 2,800 tons per day, with a maximum permitted capacity of 49 million cubic yards. The facility is expected to have sufficient capacity to allow operations through 2081.[41]

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37 CalRecycle, 2012. Sacramento, CA. 2012 Annual Report, page 1.
38 State of Nevada Bureau of Waste Management, 2013. *Lockwood Regional Landfill*. http://ndep.nv.gov/bwm/landfill_lockwood.htm. Accessed October 16, 2013. p. 1.
39 CalRecycle, 2013. *Solid Waste Information System.* http://www.calrecycle.ca.gov/SWFacilities/Directory/search.aspx. Accessed September 19, 2013. pp. 1-2.
40 CalRecycle, 2013. *Solid Waste Information System.* http://www.calrecycle.ca.gov/SWFacilities/Directory/search.aspx. Accessed September 19, 2013. pp. 1-2.
41 CalRecycle, 2013. *Solid Waste Information System.* http://www.calrecycle.ca.gov/SWFacilities/Directory/search.aspx. Accessed September 19, 2013. pp. 1-2.

- Forward Landfill, located southeast of Stockton, California, is operated by Allied Waste North America. The landfill has a maximum daily throughput of over 17,000 tons, with a remaining capacity of approximately 64 million cubic yards. [42]

Solid waste collection in the City is provided by the City, which offers residential solid waste collection, and by permitted private haulers. Construction and demolition waste is collected by private haulers. Residential solid waste collected by the City is conveyed to one of two transfer stations: the Sacramento Recycling and Transfer Station owned by Waste Management, Inc., or the North Area Transfer Station, owned by Sacramento County. City waste transported from the City's transfer stations is then transported to the Kiefer Landfill located in Sacramento County. Waste is also processed at the North Area Recovery Station. Waste brought to this station is also transported to the Kiefer Landfill.

Offsite Digital Billboards

Solid waste management for the proposed offsite digital billboards would be the same as discussed above for the proposed ESC.

Regulatory Setting

The following discussion provides a summary of local regulations and requirements that are applicable to the project.

Sacramento Regional Solid Waste Authority

The Sacramento Regional Solid Waste Authority (SWA) was initially formed in 1992 in order to oversee solid waste, recycling, and disposal needs in the greater Sacramento area. The SWA is a Joint Powers Authority that is funded by franchise fees. The SWA is overseen by a Board of Directors, which is composed of elected officials from member cities (currently the City of Sacramento) and Sacramento County. The SWA regulates commercial solid waste collection by franchised haulers through ordinances. SWA ordinances include the requirement that franchised haulers achieve a 30 percent recycling rate and to offer recycling services to businesses and multi-family dwelling units.

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to utilities with respect to the project.

Goal U 5.1 Solid Waste Facilities. Provide adequate solid waste facilities, meet or exceed State law requirements, and use innovative strategies for economic and efficient collection, transfer, recycling, storage, and disposal of refuse.

[42] CalRecycle, 2013. *Solid Waste Information System.* http://www.calrecycle.ca.gov/SWFacilities/Directory/search.aspx. Accessed September 19, 2013. pp. 1-2.

Policies

- **U 5.1.1 Zero Waste.** The City shall achieve zero waste to landfills by 2040 through reusing, reducing, and recycling solid waste; and using conversion technology if appropriate.

- **U 5.1.16 Recycling and Reuse of Construction Wastes.** The City shall require recycling and reuse of construction wastes, including recycling materials generated by the demolition and remodeling of buildings, with the objective of diverting 85 percent to a certified recycling processor.

General Plan Consistency Analysis

Regarding solid waste, the Proposed Project would be consistent with Goal U 5.1 and associated policies by supporting recycling programs, and implementing construction waste recycling and reuse practices.

Construction and Demolition Debris Recycling Ordinance

The City of Sacramento requires that, with certain exceptions, construction projects valued at $250,000 or more must recycle a minimum of 50 percent of demolition debris. All new construction is covered by this ordinance, per CalGreen.

Methodology and Assumptions

The following impact analysis evaluates the potential for Proposed Project related facilities to result in changes to existing infrastructure and supply relating to solid waste. The analysis focuses on wastes generated by the Proposed Project and potential impacts to facilities located outside of the Downtown project site. Potential changes in solid waste generation are evaluated using waste generation factors shown in Table 4.11-11. These factors were used to calculate existing waste generation based on average occupancy of the Downtown Plaza for 2004 through 2012, and based on existing square footage at the Sleep Train Arena. Estimated solid waste generation for the Proposed Project was also calculated based on factors shown in Table 4.11-11, and existing waste generation was subtracted from anticipated waste generation to identify the net increase in waste associated with the Proposed Project.

Significance Criteria

The Proposed Project would result in a significant impact on utilities if it would:

1. require or result in either the construction of new solid waste facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.

Impacts and Mitigation Measures

Impact 4.11-9: The Proposed Project would generate additional solid waste.

Downtown Project Site

Construction

Project construction would include demolition of existing facilities located on site, and replacement of those facilities with the Proposed Project. Demolition of existing facilities would generate approximately 37,000 cubic yards of demolition waste, which would include concrete, metal, wood, plastics, and various other demolition related material. Following demolition and site clearing, construction of the Proposed Project would result in the generation of various construction period wastes including scrap lumber, scrap finishing materials, various scrap metals, and other recyclable and non-recyclable construction related wastes.

Construction waste would be managed in accordance with ordinances promulgated by the SWA – in particular, in accordance with SWA's requirement that haulers achieve a 30 percent recycling rate, as discussed previously. Recyclable construction materials, including concrete, metals, wood, and various other recyclable materials would be diverted to recycling facilities. The Proposed Project would also comply with City requirements to divert a minimum of 50% of construction wastes to a certified recycling processor. The Proposed Project proposes to recycle up to 75% of these materials, resulting in only approximately 1,460 cubic yards that would be landfilled. Adhering to these requirements would minimize the total volume of demolition and construction waste that would be landfilled, but would not avoid landfilling entirely. Landfilled waste would be delivered to one or more of the following facilities: Lockwood Landfill, Kiefer Landfill, L and D Landfill, Yolo County Central Landfill, or Forward Landfill. In consideration of the large volume of landfill capacity available to serve the project, sufficient landfill capacity would be available to serve the Proposed Project during construction, the Proposed Project would not require new or expanded solid waste management or disposal facilities, and potential operation period impacts on landfills would be ***less than significant***.

Operation

Project operation would result in the generation of municipal wastes in accordance with the proposed increase in use intensity on site. Proposed operation period wastes would include household, commercial, residential, office, and ESC-related wastes. As shown in Table 4.11-12, the existing arena plus Downtown Plaza mixed use results in the generation of approximately 2,815 tons of waste per year. As shown in Table 4.11-12, upon buildout, the Proposed Project would generate a total of approximately 3,670 tons of solid waste per year, for a net increase of 856 tons per year over existing conditions.

TABLE 4.11-12
ESTIMATED SOLID WASTE GENERATION, EXISTING FACILITIES

Land Use Category	2004-2012 Average Occupied Area	Units	Solid Waste Generation Factor	Solid Waste Generation (tons/yr)
Retail/Commercial	493,294	square feet	2.5 lb/100 sf-d	2,251
Office	139,057	square feet	1 lb/100 sf-d	254
Hotel	0	units	3.2 lbs/unit=day	0
Residential	0	units	0.7 tons/unit-yr	0
Arena	480,000	square feet	Usage data, 2012	310
Total				2,815

SOURCE: Waste hauling records from the existing Sleep Train Arena; other values calculated (estimated) by ESA, 2013

TABLE 4.11-13
ESTIMATED SOLID WASTE GENERATION, PROPOSED FACILITIES AND NET INCREASE

	Proposed Use	Units	Solid Waste Generation Factor	Solid Waste Generation (tons/yr)	Net Increase (tons/yr)
Retail/Commercial	350,000	square feet	2.5 lb/100 sf-d	1,597	-654
Office	475,000	square feet	1 lb/100 sf-d	867	613
Hotel	250	units	3.2 lbs/unit=day	146	146
Residential	550	units	0.7 tons/unit-yr	385	385
ESC	697,000	square feet	1.29 tons/1000 sf-yr	676	365
Total				3,670	856

SOURCE: Calculated by ESA, 2013

Waste generated by the Proposed Project would be removed from the site by the City and/or private haulers, and either recycled in accordance with City programs and requirements, or landfilled at Kiefer Landfill or transported and landfilled at the Lockwood Landfill in Sparks, Nevada. As noted previously, these facilities together currently have approximately 383 million cubic yards[43] in available capacity. Project related wastes would represent less than one tenth of one percent of total annual capacity for these two landfills. Because, sufficient landfill capacity would be available to serve the project, the Proposed Project would not require new or expanded solid waste management or disposal facilities. Additionally, implementation of typical recycling rates and SWA recycling requirements would result a portion of the total waste stream being diverted to recycling. This would further minimize impacts to landfill capacity. Therefore, the impact would be ***less than significant.***

[43] One cubic yard is equivalent to approximately 0.1125 tons uncompacted, or approximately 0.375 tons compacted, as waste would arrive at the landfill from trucks or other transport equipment.

Offsite Digital Billboards

Construction of the proposed offsite digital billboards would involve limited generation of solid waste associated with the installation of these facilities. Construction wastes would include scrap concrete, wood, metals, and other recyclable and non-recyclable construction related wastes. All construction period disposal would adhere to applicable City and state requirements, as discussed previously. Based on the limited extent of proposed construction at the offsite digital billboard sites, it is anticipated that sufficient landfill capacity would be available to serve the project, and that the Proposed Project would not result in or require construction of new solid waste management, processing, or storage facilities. Operation of the proposed offsite digital billboards would not generate municipal solid waste. Therefore, this impact is considered ***less than significant.***

Mitigation Measure

None required.

Cumulative Impacts

The following discussion provides an analysis of cumulative level impacts that could occur as a result of project implementation. The cumulative context for solid waste includes all development within the Sacramento Regional County Solid Waste Authority's service area, including the City of Sacramento and unincorporated portions of Sacramento County.

Impact 4.11-10: The Proposed Project would contribute to cumulative increases in solid waste.

As discussed therein, Lockwood Landfill, which is one of the primary landfills used for the City, is expected to have sufficient capacity to maintain operation for at least 100 years. Similarly, Kiefer Landfill, which is the other primary landfill used by the City, maintains approximately 51 years of available capacity. Growth proposed under the 2030 General Plan would result the production of an additional 282,950 tons of solid waste per year, less mandatory reductions of at least 50% by 2030, resulting in approximately 141,475 tons of solid waste per year (388 tons per day), in addition to existing waste generation. Available landfill capacity would be sufficient to accommodate these increases, along with the additional estimated 1,036 tons per year from the Proposed Project. Note also that due to recent economic conditions, development proposed under the 2030 General Plan exceeds more recent projections, and the 141,475 tons per year estimate shown above likely represents a conservative overestimate of waste generation. For these reasons, cumulative solid waste impacts would be ***less than significant***.

Mitigation Measure

None required.

4.11.4 Energy

Environmental Setting

Electricity

Electricity service within the Downtown project site and vicinity is provided by the Sacramento Municipal Utility District (SMUD). Electricity transmission lines in the Proposed Project and vicinity are primarily routed underground. The downtown Sacramento area generally is supplied by a series of underground 115 kilovolt (kV) transmission lines. These feed underground 12 kV and 21 kV distribution lines. An underground 115 kV loop connects SMUD Station A located at 6th and H Streets, Station B located at 19th and O Streets, and Station D located at 8th and R Streets. The 12 kV system is considered a high reliability network, with redundant feeds. It is intended to serve downtown Sacramento's core area. The 21 kV system serves areas that generally are not served by the 12 kV system, especially within the southern portion of downtown Sacramento.

Key transmission lines that could be used to supply the Proposed Project include a 21 kV distribution network and a 12 kV distribution network, including distribution lines, pad mounted transformers, and network/distribution manholes. The 115 kV transmission circuit also crosses the Downtown project site in north-south alignment; however, this transmission line does not directly serve the existing site and would not be used to supply power to the project. [44]

SMUD is planning to extend the existing 21 kV system in the immediate vicinity of the project, with additional future extensions anticipated along J Street and nearby alleyways. The project would be served by a combination of the 12 kV and 21 kV distribution systems. The existing 12 kV network has limited capacity for expansion; however, the 21 kV system has additional capacity that could be used for additional supply to the Proposed Project if needed.[45]

Table 4.11-14 summarizes estimated electricity demand for the existing Downtown Plaza and the existing Sleep Train Arena. Estimates for the Downtown Plaza were calculated based on electricity consumption factors used by the City to calculate demand for each of the use categories shown. Sleep Train Arena data reflect consumption at the existing arena, based on 2012 data. As shown, current electricity demand includes 2,826 kW for the Downtown Plaza, 4,795 kW for the Sleep Train Arena, for a total of 7,621 kW for all existing facilities.

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44 Nolte, 2011. *Downtown Infrastructure Study*. September 2011.pp. VII-1, VII-3.
45 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. VII-1 – VII-2.

TABLE 4.11-14
ELECTRICITY DEMAND, EXISTING FACILITIES

Land Use Category	2004-2012 Average Occupied Area	Units	Electricity Demand Factor	Electricity Demand (kW)
Retail/Commercial	493,294	square feet	0.0056 kW/sf	2,762
Office	139,057	square feet	0.00046 kW/sf	64
Hotel	0	units	2.44 kW/unit	0
Residential	0	units	4.22 kW/unit	0
Arena	480,000	square feet	Usage data, 2012	4,795
Total	N/A	N/A	N/A	7,621

SOURCE: ESA, 2013

Natural Gas

Natural gas service within the Downtown project site and vicinity (as well as the greater Sacramento area) is provided by PG&E. The downtown Sacramento area generally is served by a grid system of high pressure natural gas distribution pipelines that range in size from 4 inches to 12 inches in diameter. A secondary, low pressure system is composed of primarily 1-inch and 2-inch diameter pipelines that in some cases run parallel to high pressure mains. High pressure mains within or adjacent to the Downtown project site include 4-inch and 8-inch mains that run along J Street, 4-, 6-, and 8-inch mains that run along L Street, 3, 4, and 8-inch mains along 7th Street, a 4-inch main that runs along the southern end of 6th Street, and various 2-inch low pressure distribution lines. [46]

High-pressure lines carry gas at approximately 40 pounds per square inch (psi), whereas low pressure lines carry gas at about 0.25 psi. Most services in downtown Sacramento are provided from low pressure lines, except for major users that exceed about 3,000 cubic feet of natural gas per hour. [47]

PG&E has proposed limited upgrades in the Proposed Project vicinity in support of providing ongoing service. Specifically, the company has proposed replacement of an existing 2-inch line located in the I/J Street alley between 3rd and 5th Streets, with a high pressure 4-inch main. No major improvements are anticipated in support of the project, and PG&E anticipates that it would be able to provide service to any proposed low-pressure connection within the Downtown project site and vicinity. [48]

Offsite Digital Billboards

Digital signs would require electricity for operation. All proposed offsite digital billboard locations are situated within SMUD's service area for electricity. Therefore, electricity for all proposed offsite digital billboards would be supplied by SMUD. Generally, electricity supply

46 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. VI-1 – VI-2.
47 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. VI-1 – VI-2.
48 Nolte, 2011. *Downtown Infrastructure Study*. September 2011. pp. VI-1 – VI-2.

needed for the proposed signs is either already available on site, or would be made available via connection to an existing tie in located immediately off site. The offsite digital billboards would not require natural gas.

Regulatory Setting

The following discussion provides a summary of state and local regulations and requirements that are applicable to the Proposed Project.

State

California Public Utilities Commission Requirements

The California Public Utilities Commission (CPUC) oversees requirements that are applicable to the design, installation, and operation/management of public utilities within the state. These include utilities that provide electricity, natural gas, and water. The CPUC requires that all utilities must be underground if the developable lots are less than three acres in size; however, lots larger than 3 acres in size are not subject to this requirement. CPUC also requires acquisition of permits for the construction of certain power line facilities or substations if the voltages would exceed 50 kV or if the substation would require the acquisition of land or an increase in voltage rating above 50 kV. Distribution lines and substations with voltages under 50 kV do not need to comply with this Decision, although the utility must still comply with local regulations and requirements.

City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to utilities with respect to the project.

Goal U 1.1 High-Quality Infrastructure and Services. Provide and maintain efficient, high quality public infrastructure facilities and services throughout the city.

Policies

- **U 1.1.11 Underground Utilities.** The City shall require undergrounding of all new publicly owned utility lines, encourage undergrounding of all privately owned utility lines in new developments, and work with electricity and telecommunications providers to underground existing overhead lines.

- **U 6.1.5 Energy Consumption per Capita.** The City shall encourage residents and businesses to consume 25 percent less energy by 2030 compared to the baseline year of 2005.

- **U 6.1.7 Solar Access.** The City shall ensure, to the extent feasible, that sites, subdivisions, landscaping, and buildings are configured and designed to maximize solar access.

- **U 6.1.8 Other Energy Generation Systems.** The City shall promote the use of locally shared solar, wind, and other energy generation systems as part of new planned developments.

General Plan Consistency Analysis

Regarding Policy U 1.1.11, the Proposed Project would include undergrounding of applicable utilities. Through implementation of LEED certification programs and other anticipated efforts to reduce energy consumption and support efficiency, the Proposed Project would comply with policies directing reductions in energy consumption and, as feasible/applicable, implementation of renewable energy (Policies U 6.1.4 through U 6.1.8).

Methodology and Assumptions

The following impact analysis evaluates potential for Proposed Project related facilities to result in changes to existing infrastructure and supply relating to electricity and natural gas. The analysis focuses primarily on potential impacts to facilities located outside of the Downtown project site. Anticipated increases in demand for energy use were calculated by identifying and/or estimating existing demand for the existing Sleep Train Arena and the existing Downtown Plaza. Because these uses would be discontinued, these values were subtracted from the total anticipated energy demand of the project. Thus, potential impacts discussed below are evaluated for the net increase in demand that would result from project implementation.

Significance Criteria

The Proposed Project would result in a significant impact on utilities if it would:

1. require or result in the construction of new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Impacts and Mitigation Measures

Impact 4.11-11: The Proposed Project would increase demand for energy, specifically electricity and natural gas.

Downtown Project Site

Construction

Project construction would require limited electrical or natural gas services. Construction period power would be provided on site by a combination of existing utility connections and small, portable, construction site generators. The Project would also be required to comply with SMUD's pre-construction schedule requirements, which would ensure that sufficient electricity would be provided to the facility during and after construction, and also to existing facilities that would remain operational following completion of Project elements, including the proposed ESC. Therefore, adherence to these requirements would ensure that project construction would not

result in or require new or expanded energy production or transmission facilities. This impact is considered **less than significant**.

Operation

As noted previously, the Proposed Project would be served by a number of connections to SMUD's existing 21 kV distribution network, and via existing connections to SMUD's 12 kV distribution network. Table 4.11-15 summarizes anticipated electricity demand from the project, including the net increase over existing demand. To review existing electricity demand, please refer to Table 4.11-14. As shown in Table 4.11-15, the Proposed Project would result in a net increase in demand of approximately 4,988 kW. This figure accounts for peak demands from the proposed ESC, in order to ensure that sufficient supply would be available during major events.

TABLE 4.11-15
ELECTRICITY DEMAND, PROPOSED FACILITIES AND NET INCREASE

Land Use Category	Proposed Use	Units	Electricity Consumption Factor	Electricity Consumption (kW)	Net Increase (kW)
Retail/Commercial	350,000	square feet	0.0056 kW/sf	1,960	-802
Office	475,000	square feet	0.00046 kW/sf	219	155
Hotel	250	units	2.44 kW/unit	610	610
Residential	550	units	4.22 kW/unit	2,321	2,321
ESC	697,000	square feet	N/A	7,500	2,705
Total	**N/A**	**N/A**	**N/A**	**12,610**	**4,988**

SOURCE: ESA, 2013

The project would require installation of additional facilities on site, including additional pad mounted transformers, transformer vaults, network and distribution manholes, and additional distribution lines throughout the Downtown project site. However, SMUD has reviewed the Proposed Project and confirmed it will be able to serve the Proposed Project's demand load.[49] It is anticipated that the utility would be able to serve the Proposed Project without additional requirements for new offsite electricity supply or conveyance facilities.

Natural gas would be used on site for the proposed ESC, but also for proposed residential, commercial, and office uses. The primary use of natural gas within these areas would be for space heating and water heating. As noted above, it is not anticipated that the Proposed Project would result in new requirements for major improvements or other new infrastructure off site. PG&E anticipates that its existing facilities would be sufficient to provide service to the project. Additional on-site facilities (distribution lines) would be constructed within the Downtown project site. However, construction of these facilities would be included within the scope of the project. Therefore, potential effects on energy related facilities would be limited, and this impact is considered ***less than significant***.

[49] Bodipo-Memba, Jose, 2013. Personal communication via e-mail between Robert Eckard of ESA and Jose Bodipo-Memba of the Sacramento Municipal Utility District. October 30, 2013.

Offsite Digital Billboards

The proposed offsite digital billboards would not require natural gas during construction or operation. During operation, the proposed offsite digital billboards would require electricity. Electricity would be provided by SMUD via connections to existing distribution lines located either on or adjacent to the proposed offsite digital billboard sites. Therefore, additional offsite energy facilities are not expected to be required, and this impact is considered ***less than significant.***

Mitigation Measure

None required.

Impact 4.11-12: Project construction could interfere with a buried, existing 115-kV power line.

Downtown Project Site

Construction

SMUD's existing power distribution infrastructure on the Downtown project site includes an existing 115-kV power line that crosses the project site in a north-south alignment, as discussed above. This power line is sensitive to weight, and could be harmed or crushed in the event that heavy equipment or other heavy objects are placed on top of the line during project construction. Damage to the existing line could result in an interruption of electricity supply. This impact is considered ***potentially significant***.

Operation

Operation of the project is not anticipated to interfere with the 115-kV power line. No impact would occur.

Offsite Digital Billboards

The proposed offsite digital billboards would not interfere with the 115-kV power line. No impact would occur.

Mitigation Measure

4.11-12 (ESC/SPD)

Prior to the initiation of construction, the project applicant shall work with SMUD to identify the location of the 115-kV, and shall implement measures to avoid the use of heavy machinery or the placement of heavy objects on or in the immediate vicinity (i.e., within 10 feet on either side of the line) of the line during construction. The applicant shall work with SMUD to identify maximum weight limits within the 10-foot buffer area prior to the initiation of construction activities on site.

Impact Significance After Mitigation: Mitigation Measure 4.11-12 would protect the 115-kV from damage, thereby reducing the above impact to a ***less-than-significant*** level.

Cumulative Impacts

The following discussion provides an analysis of cumulative level impacts that could occur as a result of project implementation. The cumulative context for energy includes those facilities that directly serve SMUD's and PG&E's service areas.

Impact 4.11-13: The Proposed Project would contribute to cumulative increases in demand for energy.

Continued growth throughout SMUD's and PG&E's entire service areas could contribute to ongoing increases in demand for electricity and natural gas. These anticipated increases would be countered, in part, by ongoing increases in national, statewide, and local requirements and incentives to support construction or retrofit of buildings with increased energy efficiency. For electricity supply, overall electricity supply during most conditions is adequate. However, as demand continues to increase in SMUD's service area, temporary shortfalls could occur on SMUD's system (and other portions of the statewide grid) during temporary periods of high peak demand, SMUD is actively planning for anticipated increases in peak demand through 2050. Peak demands occur during the summer during hot weather conditions when people run their air conditioners. Although SMUD's facilities reach peak demand for only about 40 hours per year, meeting demand during peak periods is a key planning consideration for the utility.[50] SMUD is actively planning to offset growth in peak demands by encouraging and deploying energy efficiency and conservation measures within its service area.[51] Through a combination of increases in efficiency and deployment of power management strategies including power imports during peak periods, SMUD expects to maintain sufficient capacity to provide power to its service area, including the project, at least through 2050.

With respect to natural gas, PG&E sources natural gas from a combination of producers and suppliers located in Canada and the U.S. Southwest. The utility maintains contracts with producers and suppliers over daily, monthly, and longer term agreements. PG&E also maintains gas storage facilities and a network of conveyance and distribution pipelines within its service area. In order to address future increases in demand, PG&E maintains an active planning process to identify and deploy additional conservation measures to minimize increases in demand, to secure continued natural gas supply, and to maintain sufficient distribution system capacity within its service area. With respect to the Downtown project site and vicinity, existing and planned infrastructure is anticipated to be sufficient to maintain service to the Proposed Project

50 SMUD, 2013. *The Challenge of Peak Demand*. https://www.smud.org/en/about-smud/company-information/challenge-of-peak-demand.htm. Accessed October 16, 2013.
51 SMUD, 2013. *The Challenge of Peak Demand*. https://www.smud.org/en/about-smud/company-information/challenge-of-peak-demand.htm. Accessed October 16, 2013.

and other cumulative projects. Therefore, the project contribution to cumulative demand for natural gas supply would not be cumulatively considerable.

Additionally, conservation policies promulgated by the City, including those set forth in the City's 2030 General Plan (energy rebate programs, energy efficiency improvements, energy efficiency audits, and energy efficient incentives, among others) are expected to support increased energy conservation among development projects within the City. Although continued development including the Proposed Project could result in an overall increase in energy demand on suppliers, anticipated increases would be affected positively by these requirements. Cumulative impacts on energy production and transmission facilities therefore are not significant and the project's contribution is not cumulatively considerable. As such, this impact is considered ***less than significant***. Potential for interference with the existing 115-kV power line, as discussed for 4.11-12, is considered a site specific impact only, and therefore was not considered in this evaluation of cumulative scenario impacts.

Mitigation Measure

None required.

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CHAPTER 5
Other CEQA Required Considerations

5.1 Introduction

Section 15126 of the State CEQA Guidelines requires that all phases of a project must be considered when evaluating its impact on the environment, including planning, acquisition, construction, and operation. Further, the evaluation of significant impacts must consider direct and reasonably foreseeable indirect effects of the project over the short-term and long-term. As part of this analysis, the EIR must identify (1) significant environmental effects of the Proposed Project, (2) mitigation measures proposed to minimize significant effects, (3) significant environmental effects that cannot be avoided if the Proposed Project is implemented, (4) significant irreversible environmental changes that would result from implementation of the Proposed Project, (5) growth-inducing impacts of the Proposed Project, (6) potential urban decay effects caused by economic competition created by the project, and (7) alternatives to the Proposed Project.

Chapter S, Summary of Environmental Effects, and sections 4.1 through 4.11 provide a comprehensive presentation of the Proposed Project's environmental effects, proposed mitigation measures, and conclusions regarding the level of significance of each impact both before and after mitigation.

Chapter 6, Alternatives, presents a comparative analysis of alternatives to the Proposed Project.

The other CEQA-required analyses described above are presented below.

5.2 Significant and Unavoidable Impacts

Section 15126.2(b) of the State 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 4, Environmental Setting, Impacts, and Mitigation Measures. Project-specific and cumulative impacts that cannot be avoided if the project is approved as proposed include:

5.2.1 Project-Specific Significant and Unavoidable Impacts

Impact 4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.

Impact 4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx.

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Impact 4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.

Impact 4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City's standards.

Impact 4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.

Impact 4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.

Impact 4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-6: Access to light rail transit could be inadequate.

5.2.2 Cumulative Significant and Unavoidable Impacts

Impact 4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.

Impact 4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.

Impact 4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.

Impact 4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.

Impact 4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.

Impact 4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.

Impact 4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.

Impact 4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-17: Access to light rail transit would be inadequate under cumulative conditions.

Impact 4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.

5.3 Significant Irreversible Environmental Effects

Under CEQA, an EIR must analyze the extent to which a project's primary and secondary effects would generally commit future generations to the allocation of nonrenewable resources and to irreversible environmental damage (State CEQA Guidelines section 15126.2(c); 15127). Specifically, 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 a large commitment of nonrenewable resources;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- 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 dedication of the Downtown project site to an entertainment and sports center along with dense mixed-use urban development, thereby precluding other conflicting uses for the lifespan of the project. Redevelopment of the project site to a less developed condition would not be feasible due to the intensity of use that already exists

on the site, the urbanization of the surrounding area, and the level of capital investment required to support the costs of construction.

The development of the proposed offsite digital billboards on locations around Sacramento would commit small plots of land that, for the most part, would be at the fringes of other development or infrastructure uses, and would be unlikely to be used for other developed or undeveloped purposes.

The State CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. While the ESC project could result in the use, transport, storage, and disposal of hazardous wastes during construction and operation, as described in section 4.6, Hazards and Hazardous Substances, all activities would comply with applicable state and federal laws related to hazardous materials, which significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage. The potential for accidents related to the offsite digital billboards would be limited to the construction period; billboard operation does not involve any regular service or other use of hazardous materials at the billboard site.

Implementation of the Proposed Project would result in the long-term commitment of resources to urban development. The most notable significant irreversible impacts are intensification of the visual character of the project site, increased generation of pollutants from vehicle travel and stationary operations, and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as water resources during construction activities. Operations associated with future uses would also consume natural gas and electrical energy. Although the overall level of resource consumption on the project site would increase, on a per attendee or per square foot basis, resource consumption would decrease due to the regionally central location of the project site, the replacement of older inefficient buildings with new buildings built to modern codes, and the high level of sustainability that would be achieved through construction of the proposed ESC to LEED Gold standards. The unavoidable consequences of the Proposed Project are described in the appropriate sections in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

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, including the 2013 Title 24 Energy Efficiency Standards, as well as mitigation measures, planning policies, and standard conservation features, would ensure that natural resources are conserved to the maximum extent possible. As noted above and elsewhere in Chapters 2 and 4, the proposed ESC would be constructed to LEED Gold standards, which ensure high levels of efficiency in energy consumption, water demand, wastewater generation, stormwater runoff, and such issues. It is also possible that, over time, 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.

Over the past decade our understanding of global climate change and the role that communities can play in addressing it has grown tremendously. There is large scientific consensus that recent increases in global temperatures are associated with corresponding increases of greenhouse gases (GHGs). This temperature increase is beginning to affect regional climates and is expected result in impacts to our region and the world. Climate change has profound implications for the availability of the natural resources on which economic prosperity and human development depend. Although the relative contribution of the Proposed Project to global warming is not currently possible to determine, this issue is explored in section 4.5, Global Climate Change.

5.4 Growth-Inducing Effects

As required by section 15126.2(d) of the State 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. The purpose of this section is to evaluate the potential growth-inducing effects resulting from the implementation of the Proposed Project in the City of Sacramento, and throughout the SACOG region. Additional analysis of the growth-inducing effects of the Proposed Project is provided in Chapter 3, Land Use, Population and Housing.

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 inter-relationships 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 onsite employment and population growth of each project is not the complete picture of growth caused by the project.

5.4.1 Elimination of Obstacles to Growth

Downtown Project Site

The elimination of physical obstacles to growth is considered a growth-inducing effect. The Downtown project site would be redeveloped 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 Proposed Project include:

- Limited capacity of the storm drainage system serving this portion of the City of Sacramento;
- Limited circulatory access connecting the Central Business District to the adjacent freeway system; and
- Limited capacity of the wastewater system serving this portion of the City of Sacramento.

The implementation of the Proposed Project would not result in the elimination of growth obstacles. 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 wet utility systems and would likely contribute funding to their expansion or other improvements, based on City infrastructure plans it is likely these improvements would be made regardless of whether the Proposed Project is developed.

The Proposed Project would rely upon the existing regional and local roadway system to provide circulation access to the project site. Other than minor changes to accommodate construction of the project at the site, no offsite roadway improvements would be constructed, nor would the project expand the capacity of the circulation system in the project vicinity.

Electricity and natural gas transmission infrastructure presently exists at the Downtown project site and in the streets in the vicinity. Development of the Proposed Project would necessitate the construction of an onsite distribution system to convey this energy to uses on the site, but no new energy resources or infrastructure that could support development in downtown Sacramento would be added as a result of the Proposed Project.

Offsite Digital Billboards

The construction and operation of up to six offsite digital billboards on properties located near highways around Sacramento would not require the expansion or extension of any transportation or utility infrastructure. As is described in Chapter 2, Project Description, and Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, the offsite digital billboards would tap into existing energy infrastructure to provide power, and would otherwise not require use of any urban infrastructure resources. In addition, once the offsite digital billboards are constructed, only very limited and infrequent maintenance activity would be required, limiting the potential need for expansion of the circulation systems beyond limited access roads which would not be used for other purposes.

Conclusions

The Downtown project site is currently developed with and surrounded by urban uses, and implementation of the Proposed Project would be served by transportation infrastructure and utilities that already exist. Further, the construction of offsite digital billboards would not require the expansion or extension of any infrastructure. As such, the Proposed Project would not eliminate any obstacles to further redevelopment and growth in the Central City.

5.4.2 Economic Effects

As is presented in Chapter 2, based on the average levels of occupancy at the Downtown Plaza property over the last decade, it is estimated that there have been an average of 1,340 retail/commercial and office employees at the project site (including the Macy's West building). Under future conditions it is expected that total employment on the site, excluding employment at the proposed ESC, would rise to a total of 3,424 employees, an increase in employment at the project site of approximately 2,084 jobs.

The proposed ESC would house approximately the same level of permanent and temporary event-related employment as under current conditions at Sleep Train Arena. The Sacramento Kings currently employ approximately 265 employees and it is unlikely that this would change materially. In addition, as described in Chapter 2, temporary event-related employment at the proposed ESC would range from approximately 580 employees for small events to approximately 1,200 for large basketball games and other large events. The employment associated with the ESC would be essentially the same as at Sleep Train Arena, and would not contribute to further growth in the region.

In addition to the employment growth generated by the Proposed Project, additional local employment could be generated through what is commonly referred to as the "multiplier effect." The multiplier effect refers to the secondary economic effects caused by spending from project-generated residents and employees. 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, as compared to the effects of spending in smaller economies where goods and services must be imported from elsewhere.

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 residents and direct employment associated with the project. For example, future residents and workers in the office, 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 area. 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.

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.

In Chapter 2, Project Description, it is estimated that the mixed-use development in the Proposed Project would result in an increase in direct employment of 2,084 jobs in the retail, office, hotel, and other uses at the project site. As is presented below, in Table 5-1, the indirect and induced employment growth associated with the increased employment from the mixed use development in the Proposed Project would add an additional 1,682 jobs in the Sacramento regional economy, bringing the total increase in jobs associated with the proposed mixed use development to 3,766 jobs.

TABLE 5-1
INDIRECT AND INDUCED EMPLOYMENT

Employment Type	Direct Employment Change over 2004-2013 average	Indirect		Induced		Total Indirect + Induced Employment	Total Employment
		Type I Multiplier[1]	Change from Direct	Type II Multiplier[1]	Change from Indirect		
Theater	6	1.16	1	1.43	2	3	9
Fitness	62	1.34	21	1.68	21	42	104
Restaurant	251	1.13	33	1.29	40	73	324
In-line Retail	19	1.16	3	1.43	5	8	27
Macy's East	-117	1.16	-19	1.43	-32	-51	-168
Office	1,603	1.33	529	1.90	914	1,443	3,046
Hotel	250	1.35	88	1.63	70	158	408
Residential	10	1.34	3	1.68	3	6	16
Total	**2,084**		**659**		**1,023**	**1,682**	**3,766**

1. IMPLAN 2010 dataset for Sacramento County.

SOURCE: Sacramento County, 2013. *Employment Multipliers*; ESA, 2013.

As is noted in Chapter 2, permanent employment associated with the ESC is expected to be similar to the levels currently experienced at Sleep Train Arena. Compared to existing conditions, temporary event employment would vary depending upon the number and nature of events held at the ESC. Nevertheless, for the most part the economic effects of operations of the ESC are ongoing in the Sacramento regional economy and would not materially change as a result of the ESC.

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 determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental consequences 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 region, it would develop a new entertainment and sports center along with residential, office, hotel, and retail/commercial land uses in a manner that is located in the center of the Sacramento region, is efficient, and utilizes existing and planned urban resources. As is described in Chapter 3, development of the Proposed Project is consistent with the goals and policies of the City's General Plan and the Central City Community Plan. Contributing to the vitality of the community is also a General Plan Goal, which would be achieved as a result of the Proposed Project.

5.4.3 Environmental Effects of Induced Growth

While economic and employment growth at the Downtown project site is an intended consequence of the Proposed Project, growth induced directly and indirectly by the Proposed Project could also affect the greater Sacramento region. Potential effects caused by induced growth in the region could include: increased traffic congestion; increased air pollutant emissions; loss of agricultural land and open space; loss of habitat and associated flora and fauna; increased demand on public 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 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, commercial space, and infrastructure.

5.5 Urban Decay

5.5.1 Economic and Social Effects

Under CEQA, economic or social effects are not considered significant effects on the environment. Rather, these effects are considered in the context of their potential linkage or indirect connections between the Proposed Project and physical environmental effects. More specifically, the direction for treatment of economic and social effects is stated in section 15131(a) of the State CEQA Guidelines:

> Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate

> economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on physical changes.

A social or economic change also may be considered in determining whether the physical change is significant (State CEQA Guidelines section 15382).

5.5.2 Urban Decay

As used in CEQA, the term "urban decay" was introduced by the Court of Appeal in the case entitled *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184 (*Bakersfield Citizens*). In that decision, the court required the City of Bakersfield to revise and recirculate two EIRs for two proposed Wal-Mart stores because the documents both failed to address the possible indirect physical effects flowing from the direct economic effects of the two projects. Though the court did not expressly define "urban decay," the court seemed to equate the concept with a "chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake."[1] For the purposes of this assessment and consistent with the above described court decision, "urban decay" is not simply a condition in which buildings become vacant as businesses compete with each other in the normal course of the market-based economy, nor is it a condition where a building may be vacated by one business or use and reused by a different business or for alternative purposes. Rather, under CEQA "urban decay" is defined as physical deterioration of properties or structures that is so prevalent, substantial, and lasting a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. Physical deterioration includes abnormally high business vacancies, abandoned buildings, boarded doors and windows, parked trucks and long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth or homeless encampments.

The conditions that were present in the *Bakersfield Citizens* case are distinguishable from the conditions related to the Proposed Project. In the former, two proposed Wal-Mart stores were proposed, and the question of urban decay related to the potential adverse effect of additional retail supply on existing retail stores in the same market area. In the case of the Proposed Project, the conditions are different in that the project site is currently an economically under-performing regional retail center. Nearby the site are properties that have been previously blighted and which are in the process of transition to more vibrant, redeveloped uses. In addition, questions have been raised related to the potential economic consequences of relocation of a regional sports and entertainment center from Natomas to downtown Sacramento. The urban decay analysis presented below addresses a number of economic questions that were raised in comments on the Notice of Preparation. The questions considered include:

- Would the closure of Sleep Train Arena adversely affect businesses in North Natomas sufficient to cause urban decay;

[1] *Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184*. p. 1204.

- Would the location of the ESC adversely affect businesses in Old Sacramento to a degree that would cause urban decay; and
- Would the retail/commercial and other mixed use development in the Proposed Project compete with and adversely affect existing and planned retail, including future development on K Street and at the Sacramento Railyards, to a degree that it would materially delay future redevelopment of these areas, extending the period in which blight affects these areas.

This assessment of the potential for urban decay is based on the Sacramento Sports and Entertainment Center & Related Development Urban Decay Analysis prepared by the urban economics firm ALH Urban and Regional Economics. The full report is contained in Appendix H of this EIR.

5.5.3 Methodology

The analysis of potential urban decay associated with implementation of the Proposed Project is based on an assessment of the market supply of, and demand for, retail/commercial space included in the Proposed Project. The analysis involved the following steps:

- Identified the Proposed Project's market area, i.e., the area from which the majority of the ESC retail shopping center consumers are anticipated to originate;
- Identified the net change in commercial retail between the existing Downtown Plaza and the Proposed Project;
- Developed a prototypical retail program for the Proposed Project;
- Estimated the Proposed Project's retail sales;
- Conducted fieldwork to review the Proposed Project's development site and evaluate existing market conditions;
- Conducted retail sales leakage analyses for the cities of Sacramento and West Sacramento;
- Estimated existing and forecasted market area demand;
- Estimated the Proposed Project's impacts on the existing retail base;
- Identified planned future retail projects;
- Assessed the cumulative impacts of planned future retail projects;
- Assessed other economic considerations associated with development of the Proposed Project; and
- Assessed the extent to which operations of the Proposed Project and the cumulative projects may or may not contribute to urban decay.

The supply/demand comparison was prepared for Year 2017, the year after opening of the ESC. While is possible that some of the retail and eating and drinking space proposed in the SPD area

would be built at this time, it is much more likely that additional time will go by before the Proposed Project is fully developed and the operations stabilized. As such, analysis of the effects in Year 2017 represents a conservative analysis.

A complete description of the market analysis can be found in Appendix H.

5.5.4 Retail Market Area

The definition of the market area for the Proposed Project is based on the principle that most consumers will travel to the shopping destination most convenient to their homes given the type of goods available. A market area is the geographic area from which the majority of a business' demand is anticipated to originate.

For the purposes of this analysis, the boundaries of the project market area is defined as 16 census tracks that encompass the western side of the Sacramento region, including the following neighborhoods and communities: Central City, East Sacramento, Natomas, Land Park, the Pocket, Meadowview, Tahoe Park, Oak Park, Lemon Hill, Fruitridge, and West Sacramento. The primary determinant of the market area was based upon consideration of competing shopping opportunities, especially opportunities with a Macy's store or other major apparel or soft goods retailers. The urban decay analysis assumes that residents, for whom the Proposed Project would be the nearest and most convenient Macy's store, would choose to shop at the Proposed Project instead of more distant Macy's stores anchoring other shopping centers. Other market area defining factors include the traffic patterns created by existing roadways and regional population concentrations. Based upon research regarding the location of other regional Macy's stores and the array of shopping opportunities available at these shopping centers or their environs, it was determined that the most significant competitive shopping locations would include Arden Fair Mall and the Pavilions, east of the project site in Sacramento. There are other shopping centers with Macy's department stores, notably Country Club Plaza in the Arden area, but this center is characterized by high vacancy (e.g., former Gottschalk's and nearby mall shop space) and thus is not perceived to comprise strong competition to the retail space in the Proposed Project. In nearby West Sacramento no such competition was identified. As the Proposed Project would be the closest regional shopping location to West Sacramento, it was determined that West Sacramento should be included in the Proposed Project's market area.

5.5.5 Sources of Project Demand

Within the market area, the Proposed Project retail and entertainment space would increase retail sales on the project site from an existing estimate of $99 million to over $177 million, an increase of approximately $78 million. Residents, employees, visitors, and ESC event attendees would support this increase, as described further below. The analysis regarding the consumer groups that would support retail and restaurant demand in the Proposed Project supports a conclusion that 80% of demand would originate from market area household spending and 20% would originate from spending from other sources, including downtown workers, ESC visitors, and consumers living beyond the market area boundaries.

- **Market Area Residents.** It is estimated that there are an estimated 178,332 households with a population of 478,209 in the 16 census tracts that collectively comprise the market area in 2013. By 2017, the first estimated year of full operations for the Proposed Project, the household count is forecasted to increase to 184,748, for an increase of 6,416 households. This growth is expected to be comprised of 5,646 households in Sacramento and 770 households in West Sacramento. It is estimated that market area residents would make up about $62 million of the increased sales at the Proposed Project retail space. This leaves about $16 million in retail sales to be generated from other sources, such as Downtown workers and visitors to the ESC.

- **Downtown Office Employees.** As of September 2013, there were an estimated 35,635 people working within a half-mile of the project site, an easy walking distance to the project site. This employee count almost doubles to 68,437 within one mile of the project site, and within three miles of the project site there are an estimated 145,963 employees. Based on the current count of Downtown workers, the workers within a half-mile radius can support $1.2 million in restaurant expenditures and $2.3 million in retail expenditures. Additional expenditures are made for groceries, but this is not anticipated to be a retail category available at the Proposed Project; nor are there major food shopping opportunities elsewhere in the downtown area. These spending figures increase to $2.3 million for restaurants and $4.3 million for retail from workers located within a one-mile radius of the project site, and workers within a three-mile radius of the project site are estimated to generate daytime support for $4.7 million in restaurant expenditures and $8.8 million in retail expenditures. As downtown Sacramento's office occupancy rate increases, and new development occurs, including the office space proposed to be included in the SPD area, these demand estimates would only increase.

  If one-half the estimated restaurant expenditures by nearby employees is captured by the retail and restaurant space in the Proposed Project, this would comprise $2.3 million in demand. This is a hypothetical figure, but would comprise more than one-quarter the Project's $8.5 million in restaurant sales estimated to be generated from outside the market area. Employee spending could account for an even higher percentage of the approximately $8.0 million in remaining Proposed Project retail sales assumed to be generated from outside the market area. If one-half of Downtown worker retail spending is captured by the Proposed Project, this would total $4.4 million, which would account for more than one-half the estimated outside market area sales for non-restaurant or theater sales.

- **ESC Attendees.** A review of economic impact studies results in a wide range of estimated or assumed offsite spending by visitors to urban arenas. The upper range of estimates finds that 83% of visitors spent money at an area restaurant, with an average expenditure of $51.03 per person. Among these visitors, 30% also conducted retail shopping and approximately 28% visited a bar or nightclub. The average retail shopping expenditure was $81.22. This includes a blending of day trippers and overnight visitors, with no distinction in frequency or amount of spending by type of visitor. At the lower end of the spending spectrum, a different study estimated that day visitors in 2011 spent $3 on offsite food per capita, increasing to $56 for overnight visitors. In this study, approximately 85% of visitors were assumed to be day

trippers, and 15% assumed to stay overnight. Yet another study from 2001 assumed that day trippers spent an average of $10.00 on offsite food & beverage and $5.00 on other spending, while overnight visitors spent $32.72 on taxable spending other than lodging.

This information indicates that estimates of visitor spending vary widely, but that there is consensus that visitors to urban arenas make expenditures at offsite restaurant and retail venues. The majority of spending as a whole appears to occur for restaurants, and to a lesser extent retail. Making a relatively conservative assumption, if each estimated annual visitor to the ESC spent $15 on food and $5 on retail, this would suggest annual offsite expenditures of approximately $24.8 million on food and $8.3 million on retail expenditures. These are hypothetical figures, but if the Proposed Project captured even half of this restaurant figure and most of the retail figure, recognizing that there are competing food options Downtown but not strong competing retail options, then this spending would strongly support the assumption that 20% of the Project's demand will originate from sources other than market area households.

5.5.6 Retail Spending Potential

As noted above, 80% of the project demand would originate from spending from households in the Proposed Project market area. This is most relevant to the question of whether the project would adversely affect demand for existing and planned retail in the market area, and is described more fully in Appendix H. In summary, the Year 2017 spending potential from households in the market area is estimated to exceed $3.9 billion, including $492.7 million at restaurant and drinking establishments, $212.2 million at home furnishing and appliance stores, and $266.3 million at clothing and clothing accessory stores.

Assuming that the market area generates approximately 80% of the sales at the Proposed Project retail stores and restaurants, the project would need to capture from 3% to 7% of demand for different types of retail and restaurant spending from households in the market area. Based on assessment of current capture rates for Downtown Plaza, in comparison to other retail centers such as Arden Fair Mall, suggests that the estimated total Proposed Project capture rates are reasonable.

5.5.7 Proposed Project Impact Analysis

Retail and Restaurant Sales

Net new sales (over the amount currently captured by space in Downtown Plaza) anticipated to be captured by retail and restaurant space at the Proposed Project can be more than met by increased demand from market area households in all retail categories with the exception of clothing and clothing accessories, and restaurants and drinking establishments. For those two latter categories, the additional sales at the Proposed Project would represent relatively small percentages of the total regional sales, as noted below:

- For clothing and clothing accessories stores the excess sales at the Proposed Project of $279,452 would represent 0.1% of the sales in this category in Sacramento and West Sacramento;

- For restaurants and drinking establishments the excess sales at the Proposed Project of $16.8 million would represent 2.1% of the sales in the Sacramento and West Sacramento.

In both cases, it is expected that sales impacts of less than 3% may be absorbed by existing retailers without deleterious impacts on the viability of existing stores and restaurants. The analysis suggests that there is more than sufficient demand in several retail categories to absorb any sales declines that could result in retail store or restaurant closures. The demand may not be in comparable retail categories, but there is strong forecasted demand nonetheless. For example, the market area appears to have $36.0 million in new demand for just two retail categories – general merchandise and other retail. Given the wide range of retailers in the other retail category these unmet demand figures suggest there would be numerous opportunities for retail backfilling to offset any store closures resulting from sales losses attributable to the Proposed Project sales.

Cinema Sales

The Proposed Project would include a nominal increase in first-run cinema space, increasing from 42,370 square feet of theater space to 50,000 square feet, likely an increase from the current 7-screen cinema to a future 8 screens. Economically, the net addition of 1 cinema screen would be a very nominal increase, especially relative to the number of screens throughout the City of Sacramento and beyond.

Sensitivity analysis indicates that the addition of one new cinema screen would result in a decline in the number of persons per screen from 6,962 to 6,872, or by 90 people. This is equivalent to a 1.3% decline in the number of persons per screen. If 2 screens are added the decline in persons per screen increases to 2.6%, and then increases again to 3.8% with 3 new screens.

The analysis presented in Appendix H suggests that these declines in persons per screen comprise nominal declines that would be unlikely to cause a cinema operation to fail and close down operations. The two 1-screen theaters close to the project site (Crest Theater and IMAX) have unique characteristics, and thus are unlikely to experience ticket sales declines attributable to the Proposed Project sufficient to trigger closure. In contrast, the Proposed Project would enhance visibility of downtown Sacramento, especially on K Street, where these two cinemas are located. Therefore, it is anticipated that the added visibility and pedestrian traffic generated by people attending events at the ESC would produce a positive benefit for the existing nearby cinemas, counterbalancing any potential impacts that might ensue from the addition of one screen at the cinema in the Proposed Project.

5.5.8 Cumulative Impact Analysis

The cumulative impact analysis considered the effects of the Proposed Project in combination with the addition of 995,873 square feet of additional retail projects that are anticipated to be completed by 2018 (see Appendix H, Exhibit 29 for identification of the cumulative projects).[2] Including the Proposed Project, the cumulative projects would absorb $372.6 million in new sales, with the Proposed Project accounting for $65.6 million (17.6%) of this increase. For the purposes of the cumulative impact analysis, the size of the relevant market area was modestly expanded to encompass the entirety of the cities of Sacramento and West Sacramento.

As is presented in Appendix H, Table 17, the sales that would occur at the project and cumulative retail and restaurant development are estimated to be greater than demand in almost all categories, with $267.2 million in sales impacts after new demand absorbs as much demand as possible. This amount of sales would exceed overall market area demand by approximately 4.8%. Insufficient demand for the constructed space would occur for home furnishings and appliance stores, food and beverage stores, clothing and clothing accessories stores, general merchandise stores, restaurants and drinking establishments, and other retail stores. Even assuming that existing stores could absorb a loss of up to 3% of sales without deleterious effects, the analysis suggests that full buildout and occupancy of cumulative retail projects, including the Proposed Project, would result in excessive sales of $141.9 million. Converted to square footage this amount translates to a total excess supply of approximately 375,000 square feet of retail and restaurant space. This excess supply compared to the Sacramento and West Sacramento market area demand could result in the closure of some existing retailers in Sacramento and West Sacramento.

It should be noted that the analysis presented above and in Appendix H is both conservative and somewhat oversimplified, and should not be construed to mean that 375,000 square feet of stores would necessarily close as a result of the development of the noted cumulative projects. The analysis is conservative in that it assumes that the entirety of the Proposed Project and cumulative retail space would be fully constructed and occupied by 2018. It is reasonable to assume that it may take additional time to complete these developments, especially if retailers and restaurateurs determine that there is insufficient demand in the market to support their businesses. In addition, to some extent existing stores may be able to absorb sales losses that occur when sales are diverted to new stores greater than the 3% allowance factored into the analysis in Appendix H. This could especially be the case for existing area stores if they are greatly exceeding their store chain or industry average performance sales figures. In addition, several other factors could also offset some of the identified impacts, including:

- Changes in retail composition, sales, or size of the cumulative supply;
- Slower than anticipated completion and opening of space at the project and the cumulative retail developments;

[2] The timeframe of 2018, one year after the 2017 project analysis timeframe, was selected to better match the prospective timing of some of the cumulative projects.

- Lower initial sales volumes at the project and the cumulative retail developments;
- A longer than estimated period of time to reach stabilized sales among the new developments; and
- Changing consumer shopping patterns, especially if new or different retailers encourage increased market area household retail spending in excess of the amount reflected in the analysis.

In other words, the estimated supply that exceeds demand is likely to affect two types of businesses: existing retail stores and restaurants, and the developers and future tenants of the other retail centers proposed for the market. With regard to the impact on existing retailers, some existing stores in the impacted retail categories could sustain a short-term reduction in sales while others may sustain more long-term reductions. It is when businesses experience long-term sales reductions resulting in closure that concerns about urban decay come to the forefront.

A full description of the analytical findings of the market analysis is contained in Appendix H.

5.5.9 Urban Decay Effects

The assessment of the probability of urban decay ensuing from development of the Proposed Project and cumulative retail and restaurant space involved evaluating the likelihood that closed retail store spaces, if any, would be leased to other retailers within a reasonable period of time or would remain vacant for such a prolonged period of time that they contribute to the multitude of causes that could eventually lead to urban decay.

Owners of commercial retail properties are generally financially motivated to maintain property in a manner appropriate to retain existing tenants and attract new retail tenants. Generally, if property owners lag in their maintenance, however, and the property begins to show signs of disrepair, the cities of Sacramento and West Sacramento have regulatory controls that can be implemented to avoid the onset of deterioration or decay.

As is explained above, there is sufficient demand from the local market area so that retail and restaurant space in the Proposed Project alone would not be projected to result in closure of retail stores and restaurants. However, the combination of the retail and restaurant space in the Proposed Project and in reasonably foreseeable cumulative projects that would open by 2018 would result in retail sales that would exceed market area demand, and, thus, could result in closure of existing retailers in Sacramento and West Sacramento. The analysis suggests that retail and restaurant vacancy could increase by up to 375,370 square feet. Even if some sites experience prolonged vacancy because they might be of a size that experiences less demand or they are located in shopping centers with poor visibility or other undesirable characteristics, the prevailing conditions in the market area suggest that these vacancies would be well-maintained and would not devolve into urban decay or deterioration. Moreover, it should be noted that when tenants vacate prior to lease expiration, they continue to be responsible for rent and their share of building operating expenses. While not all tenants would be expected to have the financial wherewithal to continue these payments, national or regional retailers are more likely to have this

capability. This is an important consideration because landlords would continue to receive income on these vacated spaces through committed lease payments, which means they would have available financial resources to continue to maintain their properties.

Owners of commercial retail properties are generally financially motivated to maintain property in a manner appropriate to retain existing tenants and attract new retail tenants. This generally appears to be the case in the cities of Sacramento and West Sacramento, although there are apparent exceptions in Sacramento. Generally, if property owners lag, however, and property maintenance begins to show signs of deferred maintenance or other disrepair, both of these cities have regulatory controls that can be implemented to avoid the onset of deterioration or decay. During fieldwork conducted in September and October 2013 there were some, but very limited visible signs of litter, graffiti, weeds, or rubbish associated with existing commercial nodes and corridors in the cities of Sacramento and West Sacramento. Almost all vacant properties except select properties in Downtown, especially in the K Street area, were well- to reasonably well-maintained with limited to no signs or decay or deterioration. Thus, it appears that existing measures to maintain private commercial property in good condition in the cities of Sacramento and West Sacramento are generally effective and would serve to preclude the potential for urban decay and deterioration in the event any existing area retailers close following the operations of the Proposed Project and other cumulative retail projects.

In conclusion, while some existing stores may experience negative impacts following the opening of all of the retail and restaurant space allowed for in the Proposed Project combined with retail and restaurant space in cumulative developments through 2018, there is limited evidence to suggest that closed store spaces would exhibit traditional signs of deterioration and decay, such as graffiti, refuse dumping, and dilapidated fencing. Most existing vacant spaces throughout Sacramento and West Sacramento appear well-maintained, although some longer-term vacancies appear to show existing signs of lack of maintenance and deterioration. The fact that there are some instances of decay currently in the region does not mean that new vacancies would also lead to indicators of decay. This, plus the recent market area leasing activity, indicates that Sacramento and West Sacramento are inherently appealing retail markets. Based upon these findings, the analysis concludes that under the Proposed Project combined with cumulative retail projects would not cause or contribute to urban decay.

The full analysis of potential urban decay effects of the Proposed Project is contained in Appendix H.

North Natomas Economic Effects

The Sleep Train Arena has a 25-year history in North Natomas. It comprises one of the last suburban NBA facilities in the United States. In recent years, declines in attendance have been attributed to age of the facility, economic conditions in the region, and the performance and threat of relocation of the NBA Sacramento Kings. Once the arena closes, the local economic benefits to businesses in Natomas associated with attendance at events at the arena will cease and will be shifted elsewhere in Sacramento, closer to the proposed new ESC.

Sleep Train Arena is located in a suburban area, approximately six (6) miles north of downtown Sacramento. Therefore, the spending projected for ESC attendees, described above, is not directly relevant to Sleep Train Arena. Nonetheless, arena attendees certainly make some expenditures at businesses in the area around the arena. This presumption is generally supported by analysis of the Sleep Train Arena cell phone data acquired for the purpose of the transportation analysis presented in section 4.10, Transportation. The available data indicates that 8.7% of arena attendees are in Natomas before an event at Sleep Train Arena and 22.9% after an event. Analysis of these data cannot distinguish arena event attendees who live or work in the area from visitors arriving just for the event. Therefore, while the data indicate the prolonged presence of these visitors, it is not possible to precisely determine how many are there solely because of their attendance and thus, by deduction, are spending time frequenting area restaurants or retailers because of the presence of the arena as opposed to because of their residence or employment in the area.

In order to assess the potential negative impacts on Natomas businesses following the closure of Sleep Train Arena, select economic trends in Natomas since arena attendance has noticeably declined were examined. The decline at Sleep Train Arena is most prominent since fiscal year 2010, when annual attendance totaled 1,243,601 (see Appendix H, Exhibit 37). Between fiscal years 2010 and 2013, annual attendance at Sleep Train Arena dropped to 956,487, for a total decline of almost 25%.

Retail and restaurant sales figures for the same time period indicate that instead of declining in tandem with Sleep Train Arena attendance, sales increased or stayed flat. Specifically, general retail sales were flat for the period and restaurant sales increased by 4.7%. This followed an even stronger restaurant sales increase of 13.7% from 2010 to 2011, a period of time when Sleep Train Arena attendance declined by almost 1%.

These trends are highlighted in Table 5-2, which clearly shows that Sleep Train Arena attendance is not strongly correlated with area retail and restaurant sales trends.

TABLE 5-2
SLEEP TRAIN ARENA ATTENDANCE AND NATOMAS RETAIL SALES TRENDS 2010-2013

	Percent Change from Prior Year			
Factor	**2010**	**2011**	**2012**	**2013**
Arena Attendance	0.0%	-0.8%	-20.3%	-2.0%
General Retail Sales	n/a	-2.6%	0.0%	n/a
Restaurant Sales	n/a	+13.2%	+4.7%	n/a

SOURCE: ALH Urban and Regional Economics, 2013

Interviews with several commercial real estate brokers active in Natomas indicated that while Sleep Train Arena-related demand was one of many sources of demand considered by Natomas businesses, it is, in and of itself, not the impetus for a restaurant or retail business deciding to locate in Natomas. One sources indicated that based upon examination of the financial records of a Natomas area restaurant that recently changed hands, it appeared that Sleep Train Arena-related demand comprised approximately 5% of that restaurant's business. Thus, while Natomas

businesses benefit from spending by Sleep Train Arena attendees, this spending does not appear to comprise a significant portion of sales. Furthermore, no restaurants or retailers have been known to close specifically because of Sleep Train Arena's declining attendance.

The retail sales trends and more anecdotal information from real estate industry professionals active and knowledgeable about Natomas suggest that Sleep Train Arena event attendee sales are not a significant portion of the sales base in Natomas. This further suggests that full closure of Sleep Train Arena would not result in undue economic hardship on the Natomas area's retail base.

It is important to note that Natomas businesses have been experiencing the effects of building restrictions due to the condition of the Natomas Basin levees. The lifting of these restrictions is contingent upon improvements to the levee system being undertaken by Sacramento Regional Flood Control Agency (SAFCA). Once the building restrictions are lifted and new residential building commences, household-based retail demand will increase. While it is unknown when the building restrictions will be lifted, it is possible that it could occur by the time that Sleep Train Arena would be closed. If this occurs, then any retail base losses attributable to the closure of Sleep Train Arena would likely be more than compensated for by increased household demand.

While Natomas restaurants and retailers may experience sales losses due to the closure of Sleep Train Area, these losses would likely not be sufficient to impact the overall viability of the business. Further, any such business losses would likely be more than offset by increases in household retail demand once the building restrictions in Natomas are lifted and new residential construction proceeds.

Old Sacramento Economic Effects

Old Sacramento is an 8-block Historic Landmark and State Historic Park located several blocks to the west of the existing Downtown Plaza. Old Sacramento is a major tourist destination, drawing approximately 2-3 million visitors a year. The area includes the California State Railroad Museum, over 100 shops and restaurants, as well as entertainment venues, offices, and other museums and historical tours, such as Old Sacramento Historic Underground Tours. Old Sacramento hosts many recurring events, such as Gold Rush Days, the Sacramento Music Festival, St. Patrick's Day Parade, and Halloween festivities, some of which occur over a weekend and others that comprise single day events.

Congestion Effects

Old Sacramento is just blocks away from the proposed location of the ESC. While only a few blocks away, the project site is separated from Old Sacramento by I-5, and linked by a below-grade pedestrian pathway. The key vehicular entries to Old Sacramento are located at the intersections of I Street and 3rd Street, and at the intersection of Capitol Mall and Neasham Court (near Tower Bridge). There is on-street parking in Old Sacramento but most parking is provided in public parking garages within walking distance of Old Sacramento, including the existing

parking available at Downtown Plaza. Old Sacramento is also within walking distance of the Sacramento Valley Station, with many visitors to the area arriving by train.

Streets in and around Old Sacramento are not typically congested during the weekday peak hours. As is shown on Table 4.10-2, under existing conditions the intersections that serve as entries to Old Sacramento operate at nearly free-flow conditions, with the level of service (LOS) at both the I St./3rd St. intersection and the Capitol Mall/Neasham Court intersection is LOS A during the AM, PM, and Pre-Event peak hours. Currently, congestion in Old Sacramento occurs primarily during special events. During these periods, Old Sacramento streets are typically shut down and access is limited to parking garages.

The analysis presented in section 4.10, Transportation and Circulation, concludes that in the future, the intersections that provide entries to Old Sacramento would continue to operate with very low levels of congestion. As is shown in Table 4.10-21, it is projected that both the intersection of I St./3rd St. and the Capitol Mall/Neasham Court intersection would continue to operate at LOS A.

Intersection operations under cumulative conditions, accounting for projected growth through year 2035, are presented in Table 4.10-31. Under those conditions, the Old Sacramento entry intersections would continue to operate with relatively low levels of congestion (LOS A or B), with the exception that the intersection of I St./3rd St. would degrade to LOS F during the PM peak hour (4:45-5:45pm), largely due to PM peak hour commute traffic and not traffic associated with the Proposed Project. As is noted above, under cumulative conditions in the pre-event peak hour (6:00-7:00pm) for a sold out NBA basketball game, the intersection of I St./3rd St. would operate at LOS B.

As is described above, the Proposed Project would not cause a material increase in congestion on streets in and around Old Sacramento. Project-related traffic therefore would not adversely affect economic activity at Old Sacramento businesses.

Parking Effects

Old Sacramento's retailers, restaurants, and entertainment and cultural venues are highly dependent upon the availability of parking in nearby parking garages. The few street parking spaces fill quickly, and are often used by area employees. The ESC development would include approximately 3,727 parking spaces spread across the project site; these spaces would not be sufficient to park all ESC patrons. The offsite parking resources in downtown Sacramento that would be used by ESC patrons include the public parking garages within walking distance of Old Sacramento. These include the Old Sacramento Garage under I-5, with its entrance on I Street between 3rd and 2nd streets, and the Tower Bridge Garage, with its entrance on Capitol Mall at Neasham Circle. These garages are located between one-quarter and one-half mile from the proposed ESC. There are numerous other parking facilities located closer to the proposed ESC than the garages that serve Old Sacramento. Thus these two garages are at the fringe of the area of parking anticipated to serve the ESC, and are likely to be utilized by ESC patrons only

during the most heavily attended events almost all of which are reasonably expected to take place on evenings or weekends.

It is possible that attendees of evening events may park in the garages most accessible to Old Sacramento, meaning that Old Sacramento patrons would have to walk further from parked vehicles; this could reduce the number of patrons that frequent Old Sacramento in evenings. As an example, analysis of the anticipated hours of events suggest that ESC event attendees would tend to arrive and park vehicles earlier than patrons of Laughs Unlimited's early shows, which typically start at 8:00pm. If the Old Sacramento garages fill up before the start time of the Laughs Unlimited shows, especially at the Tower Bridge Garage, then it may be difficult for patrons to attend the shows and Laughs Unlimited could lose clientele. The same is the case for the patrons who typically frequent retail stores and restaurants that are open during evening times, as well as other Old Sacramento venues open later in the evening, such as the Delta King. It is important to note that these businesses could benefit from increased exposure to ESC attendees, some of whom could patronize Old Sacramento businesses before or after ESC events, or at other times. Nevertheless, due to a real or perceived lack of parking, some existing Old Sacramento operations may lose business, some of which cannot otherwise be counterbalanced by additional patronage stemming from ESC attendees. This loss of business could cause an economic hardship for these individual businesses.

While some businesses may suffer from increased competition for parking, other businesses could find that business losses due to lack of parking for non-ESC patrons are recouped through gains in patronage from ESC attendees. It is reasonable to presume that a portion of ESC patrons using the Old Sacramento area garages would frequent Old Sacramento on an increased basis before or after an ESC event, mostly area restaurants and bars, but also retail or other entertainment venues. It is not possible to determine with any precision the exact mix of lost sales versus gained sales, but it is reasonable to conclude that some portion of sales losses would be counterbalanced in this manner. In fact, it is possible that some businesses would experience a net gain in business, through a different mix of customers and timing of client patronage.

With the development of the ESC, there would be an increase in the level of activity in and around Old Sacramento, there would also be an increased competition for parking spaces in public garages that are used by Old Sacramento businesses. In order to take full advantage of increased activity associated with the ESC, Old Sacramento businesses may need to take actions, including extending or altering business hours. In some cases, the nearby presence of the ESC could be a net positive gain for Old Sacramento. The area's visibility and regional recognition would be boosted, Old Sacramento's typical visitors could continue to frequent the area when desired, and yet additional patrons would be generated before and after ESC events. However, if businesses are unable to increase revenues to levels that compensate for lost business due to lack of available parking, it is possible that those businesses could experience a decrease in patronage and sales, potentially resulting in closure.

If such closure occurs, Old Sacramento's status as an historic area and major tourist destination, plus the added visibility and exposure from proximity to the ESC, is anticipated to support real

estate market conditions leading to reuse of existing structures without any potential for urban decay or deterioration to occur between occupancies. This finding is consistent with the current conditions of existing retail vacancies, all of which are well-maintained and exhibiting no signs of urban decay or deterioration.

K Street/Railyards Economic Effects

Sports facilities, along with other major civic structures such as cultural and entertainment centers, are often perceived as an economic development tool to rebuild cities. There are many examples in the United States of new sports, cultural, or entertainment facilities that have been built, often with the assistance of public subsidy, in the hopes of serving as a catalyst for economic development. Some of these examples are presented in Appendix H.

K Street Corridor

The ESC would anchor the 7th Street end of the K Street corridor, and numerous game and event patrons would traverse K Street as well as neighboring downtown streets on their way to and from the existing downtown parking garages expected to be used by ESC patrons. Currently, K Street has the highest concentration of vacant, run-down structures in Downtown Sacramento, including former office and retail spaces. Many of the buildings are over 50-75 years old and are in need of rehabilitation. The street is highly urban, and until recently portions of the street were maintained as a pedestrian-only mall. During the day, many of the restaurants and commercial spaces on K Street and nearby are frequented by the Downtown workforce. By evening, there is a lack of activity and a perception of crime and blight prevail on the 700 - 900 blocks of K Street, with signs of deterioration and some long-term vacancies. The 700 block is closest to the future entrance to the ESC. Currently this block provides pedestrian egress to the Downtown Plaza.

Examples of complimentary development that occurred in other communities that added sports and entertainment facilities to downtown areas, presented in Appendix H, indicates the potential for more development to occur, including redevelopment of neighboring properties, as the surrounding areas gain visibility and pedestrian traffic as well as population base growth, including the ESC's proposed 550 residential units and the 137 new units included in the redevelopment plans for the 700 block of K Street. This permanent increase in the population of the immediate area would combine with the numerous sports fans, families, and other patrons attending events at the ESC, during both weekdays and evenings, substantially swelling the population circulating in the area and boosting overall activity in the area.

From an economic development perspective, the Proposed Project is one of many prospective new retail enhancements to Sacramento's retail base. Among the many planned projects, the Proposed Project would be unique because it would comprise a replacement of an older, poorly performing retail center, which historically served as a retail focal point in downtown Sacramento. While the Proposed Project would result in an estimated net sales increase, it would actually result in a reduction in the City's retail base. Even under a conservative assessment, more than sufficient new retail demand would be generated in the years before the Proposed Project opens to absorb the retail space that would be included in the Proposed Project. Therefore,

development of the Proposed Project would not materially impact the potential for yet further retail development to occur on K Street.

Railyards

As noted in the previous section, the ESC as a whole is anticipated to comprise an economic development catalyst, thus bringing people into the Downtown area and enhancing the potential for a wide range of additional development, including retail.

The Railyards, as approved, calls for development of 12,200 housing units, 2.4 million square feet of office space, 1.4 million square feet of retail, 485,000 square feet of cultural/historical space, and 1,100 hotel rooms. This is especially the case given the anticipated development timeframe for the Railyards. As the Railyards project has not yet started construction, its development will substantially lag development of the ESC retail, which is estimated for the purpose of this study to be fully operational by 2017. Based upon this potential timeframe and representative project phasing, the retail space included in the Proposed Project is likely to be fully developed and stabilized before new retail space is developed at the Railyards. The Project's net addition of $78.2 million in retail sales would be unlikely to inhibit development of the retail space included in the Railyards project. Considering the likely development timeframe and more expansive trade area, the Proposed Project retail is therefore unlikely to be an impediment to the development of the Railyards retail component.

CHAPTER 6
Project Alternatives

6.1 Overview

An EIR must describe a range of alternatives to the Proposed Project that might "feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." The feasibility of an alternative is ultimately determined by the lead agency based on a variety of factors including, but not limited to, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control (State CEQA Guidelines section 15126.6(f)(1)).

This chapter presents the Proposed Project objectives, summarizes the significant effects of the Proposed Project that cannot be avoided or reduced to insignificance, describes the alternatives that were considered but dismissed from further evaluation and the alternatives selected for evaluation, and then discloses the comparative effects of the alternatives relative to the Proposed Project. As required under section 15126.6(e) of the State CEQA Guidelines, an environmentally superior alternative is identified and addressed at the end of this chapter.

6.2 Factors in the Selection of Alternatives

6.2.1 Project Objectives

The following are the project applicant's stated objectives for the Proposed Project:

- Develop a state-of-the-art entertainment and sports center (ESC) with approximately 17,500 seats that will serve as the long-term home of the National Basketball Association (NBA) Sacramento Kings;
- Develop up to 1.5 million square feet of mixed use development (office, hotel, retail, and residential) within the property formerly known as Downtown Plaza;
- Locate the ESC on a site that can be readily assembled and that enables the development of the facility within budget and on schedule to meet the applicant's commitments to the NBA and the City of Sacramento;
- Locate, develop, and design the ESC so that it is usable for major entertainment and civic events;

- Locate the ESC on a site where it will be compatible with and enhance the surrounding area, and catalyze redevelopment of previously blighted areas;
- Locate the ESC on a site that is readily accessible by public transportation, preferably two or more modes of regional public transit;
- Locate the ESC on a site that is served by existing streets and highway infrastructure that can reasonably accommodate local and regional automobile circulation;
- Ensure that adequate parking for ESC patrons and employees is available for use during events;
- Ensure that parking is available and sufficient to support the patrons and employees of the mixed use development and other adjacent uses;
- Develop a project that maximizes the density of uses downtown to further City and regional smart growth principles;
- Create a range of development adjacent to the ESC that is sufficient to activate the ESC open space plazas, and help ensure the future success of the ESC by creating an active and vibrant hub of activity; and
- Provide for signage that supports and enhances the future success of the ESC.

The following are the City's stated objectives for the Proposed Project:

- Regional Center: Develop an entertainment and sports center district that is a world-class destination and serves as a central gathering place for the community.
- Continuous Active Place: Create an iconic civic open space and energize that space, the arena, and the downtown district through regular events, activities, and programming year round.
- Uniquely Sacramento: Create an active entertainment and sports center district that is uniquely Sacramento and embraces our culture, our climate, and our community.
- Unparalleled Entertainment Venue: Design and build the country's most technologically innovative and advanced entertainment venue that is capable of accommodating the Sacramento Kings and a broad array of other events in a unique and enjoyable experience for fans and performers.
- Sustainable Project: Develop a sustainable entertainment and sports center project that is certified LEED-Gold, supports smart growth principals, and encourages public transit use as well as pedestrian and bicycle transportation.

- Connect Downtown: Develop an entertainment and sports center project that connects with and enhances downtown from the waterfront to the Convention Center and from the Capitol to the Railyards and intermodal facilities.

- Strengthen Downtown: Establish a framework for successful development surrounding Downtown Plaza.

- Regional Economic Catalyst: Leverage the entertainment and sports center to develop our workforce and local businesses and help spark redevelopment of underutilized downtown properties throughout the Central Business District.

- A Multimodal Place: Locate, design, and develop an entertainment and sports center that complements a variety of transportation modes including public transit, bicycling, walking, and driving, as well as the nearby intermodal facilities.

- Embracing the Arts: Utilize the entertainment and sports center project to honor and add to the vibrant arts community in Sacramento by applying the talent of local and regional artists.

- A First-Class Destination: Operate and maintain the City-owned entertainment and sports center and surrounding district so that they remain a first class destination.

- Natomas Reuse: Achieve economic reuse of the Natomas arena site that supports and builds upon the goals and needs of the community.

6.2.2 Significant Effects of the Proposed Project

The following project-specific and cumulative significant and unavoidable impacts have been identified for the Proposed Project, as discussed in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

ESC/SPD

Air Quality

Impact 4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx.

Impact 4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.

Cultural Resources

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Impact 4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.

Noise

Impact 4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.

Impact 4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City's standards.

Impact 4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.

Impact 4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.

Impact 4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.

Impact 4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.

Transportation

Impact 4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.

Impact 4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-6: Access to light rail transit could be inadequate.

Impact 4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.

Impact 4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.

Impact 4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.

Impact 4.10-17: Access to light rail transit would be inadequate under cumulative conditions.

Utilities and Service Systems

Impact 4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.

Offsite Digital Billboards

Aesthetics, Light and Glare

Impact 4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.

Cultural Resources

Impact 4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.

Impact 4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.

6.3 Alternatives Considered but Dismissed From Further Evaluation

In identifying alternatives to the Proposed Project, primary consideration was given to alternatives that could reduce significant unavoidable impacts resulting from the Proposed Project. Certain impacts that are identified as being significant and unavoidable under the Proposed Project (e.g., increase in air pollutants from project construction and operation) are due primarily to intensifying development activity in an area that is currently underutilized. These impacts would not be possible to eliminate, but could be reduced by limiting the size of the project. Alternatives that reduce the intensity of development on the project site or change the location of the project are addressed later in this chapter.

The following alternatives were considered but dismissed from further analysis because they would not fulfill most of the project objectives, would not eliminate or substantially lessen environmental effects, and/or would otherwise be infeasible.

6.3.1 Entertainment and Sports Center/Mixed-Use Development

- **No Entertainment and Sports Center:** The primary objectives of the Proposed Project are to construct an entertainment and sports center in downtown Sacramento to serve as a long-term home to the NBA Sacramento Kings and provide a community-wide resource that could serve as a venue for an array of entertainment and sporting events. As is described below, for nearly 15 years there has been increasing awareness and discussion that the existing Sleep Train Arena is inadequate to meet the long-term needs of the Kings and is increasingly limited in its ability to attract premier sports and entertainment events. Thus, the City eliminated from further consideration any alternative that did not involve the construction and operation of a new entertainment and sports center. Conversely, each of the alternatives that were included for evaluation in the EIR involve the construction and

operation of a new entertainment and sports center in Sacramento, either at the Proposed Project site or another location (evaluated in the off-site alternatives later in this chapter).

- **Substantially Smaller Facility:** At the time of its opening in 1988, Sleep Train Arena was the smallest arena in the NBA in square feet and the second smallest in terms of seating capacity. By virtue of its small size and the current conditions of the facility, Sleep Train Arena lacks many of the features needed to successfully support an NBA basketball team and attract front-line sporting and entertainment events. In order to avoid or materially reduce the environmental effects of the Proposed Project that are affected by the size of the proposed ESC (such as construction air pollutant emissions), an alternative would need to include a substantially smaller entertainment and sports center, either in terms of seating capacity or in terms of patron and user amenities, or both. Such a facility would fail to achieve the basic objectives of the project in that it would fail to be a state-of-the-art ESC with 17,500 seats that could serve as the long-term home of the Kings, meet the applicant's commitments to the City and the NBA, or be able to accommodate major entertainment and sporting events. Therefore, a facility smaller than Sleep Train Arena would not be able to accommodate demand for seats as well as other amenities. Finally, reducing the square footage of the facility would not in and of itself substantially reduce project impacts or reduce them to insignificance.

- **Alternative Sites:** As discussed in more detail in Section 6.3.1, a number of sites for a new entertainment and sports center have been considered over the years. Those that the City has determined to be infeasible for financial, political, environmental, or practicability reasons (e.g., Cal Expo, the Docks, Lot G) are not considered further in this EIR.

- **SPD-Only Alternative**: An alternative to certain components of the project would be to construct the SPD portion only, which includes residential, hotel, retail and office uses. The ESC would not be constructed under this alternative. While this alternative would avoid all of the impacts specific to the ESC, it would not meet most of the objectives of the Proposed Project, which involve construction of a new state-of-the-art entertainment and sports facility. For the reasons described above, any alternative that did not include the construction and operation of a new entertainment and sports center was dismissed from further analysis.

Prior Arena Siting Efforts

For more than a decade, the City of Sacramento, interested members of the public, and Sacramento Kings ownership groups[1] have recognized the need to replace Sleep Train Arena and have undertaken numerous efforts that considered potential alternative locations and configurations for a new sports and entertainment center in Sacramento. The public and private efforts to study and ultimately reach a consensus on a proposed ESC project are summarized below.

[1] The ownership of the Sacramento Kings was controlled beginning in 1999 by members of the Maloof family, who purchased controlling interest in the team from Jim Thomas. The Maloof family sold all of its interest in the Kings in May, 2013 to new owners. The applicant represents the current ownership group.

2000-2006

Discussion of the shortcomings of Sleep Train Arena (formerly known as Arco Arena) began in the mid- to late-1990s. In May 2000, during her mayoral campaign, Mayor Heather Fargo, the successful candidate, called for construction of an arena at the former Union Pacific Downtown Railyards site. A Property Based Improvement District (PBID)/entertainment district was proposed as the primary funding mechanism for the arena. After several years of discussion during which plans for the sale and redevelopment of the Railyards were ongoing, in October 2003 the City Council put the plan for an arena in the Railyards on hold due to lack of agreement with then-owners of the Sacramento Kings.

In mid-2004, there was a short-lived effort by the City to study a plan to place a new arena at Westfield's Downtown Plaza shopping center near 7th and K Streets. In July 2004 the effort was abandoned as a result of a study that concluded the Downtown Plaza site was not a feasible site because, in part, its then-owner, Westfield, objected to the project. A month later, Sacramento Kings officials rejected plans for a downtown arena after the City Council placed a cap on the City's contribution at $175 million.

In September 2004, then-Sacramento County Sheriff Lou Blanas proposed a plan that would have generated funds to pay for a new arena by opening 10,000 acres of North Natomas farmland in the unincorporated portion of Sacramento County to development. By early 2005, that proposal was abandoned due to a lack of enthusiasm for additional development in Natomas.

Over the next year, the City, County, and then-Sacramento Kings ownership worked on a plan to develop a new arena near the northwest corner of the Downtown Railyards site, which by that time had been acquired by private developers and was being replanned for urban land uses. This proposal included a plan to fund the development of the arena through a voter-approved new quarter-cent sales tax. The proposal was placed on the November 2006 ballot as local (county-wide) Measures Q and R. However, in September 2006, two months prior to the election, the Kings ownership at the time withdrew campaign funding and support, and indicated that they required additional parking, all parking revenue, and no entertainment uses within a 1,000-foot radius of the new arena; these parameters were incompatible with the Railyards plans that were being developed and were unacceptable to the developer of the Railyards and the City. In November 2006, voters soundly defeated the sales tax proposals contained in Measures Q and R.

2006-2009

After the failure of Measures Q and R, in December 2006, NBA Commissioner David Stern announced the league's participation in a new effort to locate and develop a new arena in Sacramento. Over the next year and a half, City staff, NBA officials, and the community explored different options, and in May 2008 the California Exposition & State Fair (Cal Expo) Board of Directors entered into a Letter of Understanding with the NBA to explore the potential redevelopment and development of an arena at Cal Expo. After nearly a year of planning and study, in February 2009 the NBA unveiled a $1.9 billion development plan for the Cal Expo site that proposed a new arena, a renovated Cal Expo, along with new hotels, retail, housing and office space. In March 2009 the Cal Expo Board of Directors directed staff to prepare a request

for qualifications (RFQ) for developers to redevelop Cal Expo, including a new arena that would have replaced Sleep Train Arena. In November 2009, the Letter of Understanding between the NBA and Cal Expo expired without significant progress on the plan to redevelop Cal Expo, in part due to economic conditions and financing issues, including issues surrounding potential traffic effects on Business 80.

2010-2012

That same month, November 2009, Sacramento Mayor Kevin Johnson establishes the Sacramento First Task Force, a 12-member team of volunteers to explore ways to finance and build a new entertainment and sports center in Sacramento. In December 2009, in response to requests from the task force, seven proposals were submitted for consideration. The seven proposals included:

1. An entertainment and sports center that was to be located at the Sacramento Railyards, to the south of the railroad tracks on City-owned property in close proximity to I-5 to include space for the City's intermodal transportation facility.

2. The Convergence Plan that included an exchange of properties involving the Railyards, Cal Expo and Natomas property, with a proposed entertainment and sports center to be located on the city-owned property, south of the newly aligned railroad tracks, within the Railyards Specific Plan area.

3. A proposal for an entertainment and sports center with Downtown Plaza as the proposed site. The development location for this proposal was at the northeast corner of the intersection of Third and L streets, on the site of the City-owned Parking Lot G that is adjacent to Downtown Plaza shopping center.

4. A proposal to put the arena within the Docks Area. The Docks Area is located in Downtown Sacramento, situated between the Sacramento River and Interstate-5, south of the Old Sacramento Historic State Park and the Tower Bridge.

5. A proposal that included a theme park and entertainment and sports center at the Cal Expo Fairgrounds location.

6. A proposal for development of an entertainment and sports center on the city-owned 100-acre property adjacent to and north of the existing Sleep Train Arena and just south of Del Paso Road.

7. A proposal for an arena that would be located on the current Proposed Project site on the east end of Downtown Plaza. The submittal proposed extensive retail and restaurant development, and a public park.

In late 2009 and early 2010, the Sacramento First Task Force studied the submittals. In spring 2010 the Sacramento City Council accepted the Sacramento First Task Force recommendation to proceed with the Sacramento Convergence Plan, and approved an Exclusive Right to Negotiate

(ERN) with the Sacramento Convergence, LLC. The Convergence Plan was based on a complex set of land exchanges and coordinated redevelopment proposals, including development of a new entertainment and sports center and multi-modal transportation center at the Railyards, the mixed-use redevelopment of the current Cal Expo property, and the development of a new State Fairgrounds in on property in Natomas currently owned by the Kings and the City. In September 2010, the Cal Expo Board of Directors voted not to continue to study the proposed Natomas location for a future Cal Expo site. This effectively ended the Sacramento Convergence Plan as a viable option for an arena plan since the relocation of Cal Expo to the Natomas location was a necessary part of the plan.

Two months later, in November 2010, the Sacramento First Task Force reconvened and invited new proposals for an entertainment and sports center, as well as updated versions from the first round of proposals that had been submitted in December 2009. Four development teams submitted proposals to the task force. Three of the proposals identified downtown Sacramento as the location while the fourth proposed an arena on the City's 100-acre site located in Natomas adjacent to the existing Sleep Train Arena.

- The ICON-Taylor team proposed an entertainment and sports center on the City owned-property south of the railroad tracks in the Railyards. This plan was ultimately recommended by the Sacramento First task force as the best proposal given the experience of the team members. The ICON-Taylor team was selected due to its expertise in arena development and development of major projects in downtown Sacramento.

- The C.O.R.E. Team (Community Organized Redevelopment Effort) proposed an entertainment and sports center at the Downtown Plaza. The C.O.R.E. proposal recommended using a public-private partnership for developing an entertainment and sports center at the site of Downtown Plaza. Potential investors were identified for the project; however, many of the key financial details were not identified. Thus, the Task Force agreed that an objective feasibility study needed to be completed before progressing any further.

- The Sacramento Convergence Team proposed to develop an entertainment and sports center on City-owned land in the Railyards and on two adjacent acres it would purchase. The proposal included a new State Fair complex and 125 acres of private mixed-use development on existing Cal Expo land. In addition, the group proposed to redevelop the land that currently contains Sleep Train Arena into a mixed-use development. Task Force had concerns when Cal Expo Board was reluctant to allow expenditure of Cal Expo-generated revenue or investment dollars on a project at the Downtown Railyards. The Cal Expo Board ultimately rejected this plan effectively ending its viability.

- The Natomas ESC Partners team recommended locating the entertainment and sports center at the current Sleep Train Arena site in Natomas. Development of the new entertainment and sports center was to be funded by the one-time sale of 10,000 personal seat licenses and the private issuance of taxable facility bonds. Several Task Force members raised concerns with a localized economic impact of an entertainment and sports center project in Natomas, as opposed to a greater regional economic impact of a downtown facility. Other concerns raised

by the Task Force included the federal flood building restrictions on development in Natomas that could prevent development until federal funding was in place for levee improvements.

In January 2011, the Sacramento First Task Force recommended that the City work with the ICON-Taylor team for 90 days to determine the feasibility of its proposal for an entertainment and sports center at the downtown Railyards.

In February 2011, NBA Commissioner David Stern announced that the then-Kings ownership had been in discussions with the City of Anaheim regarding possible relocation of the Kings franchise to Southern California. In April 2011, the NBA Board of Governors discussed relocation of Kings to Anaheim at its annual NBA Board of Governors meeting, and in early May 2011, the NBA recommended the then-Kings ownership to attempt one last "shot" for an arena deal in Sacramento.

Through the same period, the City was continuing to advance concepts for a new entertainment and sports center. In February, 2011, the Sacramento City Council considered all four arena teams and selected the ICON-Taylor team to conduct a feasibility study for an Entertainment and Sports Center in Sacramento. In May 2011, the ICON-Taylor team reported back to Council with comments, recommendations, policy issues and next steps for the entertainment and sports center project. In September 2011, the City Council adopted a resolution to negotiate an Exclusive Right to Negotiate with the ICON-Taylor team.

Advancing the concept of a new entertainment and sports center at the Railyards, in February 2012 the City of Sacramento reached nonbinding terms with the NBA and then-Kings ownership regarding consideration of an entertainment and sports center at Sacramento Railyards site. In late February, the City issued a Notice of Preparation and initiated efforts to prepare an environmental impact report (EIR) on the entertainment and sports center at the Railyards. In April 2012, the Kings ownership withdrew any support for the proposal. The City terminated preparation of the EIR and the proposal advanced no further.

Meanwhile, JMA Ventures purchased Downtown Plaza from Westfield in the summer of 2012, potentially clearing a previous hurdle and allowing redevelopment of the mall.

2013

In January, 2013, an agreement was signed to sell the Sacramento Kings to a group that intended to seek NBA approval to relocate the team to Seattle. In mid-February 2013, NBA league officials received an application for relocation of the Sacramento Kings.

At the same time, in January 2013, Sacramento Mayor Kevin Johnson identified potential qualified buyers to prepare a competitive offer to purchase the team and commit to the effort to keep the team in Sacramento long-term. On February 19, 2013 the City Council passed a Resolution in Support of Keeping the Sacramento Kings in the City of Sacramento and the Pursuit of a New Sports and Entertainment Facility in Downtown Sacramento. (Resolution No. 2013—0048)

On March 26, 2013, City staff presented to the City Council a preliminary nonbinding term sheet for the potential development of an Entertainment and Sports Center in downtown Sacramento between the City and an investment group that was seeking to purchase the Kings. The investment group would later be organized as Sacramento Basketball Holdings, LLC. The City Council approved the Preliminary Nonbinding Term Sheet with a 7-2 vote. In May 2013, the NBA approved the sale of the Sacramento Kings to Sacramento Basketball Holdings, LLC, the project applicant.

6.3.2 Offsite Digital Billboards

- **Alternative Sites:** The offsite digital billboard locations included in the Proposed Project were selected because they would potentially meet Caltrans standards and would be visible from major freeways making them potentially economically viable and feasible under the City's Sign Ordinance (see Chapter 15.148.800). A total of ten sites were evaluated, although no more than six (6) sites would ultimately be selected under the terms of the Preliminary Nonbinding Term Sheet approved by the City Council in March 2013. It is currently unclear that there are other City-owned properties that would potentially meet Caltrans standards and would provide the visibility from major freeways to be economically feasible. Because the number of sites evaluated was greater than the actual number of billboards and represent a variety of locations throughout the Sacramento community, the ten identified sites represent a range of reasonable alternatives for the offsite digital billboards and no additional billboard locations were considered.

- **Smaller Billboards**: The impacts of the digital billboards are due primarily to their visibility and advertising surface, which is largely affected by height and orientation. Signs with a smaller area but still large enough to be easily seen would not substantially reduce significant impacts relating to, for example, light and glare. In addition, advertising on digital billboards is most often contracted on a regional and national basis. The companies that purchase advertising space on digital billboards design their advertisements to fit a standard sized digital billboard face and would be unlikely to go to the cost of designing advertisements for a uniquely sized billboard face, thus altering the size of the billboard face as part of an effort to reduce the size or visibility of a digital billboard is not considered feasible.

  Lastly, the height of a digital billboard is largely dictated by the physical characteristics of the light emitting diodes (LEDs) that comprise the billboard face. As is described in Section 4.1, the LEDs are designed to be seen from straight on, and the visibility rapidly diminishes as the view angle to the LED becomes more oblique. If the face is too high or too low, the visibility would be materially reduced. In addition, since the billboards are designed and placed to be seen by approaching motorists, the billboard face must be of sufficient height to be above an automobile dashboard and below the typical tinted upper edge of a windshield (typically the upper 1-3 inches).

  For the reasons described above, an alternative that would materially alter the size, height, or orientation of a digital billboard would not be considered feasible.

- **Static Billboards**: In some cases, the digital billboards were found to have significant visual impacts due largely to the fact that they are brightly lit and have continually changing electronic messages. Traditional static billboards would not have the same visual character, but are often lit with spotlights that could have greater luminosity and spillover effects.

  One of the objectives of the Proposed Project is to provide for signage that supports and enhances the success of the ESC. The proposed offsite digital billboards would meet this objective by (1) providing a platform for advertising ESC events, and (2) generating revenue. In light of the multitude of events that would take place at the ESC, digital billboards would be much better able to advertise multiple events than a static billboard. Further, revenue generation is materially higher for digital billboards than static billboards. Because static billboards would fail to be consistent with the terms of the Preliminary Nonbinding Term Sheet, and would fail to meet a basic objective related to signage, an alternative involving static billboards was not considered further in this analysis.

6.4 Alternatives Selected for Further Consideration

This section describes the range of alternatives to the Proposed Project that are analyzed in this Draft EIR and presents how specific impacts differ in severity from those associated with the Proposed Project. For the most part, significant impacts of the alternatives can be mitigated to insignificance through adoption of mitigation measures identified in Chapter 4, which contains the environmental analysis of the Proposed Project. To varying degrees, the following alternatives would also avoid and/or lessen project impacts, including some or all of the unavoidable effects of the project.

6.4.1 Offsite Digital Billboards

As discussed above, a total of ten offsite digital billboard sites were evaluated, although, as identified in the March 2013 preliminary nonbinding term sheet, no more than six sites would ultimately be selected. For the most part, the impacts of the digital billboards have to do with location and orientation of the billboard face, and the billboard construction activities. Because there is such limited feasible variation in the size, height, or specifications of digital billboards, the primary potential variation that can be captured in alternatives involves the location of the site. The impacts of building a digital billboard at each of the ten sites are summarized in Table 6-1. The digital billboards would have no impacts on greenhouse gas emissions, public services, transportation and circulation or utilities services and systems. Therefore, these topics are not included in Table 6-1.

Impacts Common to All Digital Billboard Sites

Because the ten digital billboard sites would have similar designs and construction techniques, a number of their impacts would be virtually identical for all evaluated sites. As shown in Table 6-1, most of the digital billboard impacts would be less than significant after mitigation. The only significant and unavoidable impact common to all 10 sites would be the potential to damage or

disturb archaeological resources (Impacts 4.4-2 and 4.4-5). As discussed in Impact 4.4-2, the ten billboard sites were surveyed for cultural resources, and no significant historic or prehistoric resources were discovered at any of the sites. All of the sites are considered to have low potential for archaeological resources. Nonetheless, the possibility exists that there could be subsurface archaeological resources at any of the sites. Mitigation Measure 4.4-2 would ensure that, if any archaeological resources are uncovered during construction, the resources would be appropriately protected, evaluated and treated. However, because cultural resources that are discovered (if any) would likely be removed from the site and therefore taken from the context in which they are best comprehended, the impact would remain significant for all ten sites.

Of the remaining impacts, construction air pollutant emissions would also be similar among the ten sites. The areas where there are differences between sites are aesthetics, biological resources and hazards. The sites that would have impacts of greater severity are discussed below.

I-5 at Water Tank: This site is located adjacent to the City water tank near Freeport Boulevard. There is a residential neighborhood located to the northwest and west of this digital billboard site (see Figure 2-22a). Depending on its orientation, a digital billboard at this location might be visible from the yards and perhaps even interiors of homes located on El Morro Court and/or El Rico Way, the streets closest to the billboard site. If visible, the digital billboard could degrade the visual environment of these homes (Impact 4.1-1). Mitigation Measure 4.1-1a would reduce the magnitude of this impact by ensuring that a digital billboard is oriented, designed and screened to minimize visibility from nearby homes. However, it is currently not possible to determine with certainty that this measure could fully screen the illuminated billboard face at these sites. Thus, the impact at this site may remain significant. Depending on the angle of the sign, light from the billboard could be visible from and/or spillover onto nearby residential parcels (Impact 4.1-2). This impact would be less than significant with implementation of Mitigation Measure 4.1-2, which would restrict the light output from the digital billboard, thereby preventing spillover.

Ornamental tress located adjacent to this site could provide suitable nesting habitat for raptors and other migratory bird species. In addition, cliff swallow nests have been observed on the bottom of the adjacent water tank. Although a billboard at this location would not require removal of trees and/or the nests on the water tank, construction activities could disrupt nesting birds (Impacts 4.3-2 and 4.3-6). Mitigation Measure 4.3-2 would ensure that nesting birds were protected by requiring preconstruction surveys and buffers around active nests.

US 50 at Pioneer Reservoir: This site is located within the boundary of the Pioneer Reservoir, immediately north of the Pioneer Bridge, where US 50 crosses the Sacramento River (see Figure 2-22a).

This site is located in proximity to several sites identified on hazardous materials lists. Therefore, it is possible that the site contains contaminated soils that could be disturbed during construction (Impact 4.6-1). Mitigation Measures 4.6-1b and 4.6-1c require that a Phase 1 Environmental Site Assessment (ESA) be prepared for this site prior to final project design. Any recommendations in the ESA must be implemented, including follow up sampling to characterize the contamination

and remediation as needed. This measure would ensure that construction workers are protected from contaminated soils if present, and reduce the impact to a less-than-significant level.

Business 80 at Sutter's Landing Regional Park: This site is located within the former City landfill adjacent to Business 80 (see Figure 2-22b).

There are two elderberry shrubs within this billboard site, one of which contained exit holes. Therefore, Valley elderberry longhorn beetle (VELB), a federally-listed species, could be present. Construction activities and associated removal of vegetation, ground disturbance and run-off from construction sites could result in loss of the VELB habitat and possibly mortality for VELB (if present) (Impacts 4.3-1 and 4.3-6). Mitigation Measure 4.3-1a would require a survey for VELB and compensatory mitigation for any Valley elderberry shrubs that are affected by construction of a digital billboard at this location. With mitigation, this impact would be less than significant.

This site contains eucalyptus trees that could provide suitable nesting habitat for raptors and roosting sites for special-status bat species that could be disturbed by construction activities (4.3-2). This impact would be reduced to a less-than-significant level through implementation of Mitigation Measure 4.3-2a, which would protect nesting birds by requiring preconstruction surveys and establishing buffers around any nests that are present.

Business 80 at Del Paso Regional Park/Haggin Oaks: This site is located along the Haggin Oaks Trail adjacent to the Alister MacKenzie Golf Course (see Figure 2-22b).

This site contains mature ornamental trees, which could provide suitable habitat for raptors and other migratory birds and roosting sites for special-status bat species (Impacts 4.3-2 and 4.3-6). In addition, the site contains habitat that could support burrowing owls. Mitigation Measures 4.3-2a, 4.3-2b, and 4.3-2c would ensure these wildlife species are protected from harm by requiring preconstruction surveys, avoiding construction during the nesting season, and that appropriate buffers would be used to protect nesting birds or roosting bats if they are present.

Business 80 at Sutter's Landing Regional Park/American River: This site is located north of Interstate 80 and west of the American River (see Figure 2-22c). The freeway and adjacent soundwall separate the billboard site from the River Park residential neighborhood to the south. The site is adjacent to the American River Parkway. Depending on where the billboard was situated on the site, the billboard structure would be visible from the Parkway, which could degrade the visual quality of this area (Impact 4.1-1). Mitigation Measure 4.1-1b would reduce the magnitude of this impact by ensuring that a digital billboard is located at a sufficient distance from the Parkway that would minimize its visibility from the Jedediah Smith Memorial Trail and the river, however the impact would remain significant after mitigation. The Business 80 freeway would provide enough separation that light from the billboard would not spillover onto residential parcels to the south, so the lighting impact would be less than significant at this location (Impact 4.1-2).

Trees located within 500 feet of the project site could provide suitable nesting habitat for raptors and migratory bird species that could be disturbed by construction activities (4.3-2 and 4.3-6). This impact would be reduced to a less-than-significant level through implementation of Mitigation Measure 4.3-2a would protect nesting birds by requiring preconstruction surveys and establishing buffers around nests.

This site is located within this "Triangle" mitigation area. A digital billboard at this site may conflict with the compensatory mitigation goals identified by Resolution No. 2011-609, because a portion of the "Triangle" mitigation area would be occupied by the proposed digital billboard footprint and not available for restoration (Impact 4.3-5). Additionally, installation of a digital billboard in this location may result in temporary construction-related impacts to the restoration area. Mitigation Measure 4.3-5 would reduce the impact to a less-than-significant level by requiring the applicant to restore all temporary project-related impacts immediately following the completion of installation of the digital billboard, and to implement additional site restoration and enhancement within the "Triangle" mitigation area to ensure no net loss of habitat values.

Interstate 80 at Roseville Road: This site is located at the intersection of I-80 westbound and Roseville Road (see Figure 2-22c).

One site on a contaminated site list, the North Highlands Air National Guard, is located within ¼ mile of the Roseville Road billboard site. Therefore, the project site could contain contaminated soils and/or groundwater (Impacts 4.6-1 and 4.6-3). Mitigation Measures 4.6-1b and 4.6-1c requires that a Phase 1 Environmental Site Assessment be prepared for this site prior to final project design. Any recommendations in the ESA must be implemented, including follow up sampling to characterize the contamination and remediation as needed. This measure would ensure that construction workers are protected from contaminated soils and groundwater if present, and reduce the impact to a less-than-significant level.

SR 99 at Calvine Road: This site is located on a parcel adjacent to the SR 99 southbound onramp from eastbound Calvine Road (see Figure 2-22d).

This site contains a portion of a detention basin and associated upland annual grasslands. Wetland features appear to be present within the detention basin. If the billboard were located within the detention basin, it might encroach on wetlands. Even if the billboard would not encroach into the detention basin, construction activities could indirectly affect the wetlands through ground disturbance and subsequent erosion and water quality degradation (Impacts 4.3-3 and 4.3-7). This impact would be less than significant with implementation of Mitigation Measure 4.3-3, which would require preparation of a wetland delineation, avoidance of wetlands if feasible, and implementation of mitigation measures, if necessary, to achieve no net loss of wetlands.

I-5 Bayou Road: This site is located in North Natomas, within a vacant parcel immediately south of Bayou Road near Interstate 5 (see Figure 2-22d). No significant impacts would occur for this site other than those described above under **Impacts Common to All Digital Billboard Sites.**

I-5 at San Juan Road: This site is located immediately west of Interstate 5 and north of San Juan Road (see Figure 2-22e). The site is bordered by the interstate and road and undeveloped land. A residential neighborhood is located to the south, across San Juan Road. Due to the potential visibility of the billboard face from front yards and through windows to indoor areas, it is possible that nighttime operation of a billboard in this location could result in a substantial degradation of the visual environment for sensitive receptors at the I-5 at San Juan Road site (Impact 4.1-1). Mitigation Measure 4.1-1a would reduce the magnitude of this impact by ensuring that a digital billboard is oriented, designed and screened to minimize visibility from nearby homes. However, it is currently not possible to determine with certainty that this measure could fully screen the illuminated billboard face at these sites. Thus, the impact at this site may remain significant. In addition, light from the sign could spillover into front- and backyards and interiors of homes south of San Juan Road (Impact 4.1-2). Mitigation Measure 4.1-2(h) would restrict the light output from the digital billboard, reducing this impact to a less-than-significant level.

This digital billboard site contains a fresh emergent wetland that is hydrologically connected to drainage channels that could provide habitat for the giant garter snake, a federally-listed species (Impacts 4.3-1 and 4.3-6). Mitigation Measure 4.3-1b would reduce impacts on giant garter snake by requiring surveys for the snake, and implementation of construction protocols that would ensure that the snake would be protected from harm.

This site is located adjacent to the City's existing water drainage system and supports approximately 0.06 acres of freshwater emergent wetland. The exact location of the billboard is not known, but it could encroach into this wetland, resulting in the loss of the wetland (Impacts 4.3-3 and 4.3-7). This impact would be less than significant with implementation of Mitigation Measure 4.3-3, which requires preparation of a wetland delineation, avoidance of wetlands if feasible, and implementation of mitigation measures, if necessary, to achieve no net loss of wetlands.

I-5 at Sacramento Railyards: This site is located in the Sacramento Railyards near the I Street onramp to northbound Interstate 5 (see Figure 2-22e).

The Sacramento Railyards property is subject to ongoing remediation for soil and groundwater contamination. The digital billboard at this location would be constructed with a spread footing foundation so that only 5 feet of excavation would be needed. Contaminated soils and groundwater are unlikely to be encountered at such a shallow depth. Nonetheless, depending on the ultimate location of the billboard, it could disturb contaminated soils (Impact 4.6-1). Mitigation Measures 4.6-1b and 4.6-1c requires that a Phase 1 Environmental Site Assessment be prepared for this site prior to final project design. Any recommendations in the ESA must be implemented, including follow up sampling to characterize the contamination and remediation as needed. This measure would ensure that construction workers are protected from contaminated soils if present, and reduce the impact to a less-than-significant level.

TABLE 6-1
COMPARISON OF DIGITAL BILLBOARD IMPACTS

Impact	I-5 at Water Tank	US 50 at Pioneer Reservoir	Business 80 at SLRP	Business 80 at DPRP/ Haggin Oaks	Business 80 at SLRP/ American River	I-80 at Roseville Road	SR 99 at Calvine Road	I-5 at Bayou Road	I-5 at San Juan Road	I-5 at Sac Railyards
4.1 Aesthetics, Light, and Glare										
4.1-1: The Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.	SUM	NI	NI	NI	SUM	NI	NI	NI	SUM	NI
4.1-2: The Proposed Project could create substantial new sources of light.	LSM	NI	NI	NI	NI	NI	NI	NI	LSM	NI
4.2 Air Quality										
4.2-2: Construction of the Proposed Project would result in short-term emissions of NOx.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.2-4: The Proposed Project would generate construction emissions of PM10.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.2-8: The Proposed Project would contribute to cumulative increases in short-term (construction) emissions.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.2-10: The Proposed Project would contribute to cumulative increases in PM10 concentrations.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.3 Biological Resources										
4.3-1: Construction of the Proposed Project could disturb or harm federally listed wildlife species and/or destroy or degrade their habitat.	NI	NI	LSM	NI	NI	NI	NI	NI	LSM	NI
4.3-2: Construction of the Proposed Project could disturb nesting raptors, migratory birds, and/or special-status bat species.	LSM	NI	LSM	LSM	LSM	LS	NI	NI	NI	LS
4.3-3: The Proposed Project could remove, fill, interrupt or degrade protected wetlands.	NI	NI	NI	NI	NI	NI	LSM	NI	LSM	NI
4.3-5: The Proposed Project would install a digital billboard within a habitat mitigation area.	NI	NI	NI	NI	LSM	NI	NI	NI	NI	NI
4.3-6: The Proposed Project would contribute to the cumulative harm to special-status species or species of special concern and/or loss of degradation of their habitat.	LSM	NI	LSM	LSM	LSM	LS	NI	NI	LSM	LS
4.3-7: The Proposed Project would contribute to the cumulative loss and degradation of wetlands.	NI	NI	NI	NI	NI	NI	LSM	NI	LSM	NI

TABLE 6-1 (Continued)
COMPARISON OF DIGITAL BILLBOARD IMPACTS

Impact	I-5 at Water Tank	US 50 at Pioneer Reservoir	Business 80 at SLRP	Business 80 at DPRP/ Haggin Oaks	Business 80 at SLRP/ American River	I-80 at Roseville Road	SR 99 at Calvine Road	I-5 at Bayou Road	I-5 at San Juan Road	I-5 at Sac Railyards
4.4 Cultural Resources										
4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM
4.4-3: Construction of the Proposed Project could damage and/or destroy paleontological resources.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM
4.4-6: The Proposed Project would contribute to cumulative losses of paleontological resources.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.6 Hazards and Hazardous Materials										
4.6-1: The Proposed Project could expose people to previously unidentified contaminated soil during construction activities.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
4.6-3: The Proposed Project could expose people to existing contaminated groundwater during dewatering activities.	LS	LSM	LS	LS	LS	LSM	LS	LS	LS	LSM

NOTES:
NI = No impact
LS = All impacts for this issue area would be less than significant without mitigation at this site.
LSM = At least one impact would be significant unless identified mitigation is implemented.
SUM = At least one impact would be significant even with implementation of mitigation.

SOURCE: ESA, 2013.

6.4.2 ESC and Mixed Use Development

As discussed above, in identifying a range of alternatives for consideration in this EIR, the focus was on avoiding or reducing the magnitude of project impacts while achieving the basic objectives of the project, including construction and operation of a new entertainment and sports facility. As discussed under Alternatives Dismissed from Further Consideration, a smaller ESC would not meet project objectives or substantially reduce project impacts, so for the ESC, the alternatives analysis considers different locations. Because the mixed-use portion of the project would generate substantial impacts in and of itself, the alternatives analysis considers a reduced mixed use development alternative.

The alternatives to the ESC and SPD components of the Proposed Project analyzed in this Draft EIR are:

Alternative 1: No Project Alternative

Alternative 2: ESC at Railyards

Alternative 3: ESC in Natomas

Alternative 4: Reduced Mixed Use Development

Table 6-2 summarizes the development assumptions for each the alternatives. Each of the alternatives is described in more detail and analyzed in the following subsections.

TABLE 6-2
COMPARISON OF ESC/SPD ALTERNATIVES

	Proposed Project	Alternative 1: No Project	Alternative 2: Railyards ESC	Alternative 3: ESC in Natomas	Alternative 4: Reduced Mixed Use
ESC Assumptions					
ESC Capacity	17,500 seats	17,317 seats	17,500 seats	17,500 seats	17,500 seats
ESC Size (square feet)	779,000 sf	480,000 sf	697,000 sf	697,000 sf	697,000 sf
Kings Games/Year	47	47	47	47	47
Other Events/Year	139	139	139	139	139
Annual Attendance	1.54 million	1.32 million	1.54 million	1.54 million	1.54 million
Mixed Use Development Assumptions					
Retail/Commercial (sf)	350,000	293,281	350,000	397,593	197,000
Office (sf)	475,000	131,141	475,000	146,634	100,000
Hotel (sf/rooms)	175,000 (250 rooms)	0	175,000 (250 rooms)	0	175,000 (250 rooms)
Residential (sf/units)	500,000 (550 units)	0	500,000 (550 units)	0	500,000 (550 units)
Total Mixed Use Development	*1,832,500*	*756,922*	*1,832,500*	*876,727*	*972,000*

SOURCE: ESA, 2013.

Table 6-5, at the end of this chapter, summarizes the significant effects of the alternatives as compared to the effects of the Proposed Project.

Alternative 1: No Project Alternative

Description

Under CEQA, the No Project Alternative must consider the effects of forgoing the project. The No Project/No Development Alternative describes the environmental conditions that exist at the time that the environmental analysis commences (CEQA Guidelines, section 15126.6 (e)(2)). In the case of the Proposed Project, the Downtown project site is already in a developed state, so continuation of existing conditions would involve continued operation of Sleep Train Arena and ongoing economic and related activity at the Downtown Plaza. Existing conditions are described in the Environmental Settings of each section within Chapter 4 of this Draft EIR. The alternatives analysis must also describe conditions that could reasonably be expected to occur if the project is not approved. In this case, it is reasonable to assume that, if the Proposed Project is not approved, improvements in the overall economy would increase retail activity in downtown Sacramento and that the owners of Downtown Plaza would be successful in obtaining new tenants.

Under the No Project alternative, the City Council would not approve any project, and none of the mitigation measures identified within this Draft EIR would be implemented. No demolition would occur under Alternative 1, because the existing Sleep Train Arena and Downtown Plaza buildings would be retained.

Under the No Project Alternative, Alternative 1, it is assumed that the Kings would remain playing at Sleep Train Arena. In light of the stated commitment of the current Kings ownership to have the team remain in Sacramento, it is reasonable to assume that Kings ownership and the City would seek an alternate location for the development of a new ESC in Sacramento.

Sleep Train Arena

Under Alternative 1, Sleep Train Arena would continue to operate at its current location in Natomas. The Sleep Train Arena is 442,000 square feet, and has a seating capacity of 17,317. The adjacent practice facility is approximately 38,000 square feet. No improvements would be made to Sleep Train Arena beyond standard maintenance and minor upgrades, so the capacity of the arena and the mix of seat types would not change, and arena amenities including food service, locker rooms, and other facilities, would be maintained but not materially expanded or improved.

For purposes of this analysis, it is assumed that the number of events would be similar to the Proposed Project, with approximately 47 Kings games and 139 other events per year. In actuality, the number of games and events would vary by year, and over time it would likely be increasingly difficult to book major events. Annual attendance levels are assumed to be approximately 1.3 million per year, which is the average attendance level over the last ten seasons (see Appendix K), although the number and size of events would likely continue to decrease as the arena became increasingly antiquated.

Downtown Plaza

As discussed in Chapter 2 of this EIR, Project Description, occupancy rates at Downtown Plaza have fallen over the last decade for restaurants, small retail stores and office space. With the exception of the Macy's buildings and the cinema and fitness space, the small-scale, in-line retail space in Downtown Plaza has experienced a steady decline in occupancy from over 90% occupied in 2004 to approximately 50% occupied in 2013. The office space in Downtown Plaza has experienced an average occupancy of approximately 50% during that same period. This reduction in occupancy is consistent with economic trends. Since 2012, Downtown Plaza has experienced a substantial decrease in occupancy in anticipation of redevelopment of the property. Office occupancy rates have also fallen, from 53.0% in 2004 to 47.4% in 2011.

For this analysis, it is assumed that Downtown Plaza occupancy under existing conditions would return to 2011 levels, reflecting conditions prior to the proposed redevelopment of the property. It should be noted that since publication of the Notice of Preparation, Macy's has consolidated its operations in the west building, and no longer uses the Macy's East building (Macy's Men's Store). This analysis assumes that the Macy's East building is re-occupied with a general retail tenant, which would be reflective of 2011 conditions.

As discussed above, the No Project analysis must also consider reasonably foreseeable future conditions. Downtown Plaza is underutilized at present and has been for several years. That is, there is vacant commercial space, and those retail shops that are located at the Plaza tend to experience about 33% less activity than what would be expected at similar stores under better conditions (see Appendix K). One reason for the relatively low level of retail activity is the economy, which is still in recovery. An additional reason for the low level of tenancy is that the prior owners did not manage and maintain the Plaza sufficient to maintain high levels of retail or office tenancy. Since 2012, Downtown Plaza has experienced a substantial decrease in occupancy in anticipation of redevelopment of the property.

It is reasonable to assume that through positive management and maintenance of the Downtown Plaza property, economic activity and occupancy at Downtown Plaza would increase over time, even if the Proposed Project were not approved. Therefore, for future (cumulative) conditions, it is assumed that occupancy rates and levels of retail sales would improve due to a recovering economy. It is further assumed that efforts to re-tenant the Plaza would be successful, but would not exceed levels that have been achieved in recent periods when the economy was strong. For analysis purposes, it is assumed that in the future, occupancy of small retail, restaurant and office uses would be restored to 2004 levels (see Table 6-3).

Table 6-3 shows the occupied square footage by business type in Downtown Plaza assumed for Alternative 1 under existing and future conditions.

There would be no new hotel or residential uses within the project site under this alternative. No demolition or new construction within the Downtown Plaza would occur.

TABLE 6-3
ALTERNATIVE 1: DOWNTOWN PLAZA ASSUMPTIONS

		Existing Conditions (2011)		Future Conditions (2004)	
Business Type	**Total Space (SF)**	**Occupancy Rate**	**Occupied Space (SF)**	**Occupancy Rates**	**Occupied Space (SF)**
Cinema	42,370	1.00	42,370	1.00	42,370
Fitness	50,848	1.00	50,848	1.00	50,848
Restaurant / Small Retail	317,057	0.63	200,063	0.96	304,375
Total Retail	**410,275**	**0.72**	**293,281**	0.97	397,593
Office Buildings	276,668	0.47	131,141	0.53	146,634
Total SF	**686,943**	**0.62**	**424,422**	**0.79**	**544,277**

NOTES: Equivalent to 2004 and 2011 levels as shown in Appendix K.
SOURCE: Downtown Plaza Sacramento, LLC, 2013; ESA, 2013.

Comparative Analysis of Environmental Effects

Table 6-5 at the end of this chapter provides an impact-by-impact comparison of the significant impacts of the Proposed Project and Alternative 1.

In general, impacts of the No Project Alternative would be identical to the existing conditions described in the settings of Chapter 4, because no new development would occur at the Downtown Project site nor would any land uses change. In the future, if the Downtown Plaza were re-tenanted, then there would be increases in traffic congestion and related impacts, such as traffic noise and emissions from vehicles.

Impacts Identified as Being the Same or Similar to the Proposed Project

Because there would be no construction under this alternative, and no changes to the operation of the Sleep Train Arena and/or Downtown Plaza, none of the impacts identified for the Proposed Project would occur under the No Project alternative.

Impacts Identified as Being Less Severe than the Proposed Project

Under this alternative, no demolition would occur, and no new development would be constructed, so there would not be any of the impacts associated with construction, such as disturbances from construction lighting (Impact 4.1-2), construction emissions (Impacts 4.2-2, 4.2-4, 4.2-8 and 4.2-10), construction traffic (Impacts 4.10-10 and 4.10-21), disturbance to nesting raptors or migratory birds (Impact 4.3-2 and 4.3-6), loss of street trees (Impacts 4.3-4 and 4.3-8), damage to historic, archaeological and/or paleontological resources (Impacts 4.4-1 through 4.4-6), exposure to contaminated soils (Impact 4.6-1), interference with remediation of the South Plume (Impacts 4.6-4 and 4.6-6), increased risk of flooding (Impacts 4.7-2 and 4.7-5), interference with a buried 115-kV line (Impact 4.11-12) and construction noise and vibration(Impacts 4.8-3, 4.8-4, 4.8-8 and 4.8-9).

Because there would be no new development and no changes to the size or configuration of the Sleep Train Arena or the Downtown Plaza, the No Project Alternative would not increase the amount of lighting or glare in the Downtown project site or elsewhere (Impacts 4.1-2 and 4.1-3), create new sources of HVAC or event noise (Impacts 4.8-1 and 4.8-6), increase noise levels within existing and future residences (Impacts 4.8-2 and 4.8-7), result in adverse effects on pedestrian facilities (Impact 4.10-8 and 4.10-19), and/or increase discharges to the City's sewer and drainage facilities (Impacts 4.11-5and 4.11-7). The bus stops on L Street would remain in their current location, so access to bus transit would be adequate (Impact 4.10-5 and 4.10-17).

As discussed above, certain impacts could increase over existing conditions if the Downtown Plaza is aggressively re-tenanted. Higher occupancy would result in more traffic to and from the Plaza. Retail uses are the most likely to achieve higher occupancy rates based on historic data, and are more likely than office to rebound in the future. For example, in 2004, the retail occupancy rate was about 97%, but the 2012 rate was only 62%. Office on the other hand, has been historically low—53% in 2004 and 37.5% in 2012. In addition, there is substantially more retail than office space in the Downtown Plaza—approximately 410,000 square feet of retail (exclusive of Macy's West) versus 277,000 square feet of office. Retail traffic is typically off-peak because stores open and close later than typical office hours. Therefore, an increase in occupancy rates at the Downtown Plaza would not be expected to increase traffic enough to substantially increase congestion on Caltrans facilities (Impacts 4.10-2 and 4.10-13), J Street off ramps (Impacts 4.10-3 and 4.10-14), and/or West Sacramento facilities (Impact 4.10-12). Any increases in demand transit services would not be substantial enough to require new infrastructure (Impacts 4.10-6 and 4.10-17).

Other impacts related to increased occupancy—additional vehicle emissions (Impacts 4.2-3 and 4.2-9) and noise, increase wastewater generation (Impacts 4.11-5 and 4.11-7), increased demand for water (Impact 4.11-3)—would not exceed emissions under the Proposed Project, because the square footage increases under the Proposed Project (exclusive of the ESC) would be greater than the underutilized square footage in the existing Downtown Plaza.

For these reasons, impacts under the No Project Alternative would be less severe than the Proposed Project, even if Downtown Plaza occupancy rates increased to historic peak levels.

Impacts Identified as Being More Severe than the Proposed Project

The No Project Alternative would not result in any impacts that would be more severe than the Proposed Project, because there would be no construction or changes to operations at the Sleep Train Arena and/or Downtown Plaza.

While the No Project Alternative would not have any significant impacts when compared to existing conditions, it should be noted that it would not achieve some of the environmental benefits associated with the Proposed Project, which would reduce vehicle miles traveled (VMT) per attendee (relative to the existing Sleep Train arena) by approximately 18 to 22% (see Tables 4.10-20 and 4.10-30) and would reduce per attendee GHG emissions by approximately 36 to 45% (see Table 4.5-2). The new arena would be larger than the existing facility, but because it would be designed to be certified as LEED Gold, it would also be more energy and water efficient. These aspects of the ESC would reduce greenhouse gas emissions relative to the existing Sleep

Train arena. Because of the reduction in arena-related trips and redistribution of traffic, the Proposed Project would reduce traffic congestion along several segments of Interstate 5, Interstate 80 and US 50 (see pages 4.10-36 and -37). Finally, dewatering and discharge of groundwater into the CSS would continue under the No Project Alternative (see Impact 4.7-3). None of these environmental benefits would be achieved under the No Project Alternative.

Relationship to Project Objectives

None of the Project Objectives would be achieved under the No Project Alternative.

Alternative 2: ESC at the Railyards

Description

Alternative 2 assumes that a new entertainment and sports center would be built at the Railyards in a location previously considered by the City in 2011-2012, as delineated in the August 2012 Briefing Report.[2] No major changes would be made to the Downtown Plaza, but it is assumed that occupancy rates would increase to approximately 2004 levels due to improvements in the overall economy and re-tenanting efforts as described under Alternative 1b.

The ESC at the Railyards would be located on a 13-acre site located adjacent to and immediately west of the Sacramento Valley Station, bordered by the elevated structure of Interstate 5 to the west, the Amtrak passenger tunnel to the east, the Depot and associated parking lots to the south, and the recently-realigned Union Pacific Railroad (UPRR) tracks to the north (see Figure 6-1).

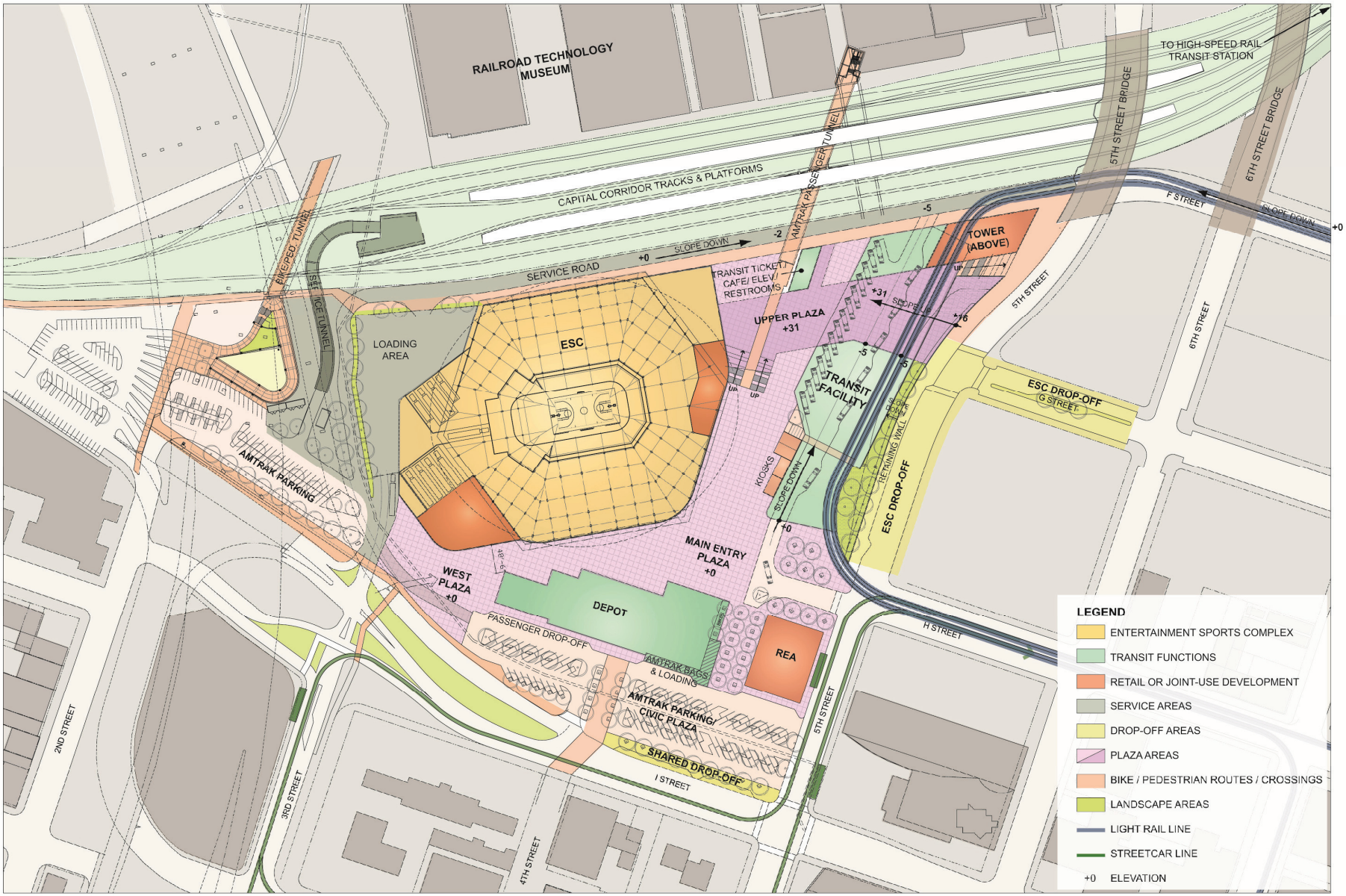
Today this alternative site is largely vacant, with the exception of the umbrella sheds or canopies that formerly provided protection for passengers awaiting trains (before the tracks were moved to the north). The umbrella sheds are constructed of steel beams and posts with wood slats forming the roofs. The sheds extend for approximately 1,000 feet along the former track alignment immediately north of the Depot. The remainder of the Alternative 2 site has been extensively graded, and is composed of exposed soils and temporary roads.

Similar to the Proposed Project, under Alternative 2 the Railyards ESC would be an approximately 779,000 square foot facility providing a venue for sports and entertainment events. The Sacramento Kings offices and practice facilities would be constructed on the site. The Railyards ESC would have the same number of seats—17,500—as the Proposed Project, and it is assumed that event attendance levels would be essentially the same, an estimated 1.5 million attendees per year.

Aside from removal of the existing umbrella sheds, described above, no other demolition would occur.

Unlike to the Proposed Project, under Alternative 2 excavation to lower the event floor of the ESC would be limited by local infrastructure and concerns about past soil and groundwater contamination. Aside from minor excavation for the purposes of delivery of wet and dry utilities, it is assumed that the ESC under Alternative 2 would be constructed above grade.

[2] AECOM and Fehr & Peers. *Entertainment & Sports Complex and Intermodal Transportation Facility Briefing Paper*. April 2012.



SOURCE: City of Sacramento, 2012

Sacramento Entertainment and Sports Center & Related Development EIR . 130423

Figure 6-1
Alternative 2 – Railyards ESC

The architectural character of the Railyards ESC would be similar to the Proposed Project. Because of the lack of excavation, it is assumed that the building facades would range in height from approximately 110 to 180 feet above the surrounding grade. The structure would be generally round with rectilinear edge buildings that would accommodate practice facilities and offices. The main façade would be transparent glazing, with glass curtain walls along the walls facing the plazas.

The main entry would be located on the east/southeastern portion of the buildings, between the ESC and the Depot, with additional entry points to the northeast and southwest. The main plaza would serve as a parking lot and drop-off area for rail passengers during the day on weekdays. During evenings and on weekends the plaza would be restricted to pedestrians and only limited drop offs. A loading area would be provided on the west side of the site, situated between the ESC and Interstate 5. The ESC at the Railyards would be constructed and operated in a manner similar to the Proposed Project, with a variety of measures intended to minimize water and energy use. Under this alternative, it is assumed that the applicant would seek LEED Gold certification in order to qualify under SB 743 (Public Resources Code section 21168.6.6).

As shown in Figure 6-1, the layout of the Railyards ESC would be designed to accommodate and interact with the adjacent Sacramento Intermodal Transportation Facility (SITF), which serves as the City's passenger rail hub for Amtrak, RT light rail, and buses. Phase 1 of the SITF has been completed and includes the relocated track, new passenger rail platforms, a pedestrian tunnel connecting the new platforms with the Depot to the south and Central Shops to the north. Phase 2 is the rehabilitation of the Depot, currently underway, which will continue to serve as the station for passenger rail. A third phase, not yet begun, would create a multi-building, intermodal district in the area between the Depot and the new platforms. Under Alternative 2, Phase 3 of the SITF would be concentrated along 5th Street, closest to the planned location of the terminus of the future California High Speed Train rail line, and adjacent to the recently constructed central pedestrian tunnel.

Access and Parking

Primary access for vehicles to the Railyards ESC site would be provided from I-5 via the Richards Boulevard interchange and J Street off-ramps, from SR 160 via Richards Boulevard and the future Railyards Boulevard, and from the Central City via 5th Street and 6th Street. Amtrak, Regional Transit (RT) light rail, and RT and other regional transit service buses could transport event attendees to the project site. Passenger drop-off areas would be provided in front of the Depot, adjacent to the Depot on 5th Street, and on G Street immediately east of 5th Street. Limited surface parking would be allowed in front of the Depot during the day on weekdays.

Plazas between the ESC and the SITF would enable pedestrians to move between these facilities without interference by vehicles. No public roads would be constructed within the Railyards ESC site. A new limited-access roadway for delivery, maintenance, and emergency vehicles only would be constructed along the western and northern borders of the site connecting 3rd Street to F Street.

Parking would be provided primarily in off-street parking spaces located in structures within one-half mile of the Railyards ESC site. There are approximately 11,250 off-street parking spaces

within a half mile of the Railyards ESC site. Over 5,000 of these spaces are controlled by the City, many of which are located in structures beneath I-5 and within the Downtown Plaza superblock. In addition to the City-owned spaces, Sacramento County has over 1,600 off-street spaces that are located within a half mile to the east of the site.

A new parking structure with 1,000 or more parking spaces would be constructed within two blocks of the Railyards ESC to serve premium ticketholders, players and team staff. The new parking structure would likely be located within the Railyards or on other nearby vacant parcels.

Downtown Project Site

Under this alternative, it is assumed that the proposed SPD would be developed at the same levels identified under the Proposed Project, including 550 residential units, 250 hotel rooms, 350,000 square feet of retail uses, and 475,000 square feet of office uses. Under this alternative, this development would occupy a similar footprint as the Proposed Project, except that setbacks from existing historic buildings around the site would increase to provide noise buffers (see Figure 6-2).

Comparative Analysis of Environmental Effects

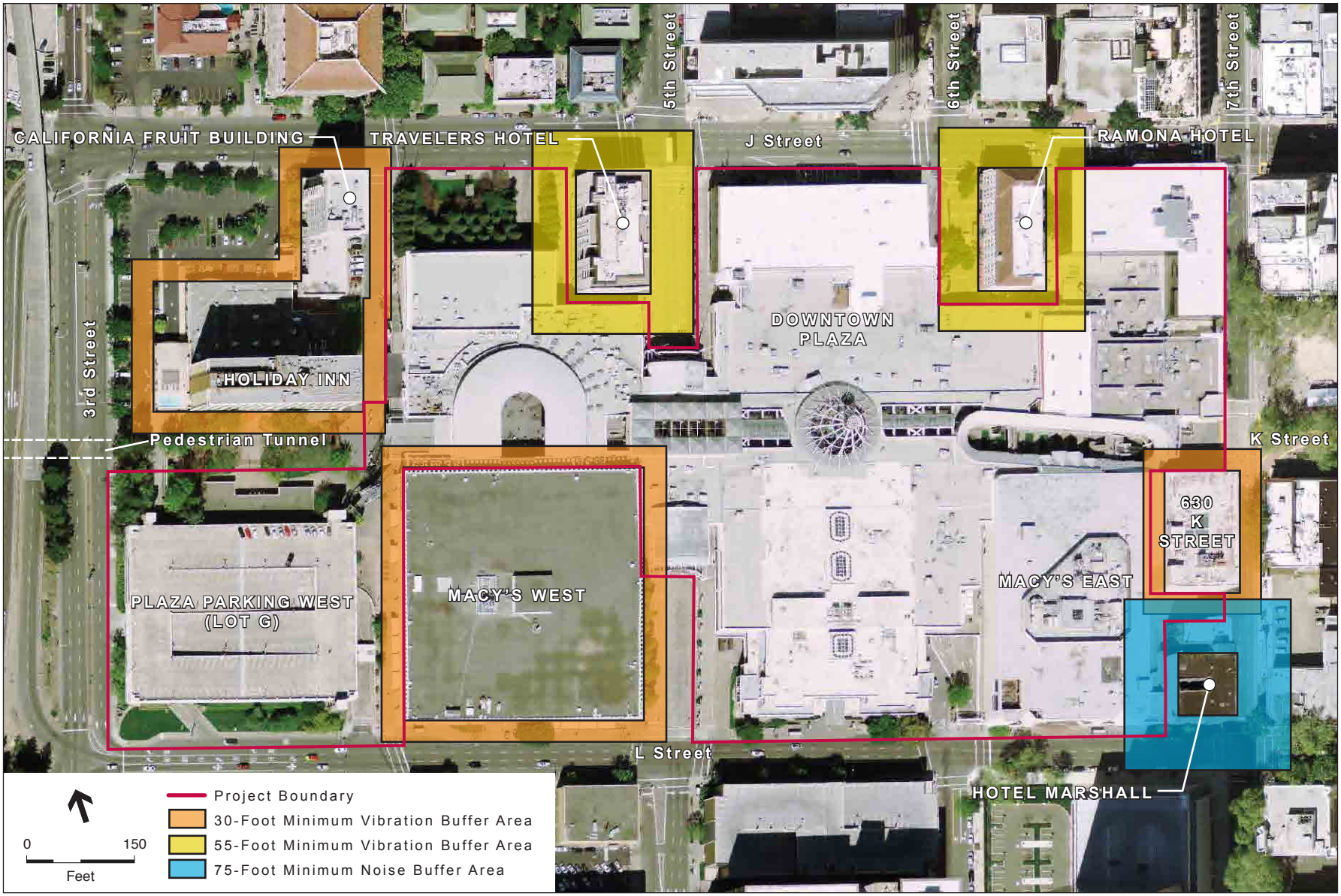
Table 6-5 at the end of this chapter provides an impact-by-impact comparison of the significant impacts of the Proposed Project and Alternative 2.

Impacts Identified as Being the Same or Similar to the Proposed Project

Because essentially the same square footage would be constructed Under Alternative 2 as under the Proposed Project, construction-related impacts, such as construction emissions (Impacts 4.2-2, 4.2-4, 4.2-8, 4.2-10), would be similar to those described for the Proposed Project.

Alternative 2 is assumed to require similar levels of excavation and the same number of piles for the ESC and SPD areas, so impacts related to dewatering and pile driving would be similar to the Proposed Project. Soils at the Railyards ESC site have been remediated, so there is little likelihood that construction workers would be exposed to contaminated soils (Impact 4.6-1). However, as with the Downtown ESC site and the SPD area, there is some possibility that there are contaminated soils at the levels where excavation would occur. Mitigation Measure 4.6-1 would ensure that such soils are properly identified and remediated if encountered during construction, so workers would be protected from exposure. The South Plume that emanates from the former Central Shops in the Railyards flows beneath a portion of the Railyards ESC site (see Figure 4.6-1), so dewatering impacts could interfere with remediation of the South Plume (Impacts 4.6-4 and 4.6-6). Development of the SPD area could also interfere with groundwater remediation if excavation and/or pile driving were necessary. Mitigation Measure 4.6-4 would ensure that dewatering activities would not substantially interfere with the remediation activities under both the Proposed Project and Alternative 2, reducing the impact to a less-than-significant level.

According to Figure 6.3-1 of the Railyards Specific Plan, the Railyards ESC site is not in area of archaeological sensitivity (Impacts 4.4-2 and 4.4-5). The geological conditions at the Railyards ESC are similar to the Downtown ESC site, so there is little likelihood that paleontological



SOURCE: USGS, 2011; ESA, 2013

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Figure 6-2

Alternative 2 – Noise and Vibration Buffer Areas

resources would be present at either site (Impacts 4.4-3 and 4.4-6). Nonetheless, as with the Proposed Project, there is the possibility that archaeological and/or paleontological resources could be discovered at either site and in the SPD area during excavation. Mitigation Measures 4.4-2 and 4.4-3 would reduce these impacts by requiring that work stop if such resources are uncovered, and that the resources be appropriately evaluated and treated. For these reasons, impacts on archaeological and paleontological resources would be similar to the Proposed Project.

Both the Proposed Project and Alternative 2 would include development of the SPD area with high-rise buildings that, if clad in reflective surfaces, could cause glare that would be visible from L Street and 7th Street when the sun is low. Mitigation Measure 4.1-3 prohibits highly reflective mirrored glass walls for more than 35% of building facades within the SPD, which would reduce the impact to a less-than-significant level by ensuring that substantial amount of glare would not be created.

Like the Proposed Project, under Alternative 2 the Railyards ESC would be constructed to LEED Gold standards, and the increase in mixed-use development at the Downtown Plaza project site would be identical. Similar to the conditions created for the Proposed Project, there would be substantial reductions in VMT per attendee due to the Railyards ESC location, although the reduction in VMT would not be as great as under the Proposed Project for Existing plus Project conditions. Under Existing plus Project conditions, transit ridership to the Railyards ESC would be somewhat lower than predicted for the Proposed Project because only one of RT's three light rail transit (LRT) lines currently serves the Railyards location. The Gold LRT Line connects the Railyards site to Rancho Cordova and Folsom along the Highway 50 Corridor. The closest stops on the Blue LRT line are six to eight blocks away from Railyards ESC site, requiring patrons to either walk more than one-half mile or take the Gold Line and transfer at one of the K Street stops. The closest stops on the Green LRT line are four blocks away from the SITF. The Railyards ESC site would have similar trip lengths to the Downtown Project site. As a result of somewhat lower transit usage, VMT levels for the Railyards ESC would not be reduced quite as much as under the Proposed Project.

As a result of changes in estimated future VMT, impacts on traffic, operational air emissions (Impacts 4.2-3 and 4.2-9), and traffic noise (Impacts 4.8-1 and 4.8-6) would be similar to, but slightly higher than the Proposed Project.

Both the Proposed Project and the Railyards ESC would rely on existing parking resources, so traffic distribution within the downtown would be similar, with a couple of exceptions. Under Alternative 2, the parking garages under Downtown Plaza may not be removed and would be available to accommodate event attendees. An approximately 1,000-space garage for preferred parking would be constructed within one or two blocks of the Railyards ESC site, and drop offs would be located on Fifth Street and G Street, so some traffic could shift toward 5th Street, G Street, H Street and 7th Street as well as the connecting streets.

Conditions on City streets and Caltrans facilities would change slightly due to two factors. First, as discussed above, there could be a slight reduction in transit use because only one LRT line serves the Railyards ESC site at present, compared to three lines serving the Proposed Project

site. Second, as discussed above, traffic distribution would change. Congestion levels at the I-5/Richards Boulevard interchange off-ramp intersections would be higher for Alternative 2 than under the Proposed Project. At the same time, congestion levels at the 3rd Street/J Street intersection would be lower for Alternative 2 than the Proposed Project as a result of the greater use of the I-5/Richards interchange (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-11, 4.10-13 and 4.10-14). Mitigation Measures 4.10-2 and 4.10-3 would therefore be required for both the Proposed Project and Alternative 2, and the impacts would remain significant in both cases because the mitigation would be under the purview of another agency (Caltrans). Mitigation Measure 4.10-1 which requires preparation of an Event Transportation Management Plan (TMP) to address travel associated with ESC events, and would reduce congestion on the local street system during such events. The redistribution of traffic under Alternative 2 would not change the impact on West Sacramento facilities (Impact 4.10-12). There is no feasible mitigation for the impacts on West Sacramento streets.

Because the Downtown and Railyards ESC sites are in close proximity to one another, the development levels in the SPD are assumed to be the same, impacts on Light Rail (Impact 4.10-6 and 4.10-17) would be similar. As discussed above, ridership on LRT would not increase as much under Alternative 2 (for Existing plus Project conditions), but would still be significant. Mitigation Measure 4.10-6 would reduce impacts on Light Rail, but the required improvements would be under the control of Regional Transit rather than the City, so the impact would remain significant and unavoidable.

Alternative 2 would increase demand for water and wastewater treatment by the same amount as the Proposed Project, because the size of the ESC and the amount of mixed-use development would be the same. While the City has adequate water supply under existing conditions, under some drought conditions there could be periodic shortfalls due to limited conveyance capacity (Impact 4.11-3). Both the Downtown project site and the Railyards ESC site discharge wastewater and storm drainage to the City's combined sewer system (CSS). Because they would have the same attendance and operational characteristics, the peak flows from the ESC at either the Proposed Project site or at the Alternative 2 Railyards site could exceed the capacity of the CSS (Impacts 4.11-5 and 4.11-7). Mitigation Measure 6.11-2 of the 2007 Railyards Specific Plan EIR requires that the City limit development in the Railyards so that combined wastewater and sewer flows to not exceed 5 cfs until the proposed cistern is built and/or the CSS is improved. Given the pace of development at the Railyards, it is unlikely that these improvements would be on line before the ESC is constructed in 2015. However, Mitigation Measure 4.11-5 of this Draft EIR requires that the project applicant manage wastewater, drainage and dewatered groundwater so that the capacity of the CSS is not exceeded. This measure would also fully mitigate the impact on the CSS if the ESC were constructed in the Railyards.

Impacts Identified as Being Less Severe than the Proposed Project

Compared to the Downtown ESC site, the Railyards ESC site is relatively free of immediately adjacent residential uses, and generally is surrounded by non-residential uses, including the Depot, the UPRR tracks, the I-5 freeway, and the SITF site. Residential and other sensitive uses are located farther from the Railyards ESC site (approximately 600 feet to the south, across J Street and 700 feet to the east, across 7th Street). Consequently, impacts that affect residents,

hotel occupants and similar sensitive receptors would be less severe under Alternative 2. For example, construction lighting would be similar to the Proposed Project, but it would occur farther from sensitive receptors, so the impact would be less severe (Impact 4.1-2). Similarly, outdoor amplified noise could be disruptive at nearby residences (Impacts 4.8-2 and 4.8-7), but this impact would not be as severe as under the Proposed Project.

The Railyards ESC site has been excavated during soil remediation and thoroughly graded. The site does not contain vegetation. Therefore, the loss of street trees (Impacts 4.3-4 and 4.3-8) and disturbance of nesting raptors and migratory birds and (Impacts 4.3-2 and 4.3-6) would be confined to the SPD area. Although the impact would be lessened under Alternative 2, mitigation would still be required due to the number of trees in the SPD area.

Under Alternative 2, the ESC would not be built adjacent to Hotel Marshall, but the loading dock could still be removed to accommodate mixed-use development. If so, Mitigation Measure 4.4-1a would reduce the impact to a less-than-significant level. The Railyards ESC would be far enough from the historic Depot and Central Shops that construction activities, including pile driving would not create a risk of damage at these buildings. However, mixed-use development in the SPD area could still be in proximity to historic buildings. Pile driving within 55 feet of historic buildings and 30 feet of non-historic buildings could result in damage. Given the configuration of the Downtown Project site, it may not be feasible to create setbacks from existing buildings to fully protect them from vibration (Impacts 4.4-1, 4.4-4, 4.8-4 and 4.8-9). Pile driving in the SPD area could also disrupt nearby residences (Impacts 4.8-3, 4.8-4, 4.8-8, and 4.8-9). While residents nearest the Railyards ESC would not be subject to vibration impacts, they are close enough to experience construction noise, particularly if construction occurs outside of normal hours. For these reasons, impacts related to vibration and construction noise would be reduced under Alternative 2, but would still be significant. Therefore, Mitigation Measure 4.8-3a would be required of Alternative 2. This measure specifies steps to be taken before, during and after construction in order to protect buildings from vibration impacts and to minimize disturbances due to noise and vibration at nearby residences.

Under the Proposed Project, interior noise levels at local residences could exceed City standards due to the proximity of I-5, HVAC equipment and outside amplification of events at the ESC (Impacts 4.8-1, 4.8-2, 4.8-6, and 4.8-7). Under Alternative 2, residences constructed in the SPD area could be exposed to freeway, loading dock and HVAC noise, so Mitigation Measures 4.8-1a, which requires that HVAC equipment and loading docks be located away from residences and/or shielded, and 4.8-2a, which requires that residential buildings be designed to ensure acceptable interior noise levels, would be required of Alternative 2. Noise from the Railyards ESC would be farther from existing and future residences, so outdoor amplification would not be as disruptive. Nonetheless, an acoustical evaluation would be needed to demonstrate that the outdoor amplification system meets City noise standards, as required by Mitigation Measure 4.8-1b, during construction activities, particularly pile driving.

Under Alternative 2, bus stops on L Street would not need to be removed, so impacts on bus transit (Impact 4.10-5 and 4.10-16) would not occur, and Mitigation Measures 4.10-5 would not be required.

The Proposed Project would require curbside lane closures during construction, which could disrupt vehicular, pedestrian, bike and transit traffic (Impacts 4.10-10 and 4.10-21). Mitigation Measure 4.10-10 requires a Construction Traffic Management Plan, which would reduce this impact to a less-than-significant level. Under Alternative 2, most construction staging would likely occur on site, so the impact would be less severe.

There are no 115-kV power lines or related facilities buried within the Railyards site, so no impact would occur (Impact 4.11-12).

Impacts Identified as Being More Severe than the Proposed Project

The SPD area is the only portion of the Proposed Project that contains a landscaped area (approximately one-half acre). If this area is developed with impervious surfaces, then there would be an increase in stormwater runoff that would be discharged to the CSS and/or Basin 52, both of which are at capacity during flood events (Impacts 4.7-2 and 4.7-5). Because the Railyards ESC site is exposed dirt that would be covered with impervious surfaces, under Alternative 2 there would be a greater impact on runoff than under the Proposed Project. In either case, the impact would be reduced to a less-than-significant level with implementation of Mitigation Measure 4.7-2, which would require management of stormwater flows. The Railyards ESC site is constrained so it might not be possible to detain stormwater onsite. The City currently anticipates that a detention basin will be constructed north of the tracks and west of the Central Shops to serve early year development in and around the SITF. The current plans for the detention basin do not accommodate the runoff that would come from the development of an ESC at the Railyards site. One option would be to increase the size of this basin. Another option would be to provide an additional detention facility elsewhere in the Railyards. In either case, construction and operation of a detention basin could have additional offsite impacts.

Alternative 2 could result in pedestrian circulation with a greater effect on traffic operations than the Proposed Project (Impacts 4.10-8 and 4.10-19). Under Alternative 2, access to the I Street on-ramps to I-5 could be impeded by pedestrian crossings of I Street to access the Railyards ESC during both pre-game and post-game periods. The SITF site would have no vehicle access and limited pedestrian access from the west and south, which means that access to the SITF site would be highly concentrated at the 5th Street/H Street intersection. Very limited parking would be provided on the SITF site, so virtually all of the 17,500 attendees at a Kings basketball game would walk in and out of the site from the south or east. This level of pedestrian traffic would cause high levels of congestion at the intersections adjacent to the SITF on I Street and 5th Street during the pre-game and post-game periods. Mitigation Measure 4.10-8 would reduce this impact to a less-than-significant level by requiring upgraded traffic signals and timing, increased crosswalk widths and other measures to control pedestrian circulation.

Relationship to Project Objectives

Alternative 2 would meet most of the project objectives to some degree, but not to the same extent as the Proposed Project. Alternative 2 would result in a state-of-the-art entertainment and sports center to serve as the long-term home of the NBA Sacramento Kings, and develop up to1.5 million square feet of mixed use development (office, hotel, retail, and residential) within the property formerly known as Downtown Plaza. The ESC would be a technologically advanced,

sustainable building that could be used for major entertainment and civic events, and the ESC and SPD would be located in an area where it would be maximize density and meet smart growth principles, be compatible with and enhance the surrounding area, and could catalyze redevelopment of previously blighted areas. The ESC would serve as a destination catalyst for development in the downtown. The Railyards ESC would be served by public transportation, including rail, light rail and buses, bike and pedestrian facilities, and existing streets, highways and parking facilities that have adequate capacity to accommodate ESC traffic. The design would be the same as the Proposed Project, so it would meet the design and layout objectives.

The Railyards ESC may not meet the project objective relating to locating the ESC on a site that can be readily assembled and that enables the development of the facility within budget and on schedule to meet the applicant's commitments to the NBA and the City of Sacramento. The Railyards ESC is under one ownership (the City), but is not controlled by the applicant. In addition, the site is constrained by its size and the proximity of the SITF. An August 2012 Briefing Report identified the following difficulties with locating an arena at the Railyards site:

> Compromised Program Functions. Existing site features–the small size of the site, constrained access, site grading, constructed tunnels, utility lines, and other physical constraints on the site–limit potential development solutions such as the ability to lower the ESC facility below grade. To enable the successful function of both the ESC and SITF on the project site, the optimal performance of each facility may be compromised or cause inconveniences which will need to be recognized and deemed acceptable by site users and stakeholders and/or functions accommodated elsewhere such as those described below.
>
> - Spaces needed for loading areas of the ESC site are minimal
> - Pedestrian plaza spaces are tight for the ESC event functions and need to be designed to allow pedestrian activities to safely overflow onto public right-of-ways and in the adjacent areas of the Downtown
> - VIP and patron parking for the ESC will need to be provided off-site though possible parking opportunities are nearby and within a walkable distance of the site
> - The number of bus berths would be limited by the size of the facility that can be fitted on the site; thus, potentially requiring exploration of other sites
> - Transit patrons would mix with ESC patrons in the plaza areas that accommodate their shared circulation and service needs, especially during events at the ESC which may be a frustration for transit users

In addition, despite the proximity to the SITF, Alternative 2 would not be as accessible to public transportation as the Proposed Project. As documented above, the Alternative 2 site would be accessible to one RT LRT line compared to the three lines that are immediately adjacent to the Proposed Project site. Further, the Proposed Project site is proximate to bus stops used by numerous RT and regional transit bus service providers, and is better served than the Alternative 2 site.

Under Alternative 2, the ESC site is more constrained in terms of accessibility of the local street and highway system than the Proposed Project. Situated between J and L Streets, the Proposed Project site is readily served by the CBD's grid street system, and is readily accessible from I-5 at I, J, L, and P/Q Streets. Conversely, the Railyards ESC site is highly constrained with vehicular accessibility limited to access from H, I, and 5th Streets.

Compared to the Proposed Project, Alternative 2 would fail to enhance connections through the downtown area. Since it would be relatively isolated on the Railyards site, Alternative 2 would not provide the connectivity of the Proposed Project between Old Sacramento and the K Street corridor.

6.4.4 Alternative 3: ESC in Natomas

Description

Under this alternative, a new ESC would be constructed on property owned by the project applicant and/or the City of Sacramento near the existing Sleep Train Arena. The Natomas ESC would be similar in size, function and character as the Proposed Project. Downtown Plaza is assumed to have improved operations, with the same occupancy levels as Alternative 1 (see Table 6-3).

Natomas ESC

The Alternative 3 site would be within the Sleep Train Arena complex, which is located south of Del Paso Road, east of Interstate 5, west of Truxel Road and north of Arena Boulevard in North Natomas. The Alternative 3 site would be located within approximately 200 acres of land owned by the Sacramento Kings and the City of Sacramento, composed primarily of paved parking lot and vacant land. A partially constructed and now-abandoned baseball stadium is located in the northern portion of the site. Sleep Train Arena is located in the central portion of the site. The southern portion of the site is dominated by the Sleep Train Arena surface parking lot. The Alternative 3 site is shown in Figure 6-3.

The Alternative 3 site is surrounded by a perimeter access road on the south, west and eastern boundaries. Surrounding land uses include two-story office buildings and parking lots to the north, vacant land to the east, multifamily residential development to the southeast, vacant land and multifamily residential development to the west.

For purposes of this analysis, it is assumed that the Natomas ESC would likely be constructed on the existing parking lot to the southeast of the existing Sleep Train Arena. Access would be the same as the current access for Sleep Train Arena, with entrances connecting to East Commerce Way and Truxel Road. The Alternative 3 ESC footprint would occupy approximately six acres. The building would be approximately 700,000 square feet and would have a maximum occupancy of 17,500 seats. As with the Proposed Project, the new ESC would include expanded amenities including food service, locker rooms, and other facilities.

Under this alternative, the existing Sleep Train Arena would be demolished after opening of the new ESC.

SOURCE: Microsoft, 2012; ESA, 2013

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Figure 6-3
Alternative 3 – Natomas ESC

The existing parking lot has over 12,000 spaces, which is more than adequate to provide parking for attendees even at sold out events. The new ESC would displace a portion of those spaces, so the current Sleep Train Arena site would be paved and striped for parking after the existing arena is demolished.

The Natomas ESC would be built to LEED Silver standards as is required for all City-owned buildings. It is assumed that it would not be designed to be LEED Gold, nor would it qualify as a Downtown arena under SB 743.

Downtown Plaza

Under Alternative 3, occupancy rates at the Downtown Plaza would be expected to return to 2004 levels. Table 6-3 shows the occupied square footage by business type in Downtown Plaza.

There would be no new hotel or residential uses under this alternative.

Comparative Analysis of Environmental Effects

Table 6-5 at the end of this chapter provides an impact-by-impact comparison of the significant impacts of the Proposed Project and Alternative 3.

Impacts Identified as Being the Same or Similar to the Proposed Project

None of the impacts of Alternative 3 were found to be the same or similar to the Proposed Project.

Impacts Identified as Being Less Severe than the Proposed Project

Under this alternative, no new development at the Downtown project site would occur, so impacts associated with construction, such as construction emissions (Impacts 4.2-2, 4.2-4, 4.2-8 and 4.2-10), would be reduced. Nonetheless, these impacts could be significant for the ESC and would require mitigation to reduce these impacts to a less-than-significant level. The Natomas ESC site is completely paved with the exception of the existing Sleep Train arena. There is no native vegetation or buildings over 45 years of age on the site, so damage to historic buildings would not occur (Impact 4.4-1). Also, groundwater under the Natomas ESC site is not known to be contaminated, so construction at that location would not interfere with remediation efforts (Impacts 4.6-4 and 4.6-6).

There are multifamily residences located immediately to the west and south across Sports Parkway, the perimeter road that surrounds the Sleep Train arena parking lot. In addition, there are multifamily residences to the east of Truxel Road, approximately 1,500 feet to the east. Assuming that the new ESC was constructed adjacent to the existing arena, the nearest residence could be within 500 feet of the construction site. With these distances, it is likely that construction noise would not be significant unless pile driving (rather than the auger drilling technique) were used (Impacts 4.8-3 and 4.8-8). Construction trucks would likely pass-by residential receptors, and if this were to occur outside the allowable hours described in the noise ordinance, it could also be potentially significant. Similarly, potential construction PM10 emissions (Impacts 4.2-4

and 4.2-10) would be great enough that Mitigation Measure 4.2-4 would be required to reduce the impact to a less-than-significant level.

Operational emissions of ROG and NOx would increase only slightly due to the increased capacity of the ESC (Impacts 4.2-3 and 4.2-9), and would not exceed SMAQMD standards.

There are no historic buildings in the vicinity of the Alternative 3 site, and surrounding residences and commercial buildings would be a sufficient distance from construction and demolition activities that vibration from demolition of the existing arena and pile driving would not damage existing (Impacts 4.4-1, 4.4-4, 4.8-3, 4.8-4, 4.8-8 and 4.8-9). Mitigation Measure 4.4-1 would not be required for Alternative 3; however, local residents could be disturbed by construction noise, particularly pile driving and heavy equipment on local roads, so Mitigation Measure 4.8-3 would still be required. Nevertheless, the level of disturbance would be lower for Alternative 3 than the Proposed Project, because the distance to residences would be greater (approximately 500 feet for Alternative 3 compared to almost no separation for the nearest residents at the Downtown Project site).

There are no known contaminated sites in proximity to the Natomas ESC site.[3] Nonetheless, there is always the risk of exposure to unexpected contaminated soils (Impact 4.6-1). This impact would be less severe under Alternative 3 than under the Proposed Project because the area to be disturbed would be reduced as a result of the lack of development in the SPD area. Nonetheless, Mitigation Measure 4.6-1 would be required to reduce the impact to a less-than-significant level.

The Natomas ESC would create light during construction (Impacts 4.1-2), but the sensitive receptors would be farther away, and none are immediately adjacent to the site, so the impact would be less severe.

According to the City's General Plan MEIR (Figure 6.4-1), the Natomas ESC site is not considered sensitive for cultural resources. Nonetheless, there is a possibility that unexpected archaeological resources could be discovered during excavation (Impacts 4.4-2 and 4.4-5). Therefore, Mitigation Measures 4.4-2, which requires that if such resources are uncovered work must stop and the resources be appropriately evaluated and treated, would be required of Alternative 3. The impact would be less severe than the Proposed Project, because the area to be disturbed would be smaller since the SPD area would not be developed.

The ESC design contemplates substantially more exterior lighting than the existing Sleep Train Arena. Therefore, Alternative 3 would generate additional light on the site (Impact 4.1-2). Due to the distance to the nearest residence (about 500 feet from the Alternative 3 site), the potential impact of spillover light would be less severe than under the Proposed Project. Under Alternative 3 ESC lighting would not spillover onto residential properties, but could be visible, and depending on brightness and character, could be considered disruptive. As with the Proposed Project, Mitigation Measure 4.1-2 would reduce this impact to a less-than-significant level.

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3 Envirostor, 2013. *California Department of Toxic Substance Control, DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List).* http://www.envirostor.dtsc.ca.gov/public/profile_reort.asp?global_id= 34240036. Accessed November 7, 2013.

Under Alternative 3, the SPD area would not be developed, so there would be no high-rise structures added to the Downtown Project site that could, if clad in reflective materials, create glare (Impact 4.1-3). Unlike the Downtown ESC, the Natomas ESC would be surrounded by open land, and would be visible from Interstate 5, similar to the existing Sleep Train Arena. The new ESC would have large glass surfaces, but would be far enough from the freeway that it would not disrupt drivers. Therefore, this impact would be less than significant, and Mitigation Measure 4.1-3 would not be required.

Residences near the Natomas ESC site would be too far removed to be disturbed by HVAC equipment noise, but due to a lack of intervening buildings that would attenuate noise levels, could be affected by outdoor amplified noise (Impacts 4.8-1, 4.8-2, 4.8-6 and 4.8-7). The impact would be less severe than under the Proposed Project, but would require implementation of Mitigation Measure 4.8-1 to reach a less-than-significant level.

Because traffic patterns would be the same as existing conditions, no new development would occur within the SPD area, and there would be only a minor increase (one percent) in the number of trips (due to the number of seats). Alternative 3 would therefore result in less-than-significant impacts on City streets (Impacts 4.10-1 and 4.10-11), Caltrans facilities (Impact 4.10-2 and 4.10-13), and J Street off ramps (Impact 4.10-3 and 4.10-14), and no impact on West Sacramento facilities (Impact 4.10-12).

Since this alternative would not alter attendee mode split or trip lengths, traffic conditions would be unchanged. Alternative 3 would not reduce the average attendee VMT, which is an environmental benefit of the Proposed Project. In addition, the reductions along several segments of Interstate 5, Interstate 80 and US 50 (see page 4.10-40) would not occur under Alternative 3. However, if this alternative was designed with preferential carpool parking (or a reduced parking cost for vehicles with three or more people) or if convenient bus service was added to the site design, it is possible that vehicle trips could be equal to or less than the current condition.

Like the Proposed Project, this alternative would likely require the development of a Construction Traffic Management Plan to identify the number of trucks, haul routes, employee parking, lane closures, and other conditions (Impacts 4.10-10 and 4.10-21). Traffic associated with construction activity would be very modest when compared to an event at the arena. Given the number of arterial roadways, freeways, and interchanges that can be used to access the site, it is unlikely that there would be any material construction traffic impacts.

Light Rail does not currently extend to the Natomas ESC site (although the future RT Green Line LRT route would pass by the Natomas ESC site), and bus service is much more limited than in the vicinity of the Downtown Project site. There is no substantial pedestrian travel to and from the Natomas ESC site. Because of the lack of accessibility of the site from non-automotive modes of travel, there would be no impacts on bus transit (Impact 4.10-5 and 4.10-16), LRT (Impact 4.10-6 and 4.10-17), or pedestrian facilities (Impact 4.10-8 and 4.10-19) under Alternative 3.

The Natomas ESC site is not connected to the Combined Sewer System, and the increase in peak wastewater generation would be slight because the number of seats would increase by only 1%

under Alternative 3. Therefore, for Alternative 3 impacts on the City's CSS would not occur (Impacts 4.11-5 and 4.11-7), and no mitigation would be required.

There are no 115-kV power lines or related large facilities buried within the Natomas site, so no impact would occur (Impact 4.11-12).

Impacts Identified as Being More Severe than the Proposed Project

The Natomas ESC site is composed of parking lot and landscape trees. The trees would need to be removed to accommodate project construction (Impacts 4.3-4 and 4.3-8). Raptors and/or migratory birds could use the trees for nesting (Impacts 4.3-2 and 4.3-6). Mitigation Measures 4.3-2 and 4.3-4 would reduce these impacts to a less-than-significant level for both Alternative 3 and the Proposed Project, but because there are more trees present on the Natomas site, the impact would be more severe under Alternative 3.

The Natomas ESC site is located within the 100-year floodplain, so the risk of flooding would be greater than under the Proposed Project (Impacts 4.7-2 and 4.7-5). In addition, specific requirements for constructing improvements in the current flood zone apply (see below), and until these are addressed building at the site is not feasible. Depending on the timeframe in which the building requirements are changed, it is possible that construction of the ESC at the Alternative 3 site would be delayed by a year or more. The Natomas ESC would not substantially increase the number of attendees, so the increased risk to attendees would change only slightly over existing conditions. Also, because the ESC site is already paved, there would not be an increase in impervious surface or stormwater runoff, so flood conditions would not be worsened.

The primary concern with the Natomas location relates to requirements for new construction in floodplains. Based on the FEMA FIRM maps, Sleep Train Arena is located at a base flood elevation of 33 feet.[4] If the Natomas ESC were to be constructed before flood control measures improve conditions, the building would need to have the lowest floor, including basement, elevated to at least 34 feet, or (i) be dry flood-proofed below the elevation required for the lowest floor so that the structure is watertight with walls substantially impermeable to the passage of water; (ii) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and (iii) be certified by a qualified registered professional engineer or licensed architect to be in compliance with the standards of this subsection (see Sacramento City Code section 15.104.050, http://www.qcode.us/codes/sacramento). It is reasonable to assume that these requirements would not be feasible, and that the result would be a delay in project construction.

Alternative 3 would not achieve the VMT reductions that would be attributable to the Proposed Project. Nonetheless, because the point of comparison (baseline) would be the existing conditions at Sleep Train Arena, the additional emissions generated by vehicles would be slight, because the seating capacity would increase only slightly (by 187 seats, or about one percent more than current capacity). The new ESC would be LEED silver, so it would be more energy and water

[4] Federal Emergency Management Agency, 2013. *National Flood Insurance Program, Flood Insurance Rate Map (FIRM), City of Sacramento, California, Sacramento County, Map Number 0602660045G*. http://www.cityofsacramento.org/utilities/FEMA_MAPS/P0045.pdf. Accessed November 15, 2013.

efficient than the existing arena. For these reasons, air emissions would increase, but likely not enough to exceed SMAQMD standards (Impact 4.2-1).

The Alternative 3 site appears to be a mix of basin deposits and the Riverbank Formation. The Riverbank Formation is considered highly sensitive for fossils in Sacramento – the majority of identified paleontological resources in Sacramento County have been discovered within the formation. Important fossils were recovered from excavations in Sacramento County at the Arco Arena in 1989, including remains of ground sloth, dire wolf, horse, rabbit, birds, wood rat, bison, camel, coyote, antelope, deer, and mammoth, as well as clams, fish, turtles, frogs, snakes, and land plant wood, leaves, and seeds.[5] In contrast, the Downtown Project site is considered to have low sensitivity for paleontological resources. If the depth of excavation and pile driving exceeds prior excavations, ESC construction at the Alternative 3 site could damage or destroy such resources, if they are present (Impacts 4.4-3 and 4.4-6). Nonetheless, like the Proposed Project, Mitigation Measure 4.4-3 would reduce these impacts by requiring that work stop if such resources are uncovered, and that the resources be appropriately evaluated and treated. For these reasons, impacts on archaeological and paleontological resources would be similar to the Proposed Project.

Relationship to Project Objectives

Alternative 3 would achieve few of the project objectives, and fail entirely to achieve those related to location. Under Alternative 3, a state-of-the-art entertainment and sports center (ESC) with approximately 17,500 seats that could serve as the long-term home of the NBA Sacramento Kings. The ESC would be located on a site that could be readily assembled, and that should not have extensive budget issues. However, due to the status of the floodplain building regulations, the ESC may not be able to be feasibly built in Natomas by the deadline set by the NBA.

Because the ESC would have similar capacity to the existing Sleep Train arena, the existing streets would be able to accommodate automobile traffic associated with the Natomas ESC Alternative. There is more than enough parking for the ESC at the Alternative 3 site. The Alternative 3 ESC could be designed to be technologically innovative capable of accommodating the Kings and a broad array of other events. The Natomas ESC could be constructed to LEED Silver standards, so that it would be sustainable, but less so than the Downtown ESC, which would be built to LEED Gold standards. Local and regional artists could be tapped to enhance the project. Because the existing Sleep Train arena would be demolished, it would not be reused.

Many of the project objectives are aimed at creating an active, multi-faceted community attraction that enlivens the surrounding area that embodies smart growth principles. The Natomas ESC site is not conducive to these objectives because it is located in a suburban setting, surrounded by a large parking lot, low-density office buildings and two- to three-story multifamily homes. Nor would it be conducive to creating a central, energized district with regular events, activities, or year-round programming that would augment events and games at the ESC. Locating the ESC in Natomas would not catalyze redevelopment of previously blighted areas, because it would essentially replace an existing facility. It is unlikely that an ESC in

[5] Sacramento Area Council of Governments, 2011. *Metropolitan Transportation Plan/Sustainable Community Strategies for 2035 Draft Environmental Impact Report*. December 2011. p. 7-23.

Natomas would become a world-class destination given the lack of supporting amenities (e.g., lodging, restaurants, other urban attractions such as museums) in the vicinity of the site.

The Natomas site is not well served by public transportation, with only limited bus service and no light rail or train service in the immediate vicinity. The site is not likely to become a multimodal place, because the distance to homes, restaurants and other employment centers is too far to be conducive to walking, biking and/or taking transit to events at the ESC. Attendees at the current Sleep Train arena rely overwhelmingly on automobiles to travel to events and this would be likely to continue given the transportation infrastructure.

A number of objectives are tied directly to locating the ESC in the downtown area, including development of 1.5 million square feet of mixed-use space at the Downtown Plaza, establishing a framework for successful development of the Downtown Plaza, connecting with and enhancing downtown from the waterfront to the convention center, and sparking redevelopment of underutilized properties in the Central Business District. These objectives would not be met by Alternative 3 due to its location.

6.4.5 Alternative 4: Reduced Mixed Use

Description

Under this alternative, the ESC would be constructed as described in Chapter 2, Project Description. The SPD area would also be developed, but at a lower intensity and a different mix of uses than under the Proposed Project.

ESC

As stated above, under Alternative 4, the ESC would be identical to the facility described for the Proposed Project, except that the practice facility would be relocated. The ESC would be 697,000 square feet and provide 17,500 seats, along with a practice facility and related space of approximately 82,000 square feet. Annual attendance would be approximately 1.5 million as described for the Proposed Project. The building characteristics would be the same as those described in Chapter 2, Project Description. The 82,000 square foot practice facility would be incorporated into the SPD area, rather than being located adjacent to the eastern side of the ESC.

Downtown Plaza

Under this alternative, the amount of retail/restaurant and office space would be reduced, as shown in Table 6-4. The most substantive differences between Alternative 4 and the Proposed Project would be a 79% reduction in office and a 44% reduction in retail/commercial uses. Residential and hotel uses would be identical to the Proposed Project.

TABLE 6-4
ALTERNATIVE 4:
LAND USE COMPARISON: PROPOSED PROJECT AND ALTERNATIVE 4

Land Use	Proposed Project	Alternative 4	Difference	Percent Reduction
Retail/Commercial	350,000	197,000	153,000	44
Office	475,000	100,000	375,000	79
Hotel	175,000	175,000	0	0
Residential	500,000	500,000	0	0
Total SF	**1,500,000**	**972,000**	**528,000**	35

NOTES: Based on 2004 levels.
SOURCE: ESA, 2013.

For purposes of this analysis, it is assumed that the retail/commercial uses would include the following:

- Retail: 70,000 sf
- Restaurant: 24,000 sf
- Fast Food: 3,000 sf
- Cinema: 50,000 sf
- Health Club: 50,000 sf

This development would occur within the same area as the SPD under the Proposed Project. However, the size of buildings would be reduced. As a result, buildings might have smaller footprints with more public space and/or towers might be more slender and/or shorter than under the Proposed Project.

Comparative Analysis of Environmental Effects

Table 6-5 at the end of this chapter provides an impact-by-impact comparison of the significant impacts of the Proposed Project and Alternative 4.

Impacts Identified as Being the Same or Similar to the Proposed Project

The construction impacts of Alternative 4 that are related to demolition, ground-disturbance and excavation would be similar to the Proposed Project, because the development footprint would encompass the entire Downtown Project site. The level of demolition and excavation would be similar to the Proposed Project. Therefore, disturbance to nesting raptors or migratory birds (Impacts 4.3-2 and 4.3-6), loss of street trees (Impacts 4.3-4 and 4.3-8), damage to archaeological and/or paleontological resources (Impacts 4.4-2, 4.4-3, 4.4-5 and 4.4-6), exposure to contaminated soils (Impact 4.6-1), interference with remediation of the South Plume (Impacts 4.6-4 and 4.6-6), and increased risk of flooding (Impacts 4.7-2 and 4.7-5) would be similar.

Impacts related to the development of residential uses would also be the same as the Proposed Project. The ESC could create outdoor amplified noise that could exceed City noise standards (Impacts 4.8-1, 4.8-2, 4.8-7 and 4.8-9). Project residents could also be exposed to noise from construction, HVAC equipment and outdoor amplification (Impacts 4.8-3 and 4.8-7), which would require mitigation to ensure that the residences are constructed to meet interior noise standards (Mitigation Measure 4.8-3).

Under Alternative 4, the bus stops on L Street would be removed, so access to bus transit would be the same as under the Proposed Project (Impact 4.10-5 and 4.10-16). Impacts on pedestrian facilities (Impact 4.10-8 and 4.10-19) are primarily the result of ESC games and events, which would not change under Alternative 4.

Wastewater generation would be reduced under Alternative 4, because there would be less commercial and retail development. The peak wastewater flows would be similar to the Proposed Project, however, because the ESC would be the same size, and these flows could exceed CSS capacity. The one half-acre portion of the Downtown project site that is currently landscaped could be covered with impervious surfaces under either the Proposed Project or Alternative 4, so both would slightly increase stormwater runoff from the Downtown project site, further exacerbating conditions in the Basin 52 during storm events (4.11-5 and 4.11-7). Mitigation Measure 4.11-5 would reduce the impact to a less-than-significant level for both Alternative 4 and Proposed Project.

Construction of the ESC could damage the existing 115 kV line that runs through the project site (Impact 4.11-12) under either the Proposed Project or Alternative 4 because the footprint would be unchanged.

Impacts Identified as Being Less Severe than the Proposed Project

Because the practice facility would not be located adjacent to the Hotel Marshall and Jade Apartments, pile driving would not occur adjacent to these residential buildings. The loading dock adjacent to the former Macy's East building would be demolished, which would affect interior noise levels at these residences. However, other construction activities would be located more than 75 feet from these buildings, so noise and vibration impacts (Impacts 4.4-1, 4.4-4, 4.8-3, 4.8-4, 4.8-6, 4.8-8 and 4.8-9) would be less severe than under the Proposed Project. The loading dock would be removed, which could result in damage to the Hotel Marshall, so Mitigation Measure 4.4-1a would be required. Construction noise levels would be high enough to disturb residents at night, so Mitigation Measure 4.8-3 would be required.

Impacts associated with the duration of construction and post-grading activities would be similar to the Proposed Project but lessened because the amount of mixed-use development would be reduced. Disturbances from construction lighting (Impact 4.1-2), construction emissions (Impacts 4.2-2, 4.2-4, 4.2-8 and 4.2-10) and construction traffic (Impacts 4.10-10 and 4.10-21) would be reduced, but would still require mitigation.

Given the reduction in commercial and retail square footage, buildings in the SPD area would likely not be as tall as those under the Proposed Project. Therefore, the amount of light and glare

would be reduced somewhat. Nonetheless, light from project buildings could illuminate residences (Impact 4.1-2), and glare on multistory buildings could disrupt drivers (Impact 4.1-3). Therefore, Mitigation Measures 4.1-2 and 4.1-3 would be required to reduce the impact to a less-than-significant level.

By virtue of having substantially less office and retail than the Proposed Project, Alternative 4 would generate significantly fewer vehicle trips than the Proposed Project. In fact, Alternative 4 would generate 700 fewer daily trips than the existing land uses on the site. Therefore, impacts associated with traffic and vehicle emissions would be reduced, including emissions of ROG and NOx (Impacts 4.2-3 and 4.2-9).

Under Alternative 4 (including ESC activities), trip generation would be reduced by 35% during the AM peak hour, 42% during the PM peak hour, and 13% during the pre-event peak hour. The assumed activities at the ESC during each peak hour, which would be unchanged by this alternative, heavily influence the project's trip generation. Impacts on City streets and I-5 (including LOS impacts to segments and queuing at the I-5 off-ramps at J Street) would remain with this alternative, although the severity of each impact would be reduced due to the reduced trips added by the project to those segments (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-11, 4.10-13 and 4.10-14). Mitigation would still be required. Similarly, increased traffic congestion would occur on West Sacramento facilities (Impact 4.10-12), but the impact would be less severe.

This alternative's daily trip generation would be 41% lower than the Proposed Project on days that include a sold-out Sacramento Kings game, 62% lower during a civic event, and 70% lower during a mid-family afternoon event. These reductions in daily trips would also result in proportionate decreases in VMT compared to the Proposed Project.

The decrease in office and retail space associated with this alternative would result in fewer bus and light rail riders generated by the project during the AM and PM peak hours (Impacts 4.10-6 and 4.10-17). However, identified impacts related to access to light rail transit, which occur after ESC Kings games, would remain the same as described for the Proposed Project.

Alternative 4 would increase demand for water and wastewater treatment, but at a much lower rate than the Proposed Project, because of the reduction in commercial development. Nonetheless, under some drought conditions there could be periodic shortfalls (Impact 4.11-3).

Impacts Identified as Being More Severe than the Proposed Project

None of the impacts of Alternative 4 would be more severe than those of the Proposed Project.

Relationship to Project Objectives

Alternative 4 could meet objectives related directly to construction of a new entertainment and sports facility in downtown Sacramento. This alternative also could meet objectives related to smart growth, mixed-use development, and revitalizing and energizing the Downtown Plaza area and downtown from the river to the Capital. These objectives would not be as fully realized under Alternative 4, because the amount of commercial and retail development would be substantially reduced.

6.5 Environmentally Superior Alternative

6.5.1 ESC & Mixed Use Development

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6 (e)(2) of the State CEQA Guidelines requires that an environmentally superior alternative be designated and states that if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

For each significant impact, Table 6-5 indicates whether the impacts of the project alternatives are more or less severe than those of the Proposed Project.

From the alternatives evaluated in this EIR, the environmentally superior alternative would be Alternative 1 – the No Project Alternative. This alternative would avoid all significant impacts associated with the Proposed Project.

In accordance with the CEQA Guidelines, if the No Project Alternative is identified as the environmentally superior alternation, an environmentally superior alternative must then be selected from the remaining alternatives. In this case, the designation of an "environmentally superior" alternative is complicated because the Proposed Project and some alternatives would result in both adverse environmental impacts and environmental benefits. From the perspective of the adverse environmental impacts identified in Table 6-5 and addressed in Chapter 4 of this Draft EIR, Alternative 3, the Natomas ESC, would have the fewest adverse impacts because it would be most similar to existing conditions. There would be construction impacts associated with construction of the new ESC, but once constructed, it would be of similar size and operation to the existing Sleep Train arena, and would therefore not create significant operational impacts. In addition, no new mixed-use development would be undertaken at the Downtown project site, so none of the impacts associated with that development would occur. The Natomas ESC would be constructed to LEED Silver standards, so it would be more energy and water efficient than the Sleep Train arena, which would be a benefit to the environment.

The Proposed Project and Alternatives 2 and 4 would have environmental benefits that would not be realized if Alternative 3 is selected. In particular, locating the ESC in the downtown would result in substantial reductions in vehicle miles traveled, which would reduce traffic, air emissions, and greenhouse gas emissions. When these environmental benefits are taken into consideration, Alternative 4 would be considered environmentally superior, because it would achieve the VMT reductions, but would have lessened impacts due to the reduction in office and retail development.

TABLE 6-5
SUMMARY OF ALL ALTERNATIVES

Environmental Topic	Proposed Project	ALT 1 No Project	ALT 2 Railyards ESC	ALT 3 Natomas ESC	ALT 4 Reduced Mixed Use
4.1 Aesthetics, Light, and Glare					
4.1-2: The Proposed Project could create substantial new sources of light.	LSM	NI	LSM-	LSM-	LSM-
4.1-3: The Proposed Project could create new sources of glare.	LSM	NI	LSM	LS	LSM-
4.2 Air Quality					
4.2-2: Construction of the Proposed Project would result in short-term emissions of NOx.	LSM	NI	LSM	LSM-	LSM-
4.2-3: The Proposed Project would result in long-term (operational) emissions of NOx or ROG.	SUM	NI	SUM	LS	SUM-
4.2-4: The Proposed Project would generate construction emissions of PM10.	LSM	NI	LSM	LSM-	LSM-
4.2-8: The Proposed Project would contribute to cumulative increases in short-term (construction) emissions.	LSM	NI	LSM	LSM-	LSM-
4.2-9: The Proposed Project would contribute to cumulative increases in long-term (operational) emissions of NOx or ROG.	SUM	NI	SUM	LS	SUM-
4.2-10: The Proposed Project would contribute to cumulative increases in PM10 concentrations.	LSM	NI	LSM	LSM-	LSM-
4.3 Biological Resources					
4.3-2: Construction of the Proposed Project could disturb nesting raptors, migratory birds, and/or special-status bat species.	LSM	NI	LSM-	LSM-	LSM
4.3-4: The Proposed Project could require removal of Street Trees and/or Heritage Trees.	LSM	NI	LSM-	LSM-	LSM+
4.3-6: The Proposed Project would contribute to the cumulative harm to special-status species or species of special concern and/or loss or degradation of their habitat.	LSM	NI	LSM-	LSM-	LSM
4.3-8: The Proposed Project would contribute to the cumulative loss of Street Trees and Heritage Trees.	LSM	NI	LSM-	LSM-	LSM+

TABLE 6-5 (Continued)
SUMMARY OF ALL ALTERNATIVES

Environmental Topic	Proposed Project	ALT 1 No Project	ALT 2 Railyards ESC	ALT 3 Natomas ESC	ALT 4 Reduced Mixed Use
4.4 Cultural Resources					
4.4-1: The Proposed Project could damage, degrade and/or destroy historic resources.	LSM	NI	LSM-	NI	LSM-
4.4-2: Construction of the Proposed Project could damage or destroy archaeological resources.	SUM	NI	SUM	SUM-	SUM
4.4-3: Construction of the Proposed Project could damage and/or destroy paleontological resources.	LSM	NI	LSM	SUM+	LSM
4.4-4: The Proposed Project would contribute to cumulative losses of historical resources.	LSM	NI	LSM	NI	LSM-
4.4-5: The Proposed Project would contribute to cumulative losses of archaeological resources.	SUM	NI	SUM	SUM-	SUM
4.4-6: The Proposed Project would contribute to cumulative losses of paleontological resources.	LSM	NI	LSM	LSM+	LSM
4.5 Global Climate Change					
None					
4.6 Hazards and Hazardous Materials					
4.6-1: The Proposed Project could expose people to previously unidentified contaminated soil during construction activities.	LSM	NI	LSM	LSM-	LSM
4.6-4: Dewatering activities associated with the Proposed Project could interfere with remediation of the Railyards South Plume.	LSM	NI	LSM	NI	LSM
4.6-6: The Proposed Project would contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume.	LSM	NI	LSM	NI	LSM
4.7 Hydrology and Water Quality					
4.7-2: Implementation of the Proposed Project could increase the risk of flooding on- or off-site.	LSM	NI	LSM+	LSM+	LSM
4.7-5: The Proposed Project could contribute to cumulative increases in the risk of flooding.	LSM	NI	LSM+	LSM+	LSM

TABLE 6-5 (Continued)
SUMMARY OF ALL ALTERNATIVES

Environmental Topic	Proposed Project	ALT 1 No Project	ALT 2 Railyards ESC	ALT 3 Natomas ESC	ALT 4 Reduced Mixed Use
4.8 Noise					
4.8-1: The Proposed Project could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.	SUM	NI	SUM-	LSM	SUM-
4.8-2: The Proposed Project could result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation.	LSM	NI	LSM-	LSM	LSM-
4.8-3: Construction of the Proposed Project could result in noise levels that temporarily exceed the City standards.	SUM	NI	SUM-	SUM-	SUM-
4.8-4: Construction of the Proposed Project would expose existing and/or planned buildings, and persons within, to significant vibration that could disturb people and damage buildings.	SUM	NI	SUM-	SUM-	SUM-
4.8-6: The Proposed Project would contribute to cumulative increases in ambient exterior noise levels in the project vicinity.	SUM	NI	SUM-	LSM	SUM-
4.8-7: Implementation of the Proposed Project would contribute to cumulative increases in residential interior noise levels of 45 dBA Ldn or greater.	LSM	NI	LSM-	LSM-	LSM-
4.8-8: The Proposed Project would result in exposure of people to cumulative increases in construction noise levels.	SUM	NI	SUM-	LSM	SUM-
4.8-9: The Proposed Project would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.	SUM	NI	SUM-	LSM	SUM-
4.9 Public Services					
None.					
4.10 Transportation					
4.10-1: The Proposed Project would worsen conditions at intersections in the City of Sacramento.	LSM	NI	LSM	LSM-	LSM-
4.10-2: The Proposed Project would worsen conditions on freeway facilities maintained by Caltrans.	SUM	NI	SUM	LS	SUM-
4.10-3: The Proposed Project would worsen queuing on the J Street freeway off-ramps from I-5.	SUM	NI	SUM	LS	SUM-

TABLE 6-5 (Continued)
SUMMARY OF ALL ALTERNATIVES

Environmental Topic	Proposed Project	ALT 1 No Project	ALT 2 Railyards ESC	ALT 3 Natomas ESC	ALT 4 Reduced Mixed Use
4.10 Transportation (cont.)					
4.10-5: The Proposed Project would cause inadequate access to bus transit.	LSM	NI	LS	LS	LSM
4.10-6: Access to light rail transit could be inadequate.	SUM	NI	SUM	NI	SUM
4.10-8: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	LSM	NI	LSM+	LS	LSM
4.10-10: The Proposed Project would cause construction-related traffic impacts.	LSM	NI	LSM-	LSM-	LSM-
4.10-11: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of Sacramento.	LSM	NI	LSM	LSM-	LSM-
4.10-12: The Proposed Project would contribute to cumulatively unacceptable intersection operations in the City of West Sacramento.	SU	NI	SU	NI	SU-
4.10-13: The Proposed Project would contribute to cumulatively unacceptable operations on freeway facilities maintained by Caltrans.	SUM	NI	SUM	LS	SUM-
4.10-14: The Proposed Project would worsen cumulatively unacceptable queuing on the J Street freeway off-ramps from I-5.	SUM	NI	SUM	LS	SUM-
4.10-16: The Proposed Project would cause inadequate access to bus transit under cumulative conditions.	LSM	NI	LS	LS	LSM
4.10-17: Access to light rail transit would be inadequate under cumulative conditions.	SUM	NI	SUM	NI	SUM
4.10-19: The Proposed Project would adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	LSM	NI	LSM+	LS	LSM
4.10-21: The Proposed Project would cause construction-related traffic impacts.	LSM	NI	LSM-	LSM-	LSM-

TABLE 6-5 (Continued)
SUMMARY OF ALL ALTERNATIVES

Environmental Topic	Proposed Project	ALT 1 No Project	ALT 2 Railyards ESC	ALT 3 Natomas ESC	ALT 4 Reduced Mixed Use
4.11 Utilities and Service Systems					
4.11-3: The Proposed Project would contribute to cumulative increases in demand for water supply.	SUM	NI	SUM	LSM	SUM-
4.11-5: The Proposed Project would discharge additional flows to the City's sewer and drainage systems, which could exceed existing infrastructure capacity.	LSM	NI	LSM	LS	LSM
4.11-7: The Proposed Project would contribute to cumulative increases in demand for wastewater and stormwater facilities.	LSM	NI	LSM	LS	LSM
4.11-12: Project construction could interfere with a buried, existing 115-kV power line.	LSM	NI	NI	NI	LSM

LSM – Less than significant after application of feasible mitigation measure(s).
SU – Significant and unavoidable and no feasible mitigation is identified
SUM – Significant and unavoidable after application of available mitigation measure(s).
- = Impact is less severe than under the Proposed Project
+ = Impact is more severe than under the Proposed Project

6.5.2 Offsite Digital Billboards

The No Digital Billboard alternative would be the environmentally superior alternative, because no impacts would occur. Other than the No Billboard alternative, the I-5 at Bayou Road site would be environmentally superior because it is the only alternative that would result in only those impacts common to all of the digital billboard sites. The Preliminary Nonbinding Term Sheet allows up to six digital billboards. Of the remaining nine sites, five would have fewer impacts then the remaining four sites. The US 50 at Pioneer Reservoir, I-80 at Roseville Road, and I-5 at Sacramento Railyards sites would be located in areas that could have contaminated soils and/or groundwater. The SR 99 at Calvine Road site could result in the fill of wetlands, depending on the siting of the billboard. The Business 80 at Sutter's Landing Regional Park site might require removal of trees that provide nesting habitat for raptors and/or migratory birds, and could degrade the visual character of the surrounding area. Taken together, these five sites and the I-5 at Bayou Road site would be environmentally superior to any other combination of six sites that would include one of the remaining four sites. It should be noted, however, that the only impacts would be significant after mitigation would be the potential damage or destruction of archaeological resources, which could occur under any of the alternatives, and degradation of visual character for the I-5 at Water Tank, Business 80 at Sutter's Landing Regional Park/American River, and I-5 at San Juan Road sites.

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CHAPTER 7
List of Preparers and Persons Consulted

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The City of Sacramento is the CEQA lead agency for preparation of this EIR.

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CHAPTER 8
Acronyms and Abbreviations

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
AF	acre feet
AFA	acre-feet annually
AFB	Air Force Base
AFY	acre-feet per year
A-OS	Agriculture-Open Space
APE	Area of Potential Effects
AQ	Air Quality
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASTM	American Standard for Testing Materials
BFE	base flood elevations
BMP	Best Management Practices
BTEX	benzene, toluene, ethylbenzene, and xylenes
BWFS	Basin-wide Feasibility Studies
C&DO	Cease and Desist Order
CAA	Consolidated Appropriations Act
CADA	Capitol Area Development Authority
Cal-ARP	California Accidental Release Prevention
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CBD	Central Business District
CCAA	California Clean Air Act
CCCP	Central City Community Plan
CCR	California Code of Regulations
CCUDG	Central City Urban Design Guidelines
CDFW	California Department of Fish and Wildlife

CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal regulations
CH4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CLG	Certified Local Government
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO2	Carbon dioxide
CO2e	CO2 equivalents
CPR	cardio-pulmonary resuscitation
CPTED	Crime Prevention through Environmental Design
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSC	California Species of Special Concern
CSCGF	Central Sacramento County Groundwater Forum
CSCGMP	Central Sacramento County Groundwater Management Plan
CSO	Combined Sewer Overflow
CSS	combined sewer system
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVFMP	Central Valley Flood Management Planning
CVFPP	Central Valley Flood Protection Plan
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DB	Digital Billboard
dBA	Decibels A-Weighted
DHS	Department of Health Services
DMM	Demand Mitigation Measures
DNL	Day-Night Average Sound Level
DOF	Department of Finance
DOT	Department of Transportation

DPM	diesel particulate matter
DPP	Downtown Plaza Properties
DROs	diesel-range organics
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EMD	Environmental Management Department
EMS	emergency medical services
EPA	Environmental Protection Agency
ERM	effective risk management
ERN	Exclusive Right to Negotiate
ESAs	eight study areas for soils
ESC	Entertainment and Sports Center
ESC-PUD	ESC Planned Unit Development
ESC-SPD	ESC Special Planning District
ESL	Environmental Screening Levels
FAA	Federal Aviation Administration
FAR	floor area ratios
FCAA	Federal Clean Air Act
FCAAA	Federal Clean Air Act Amendments
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Maps
FWTP	Fairbairn Water Treatment Plant
FY	fiscal year
GBV	Ground-Borne Vibration
GGS	Giant Garter Snake
GHG	Greenhouse Gas
GIS	Geographic Information System
GMP	Groundwater Management Plan
GVW	gross vehicle weight
GWP	global warming potential
HAPs	Hazardous Air Pollutants
HC	Highway Commercial

HCD	Housing and Community Development
HCP	Habitat Conservation Plan
HCR	Historic and Cultural Resources
HFC	hydrofluorocarbon
HMP	Hazardous Materials Business Plan
HRA	health risk assessment
HUD	Housing and Urban Development
HVAC	Heating, Ventilation, & Air Conditioning
HWCL	Hazardous Waste Control Law
I-5	Interstate 5
I-80	Interstate 80
IPCC	International Panel on Climate Change
ISSS	In Situ Soil Solidification/Stabilization
LCFS	Low Carbon Fuel Standard
LED	light emitting diodes
LEED	Leadership in Energy and Environmental Design
LRT	Light Rail trains
LUST	Leaking Underground Storage Tank
LVW	loaded vehicle weight
MAWA	Maximum Applied Water Allowance
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant levels
MGP	Manufactured Gas Plan
MMRP	Mitigation Monitoring and Reporting Plan
MOU	Memorandum of Understanding
MPOs	metropolitan planning organizations
MS4	Municipal Separate Storm Sewer System
MSW	municipal solid waste
MTP	Metropolitan Transportation Plan
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
MWELO	Model Water Efficient Landscape Ordinance
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standard
NAHC	Native American Heritage Commission
NBA	National Basketball Association
NBHCP	Natomas Basin Habitat Conservation Plan

NCCP	Natural Communities Conservation Plan
NCIC	North Central Information Center
NE	northeast
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHL	National Hockey League
NHPA	National Historic Preservation Act
NIDCD	National Institute on Deafness and Other Communication Disorders
NMC	Nine Minimum Controls
NO2	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	nitrogen oxides
NOxe	Equivalent Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NW	northwest
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OROs	oil-range organics
OSHA	Occupation Safety and Health Administration
PAH	polynuclear aromatic hydrocarbons
PBID	Property Based Improvement District
PCB	Polychlorinated biphenyl
PDC	Planning and Development Code
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric
PHS	public health and safety
PM10	particles less than 10 microns in diameter
PM2	particles less than 2.5 microns in diameter
POU	publicly owned utilities
PPV	peak particle velocity
PRC	Public Resources Code
PRMP	Parks and Recreation Master Plan
PSA	purveyor specific agreement

PSR	Property Survey Report
PUD	Planned Unit Development
PVC	polyvinyl chloride
RAP	Remedial Action Plan
RASA	Redevelopment Agency Successor Agency
RCNM	Roadway Construction Noise Model
RCP	reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
REA	Registered Environmental Assessor
RFQ	request for qualifications
RHNP	Regional Housing Needs Plan
RMS	root mean square
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RT	Regional Transit
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAB	State Allocation Board
SACOG	Sacramento Area Council of Governments
SacRT	Sacramento Regional Transit
SAFCA	Sacramento Area Flood Control Agency
SB	Senate Bill
SCDEM	Sacramento County Department of Environmental Management
SCEMD	Sacramento County Environmental Management Department
SCH	State Clearing House
SCRSD	City Department of Utilities
SCS	sustainable communities strategy
SCUSD	Sacramento City Unified School District
SE	southeast
SF6	sulfur hexafluoride
SFD	Sacramento Fire Department
SGA	Sacramento Groundwater Authority
SHRA	Sacramento Housing and Redevelopment Agency
SIP	State Implementation Plan
SITF	Sacramento Intermodal Transportation Facility
SMAQMD	Sacramento Metropolitan Air Quality Management District

SMARA	Surface Mining and Reclamation Act
SMUD	Sacramento Municipal Utility District
SO2	sulfur dioxide
SOI Standards	Secretary of Interior's Standards for the Treatment of Historic Properties
SPCP	Spill Prevention and Control Program
SPD	Sacramento Planning and Development
SPTCo	Southern Pacific Transportation Company
SQG	Small Quantity Generators
SQIP	Stormwater Quality Improvement Plan
SR	State Route
SR 99	State Route 99
SRA	Sacramento Redevelopment Agency
SRCSD	Sacramento Regional County Sanitation District
SRWRS	Sacramento River Water Reliability Study
SRWWTP	Sacramento Regional Wastewater Treatment Plant
SSBMI	Shingle Springs Band of Miwok Indians
STLC	Soluble Threshold Limit Concentration
SVAB	Sacramento Valley Air Basin
SVOC	Semi Volatile Organic Compound
SVP	Society of Vertebrate Paleontology
SW	southwest
SWA	Sacramento Regional Solid Waste Authority
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TC	Transportation Corridor
TCO	Traffic Control Officer
TCPs	Traditional Cultural Properties
TMA	Transportation Management Association
TMC	Transportation Management Center
TMP	Transportation Management Plan
TPH	Total Petroleum Hydrocarbons
TPZ	Tree Protection Zone
TSCA	Toxic Substance Control Act
UAIC	United Auburn Indian Community

UARP	Upper American River Project
UC	University of California
UFC	Uniform Fire Code
UP	Union Pacific
UPRR	Union Pacific Railroad
US 50	United States Route 50
US EPA	United States Environmental Protection Agency
US-50	U.S. Route 50
USACE	United States Army Corp of Engineers
USF	University of San Francisco
USFWS	United States Fish and Wildlife Service
USGBC	United States Green Building Council
USGS	United States Geological Survey
USTs	Underground storage of hazardous substances
UWMP	Urban Water Management Plan
VCP	Vitrified clay pipe
VMT	vehicle-miles travelled
VOC	volatile organic compounds
WFA	Water Forum Agreement
WNBA	Women's National Basketball Association
WQF	water quality flow
WSA	Water Supply Assessment
WTP	Water Treatment Plant

CHAPTER 9
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