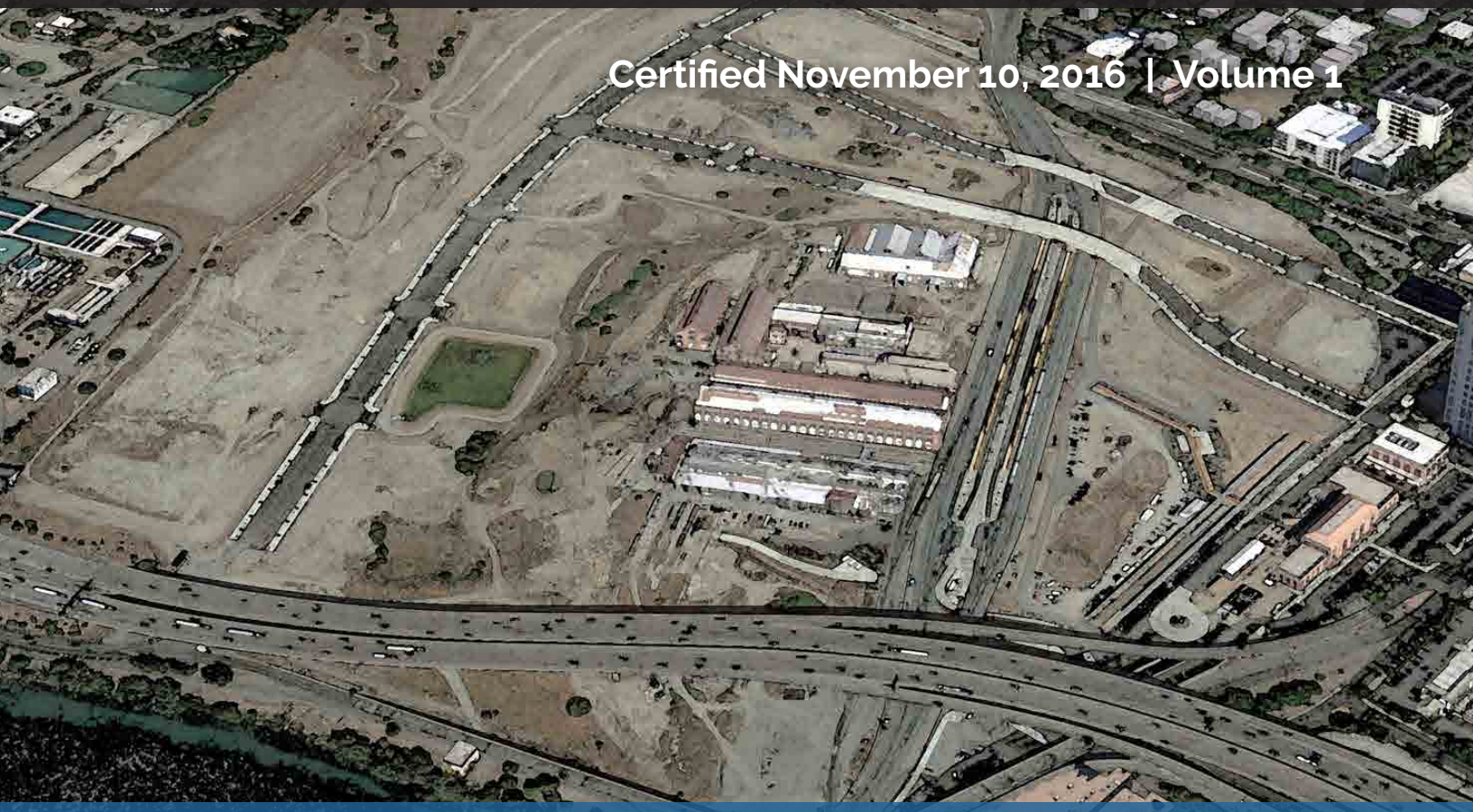
SACRAMENTO

Railyards Specific Plan Update, KP Medical Center, MLS Stadium, & Stormwater Outfall

Subsequent Environmental Impact Report

P15-040 | SCH No. 2006032058



Certified November 10, 2016 | Volume 1

Prepared by:

ESA

Prepared for:

City of SACRAMENTO

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SUMMARY

Sacramento Railyards Specific Plan Update, KP Medical Center, MLS Stadium, & Stormwater Outfall Subsequent Environmental Impact Report

This Subsequent Environmental Impact Report (SEIR) is intended to inform the public and decision-makers about the environmental consequences of the proposed Railyards Specific Plan Update (RSPU), Kaiser Permanente Medical Center (KP Medical Center), Major League Soccer Stadium (MLS Stadium, or Stadium), and Stormwater Outfall projects (collectively, proposed projects). The SEIR considers the environmental impacts of the proposed projects 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 SEIR has been prepared by the City of Sacramento (City) pursuant to the requirements of the California Environmental Quality Act (CEQA).

The Railyards Specific Plan Area (RSP Area) was historically low-lying, swampy land located at the confluence of the American and Sacramento Rivers and was part of a larger area occupied by Native American people. After the route of the American River was realigned in 1862, the RSP Area was first developed as the western terminus of, and produced much of the rail equipment for, the Transcontinental Railroad in the early 1860s. The Central Pacific and Southern Pacific railroads (later purchased by Union Pacific Railroad) used the RSP Area for railroad-related purposes for almost 150 years, with the last railroad workers leaving the maintenance and locomotive works in 1995.

The RSP Area, as a result of railroad operations, was contaminated with various hazardous substances. These affected both soil and groundwater, and remediation efforts have been ongoing for over 25 years. Redevelopment of the RSP Area has been a City goal since the cessation of railroad operations.

The City first adopted a specific plan for development of the Railyards, with an accompanying EIR, in December 1993. A Supplemental EIR and updated RSP were approved in December 1994. The only development activities undertaken pursuant to that original RSP were the extension of 7th Street through the Railyards, construction of the Robert T. Matsui federal courthouse, and the adaptive reuse of the historic Railway Express Agency building.

In 2007 the City certified the 2007 Railyards Specific Plan EIR (2007 RSP EIR) and approved the 2007 Railyards Specific Plan (2007 RSP).[1] In the intervening years several components of the 2007 RSP have been implemented, including realignment of the Union Pacific Railroad (UPRR) tracks, construction of extensions of 5th and 6th Streets, as well as construction of Railyards Boulevard from 7th Street to the Bercut Drive alignment.

In 2015 the current applicant, Downtown Railyard Venture, LLC (DRV) acquired the Railyards property and is now proposing a set of changes to the adopted 2007 RSP; these are embodied in the proposed RSPU. In addition, Kaiser Permanente has proposed the construction of the KP Medical Center on an 17.8-acre portion of the RSP Area, and Sacramento Soccer and Entertainment Holdings (SSEH) has proposed construction of the MLS Stadium on a 14.7-acre parcel in the RSP Area. In addition, DRV has proposed construction of a Stormwater Outfall and associated pump station, both of which would be key elements in the future storm drainage system that would serve the future development in the RSP Area.

Pursuant to CEQA, this SEIR addresses the changes to the adopted 2007 RSP proposed under the 2016 RSPU and evaluates whether those changes would result in new or substantially more severe significant impacts on the existing environment. As required under CEQA, the SEIR 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 projects. The analysis includes consideration of the Kaiser, MLS and Stormwater Outfall projects.

Consistent with the requirements of CEQA, the SEIR describes the existing environmental resources in the vicinity of the RSP Area and the individual project sites, analyzes potential impacts on those resources due to the proposed projects compared to existing (baseline) conditions, and identifies mitigation measures that could avoid or reduce the magnitude of the significant impacts identified in the discussion. Where appropriate, the SEIR also provides a comparison of the effects of the proposed RSPU with those disclosed in the 2007 RSP EIR. The environmental impacts evaluated in the SEIR concern various 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 for the proposed RSPU, as well as alternatives for the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall projects. The alternatives considered include different amounts of mixed use development in the RSP Area, a smaller-sized KP Medical Center, and different sizes and locations for the proposed MLS Stadium, as well as No Project Alternatives for the RSPU and the other proposed projects.

[1] The 2007 RSP and 2007 Railyards Specific Plan EIR (2007 RSP EIR) can be viewed on the City's website at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.

This SEIR is being published as a Draft SEIR. The Draft SEIR 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 beginning on June 10, 2016 and ending on July 27, 2016. The public may comment on the EIR by submitting written comments at any time during the public review period. The City will complete a Final SEIR, which will include the written comments received regarding the Draft SEIR, responses to substantial environmental issues raised in the comments, and any changes to the Draft SEIR that are required by the responses to written comments, or that are initiated by staff.

Upon publication, the environmental documents described above are available online at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports, and may be viewed in printed form at the City's Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811. Hearings regarding the project will occur at various times, and the City posts agendas on its website at www.cityofsacramento.org.

City staff responsible for the drafting of the environmental document may be contacted with questions:

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Telephone: 916-808-5842
Email: srjohnson@cityofsacramento.org

The Final EIR will be submitted to the City of Sacramento City Council for their consideration. As part of the project review and consideration, the City Council is required under CEQA to certify that the SEIR has been prepared in compliance with CEQA, and would also consider adoption of Findings of Fact pertaining to this SEIR, specific mitigation measures, a Statement of Overriding Considerations relating to any identified significant and unavoidable effects, and a Mitigation Monitoring and Reporting Plan.

Project Description

The approximately 244-acre RSP Area is generally bounded by North B Street and the Sacramento River Water Treatment Plant to the north, the Sacramento River to the west, I Street and H Street to the south and 7th and 12th streets to the east (see **Figure S-1**).

Railyards Specific Plan Update

The Railyards Specific Plan Update would revise the 2007 RSP which called for the implementation of mixed-use development in the RSP Area. The 2007 RSP provided for the development of between 10,000 and approximately 12,500 dwelling units (du), 1,384,800 square feet (sf) of retail, 491,000 sf of mixed use, 1,100 hotel rooms, 2,337,200 sf of office, 485,390 sf of historic/cultural space, and 41.16 acres of open space.

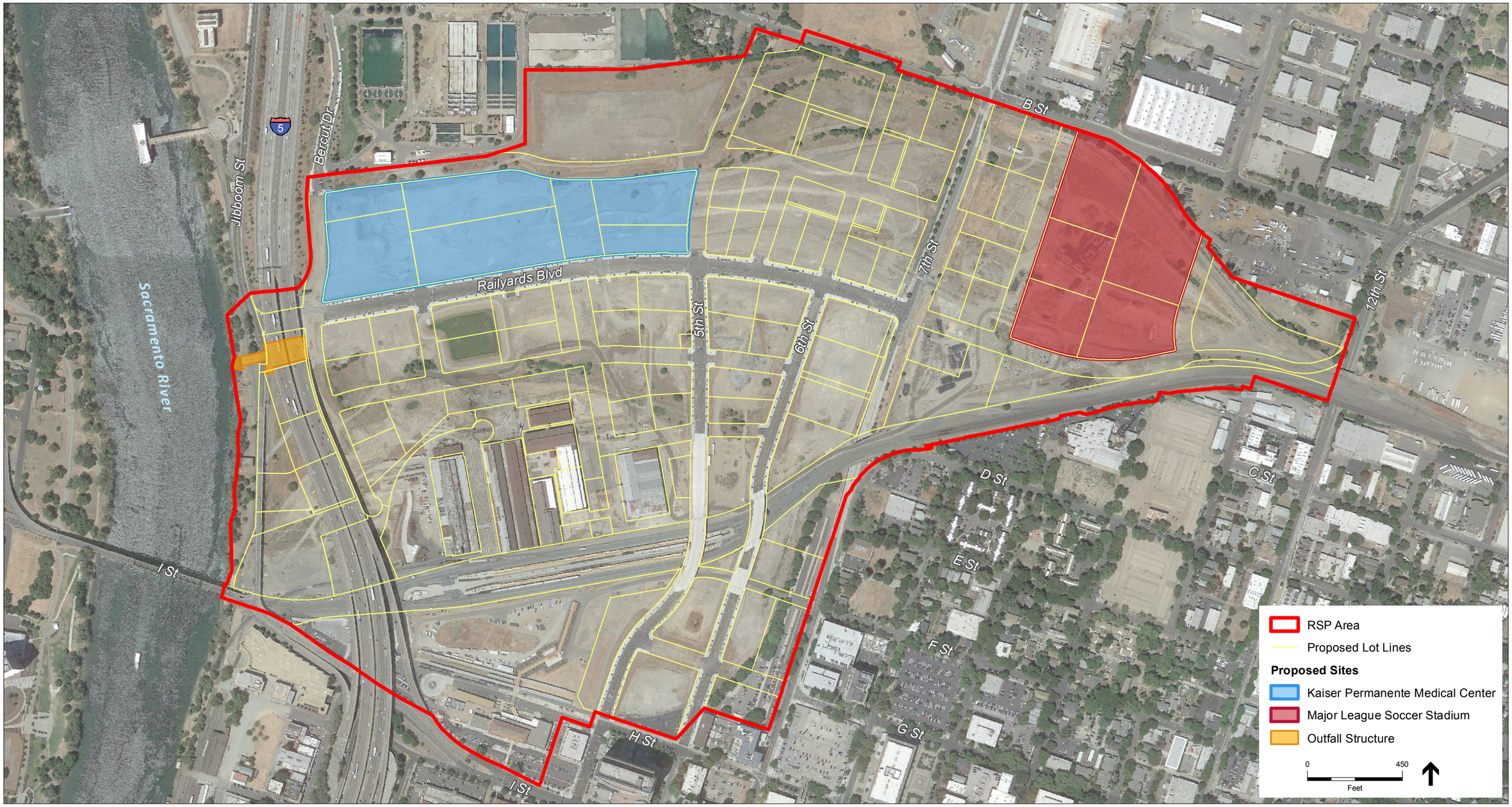
Like the 2007 RSP, the proposed RSPU would allow a broad mix of uses and densities of development in the RSP Area. The SEIR addresses development of a different mix of uses in the RSP Area than the 2007 RSP, calling for development of between 6,000 and 10,000 dwelling units (du), between 2,757,027 and 3,857,027 sf of office space, 514,270 sf of retail space, 718,003 sf of hospital uses, 510,000 sf of medical office uses, 491,000 sf of flexible mixed use space, 1,100 hotel rooms, 485,390 sf of historic/cultural space, a 25,000-ticketed attendee capacity sports and entertainment stadium, and 30 acres of open space (see **Table S-1 and Figure S-2**). As proposed, the RSPU would provide for medium- and high-rise single use and mixed use residential, retail, office, medical, and hotel structures. The project also would provide cultural/recreational facilities, including but not limited to the refurbished Central Shops buildings, as well as numerous public parks and walkways. The proposed RSPU would include a network of public streets with vehicular, bicycle, and pedestrian access, parking facilities, water, wastewater, and drainage infrastructure and facilities.

TABLE S-1.
RSPU ASSUMED CAPACITY BY LAND USE TYPE

Land Use	2007 RSP	Proposed RSPU
Housing (units)	10,000 - 12,500	6,000 – 10,000
Office (sf)	2,900,000	2,757,027 - 3,857,027
Medical Office (sf)	0	510,000
Hospital Facilities (sf)	0	718,003
Retail (sf)	1,400,000	514,270
Flexible Mixed Use (sf)	491,000	771,405
MLS Stadium (ticketed capacity)	0	25,000
Hotel (rooms/keys)	1,100	1,100
Historic & Cultural (sf)	485,390	485,390
Retail (sf)		162,525
Museum (sf)	187,830	180,000
Flex (sf)		142,865
Open Space (acres)	41.2	30

SOURCE: Downtown Railyard Venture, LLC, 2016.

The RSPU would also include approximately 32 acres around the Sacramento Valley Station designated for the development of the Sacramento Intermodal Transit Facility (SITF), which would provide multiple modes of public transit service including bus, rail, light rail, and passenger auto. The proposed project would also include the potential future construction of a regional high speed rail station.



SOURCE: Kimley-Horn, 2016; AECOM, 2016; ESA, 2016

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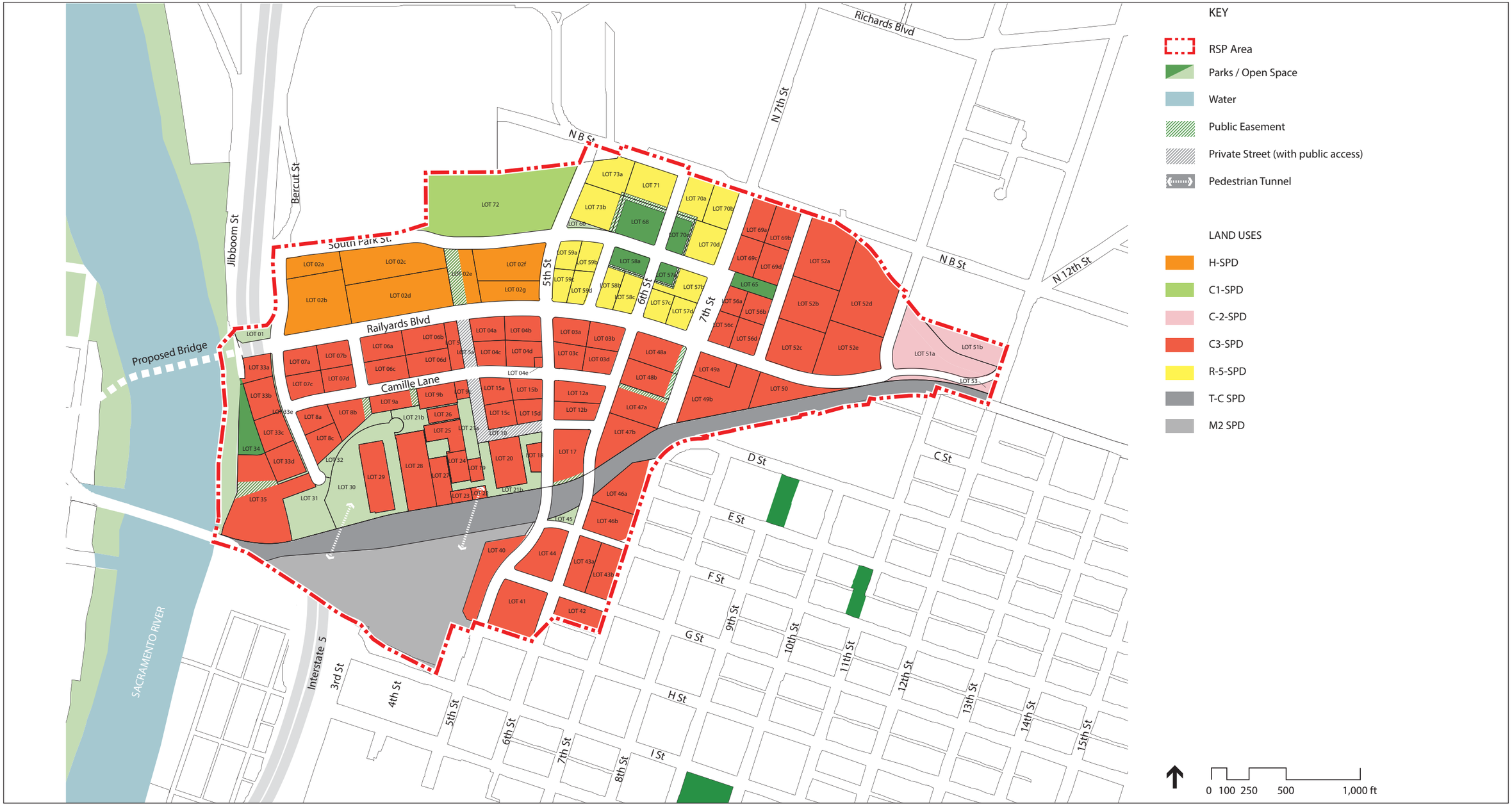
Figure S-1
Project Site



SOURCE: AECOM, June 2, 2016

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Figure S-2
Proposed RSPU Land Use

The proposed RSPU would result in substantial grading activities along with import of fill to result in a relatively flat topography that would gently slope from east to west. As part of the site grading, the northern embankment would be removed and graded to an elevation consistent with the elevation of North B Street.

Land Use Variant

The proposed RSPU provides land use designations that are anticipated to accommodate the proposed KP Medical Center in the West End District, and the proposed MLS Stadium in the East End District. It is anticipated that those projects would be implemented as indicated in the project description. However, in the event that market conditions or other factors result in those projects not being completed, the proposed RSPU would allow for an alternate set of land uses within the blocks that constitute the KP Medical Center and MLS Stadium project sites. Under the Land Use Variant instead of the proposed KP Medical Center on Lots 2(a) through (g) a total of 921,002 sf of office, 92,100 sf of retail, 138,150 sf of flex space, and 250 residential units would be developed. Similarly, on Blocks 52-55, instead of the 25,000-capacity MLS Stadium, the Land Use Variant would accommodate construction of 750 residential units, 30,700 sf of retail, and 46,050 sf of flex space. **Table S-2** provides a summary of land uses under the Land Use Variant.

TABLE S-2.
SUMMARY OF LAND USES UNDER THE LAND USE VARIANT

Land Use	Proposed RSPU	Land Use Variant
Housing (units)	6,000 – 10,000	7,000 – 10,000
Office (sf)	2,757,027 - 3,857,027	3,953,029 - 4,778,029
Medical Office (sf)	510,000	0
Hospital Facilities (sf)	718,003	0
Retail (sf)	514,270	637,070
Flexible Mixed Use (sf)	771,405	955,605
MLS Stadium (ticketed capacity)	25,000	0
Hotel (rooms/keys)	1,100	1,100
Historic & Cultural (sf)	485,390	485,390
Retail (sf)	162,525	162,525
Museum (sf)	180,000	180,000
Flex (sf)	142,865	142,865
Open Space (acres)	30	30

SOURCE: Downtown Railyard Venture, LLC, 2016; ESA, 2016.

Kaiser Permanente (KP) Medical Center

Within the RSP Area, Kaiser Permanente (Kaiser) is seeking approval of entitlements that would allow for the future development of a regional medical center that would replace Kaiser's existing

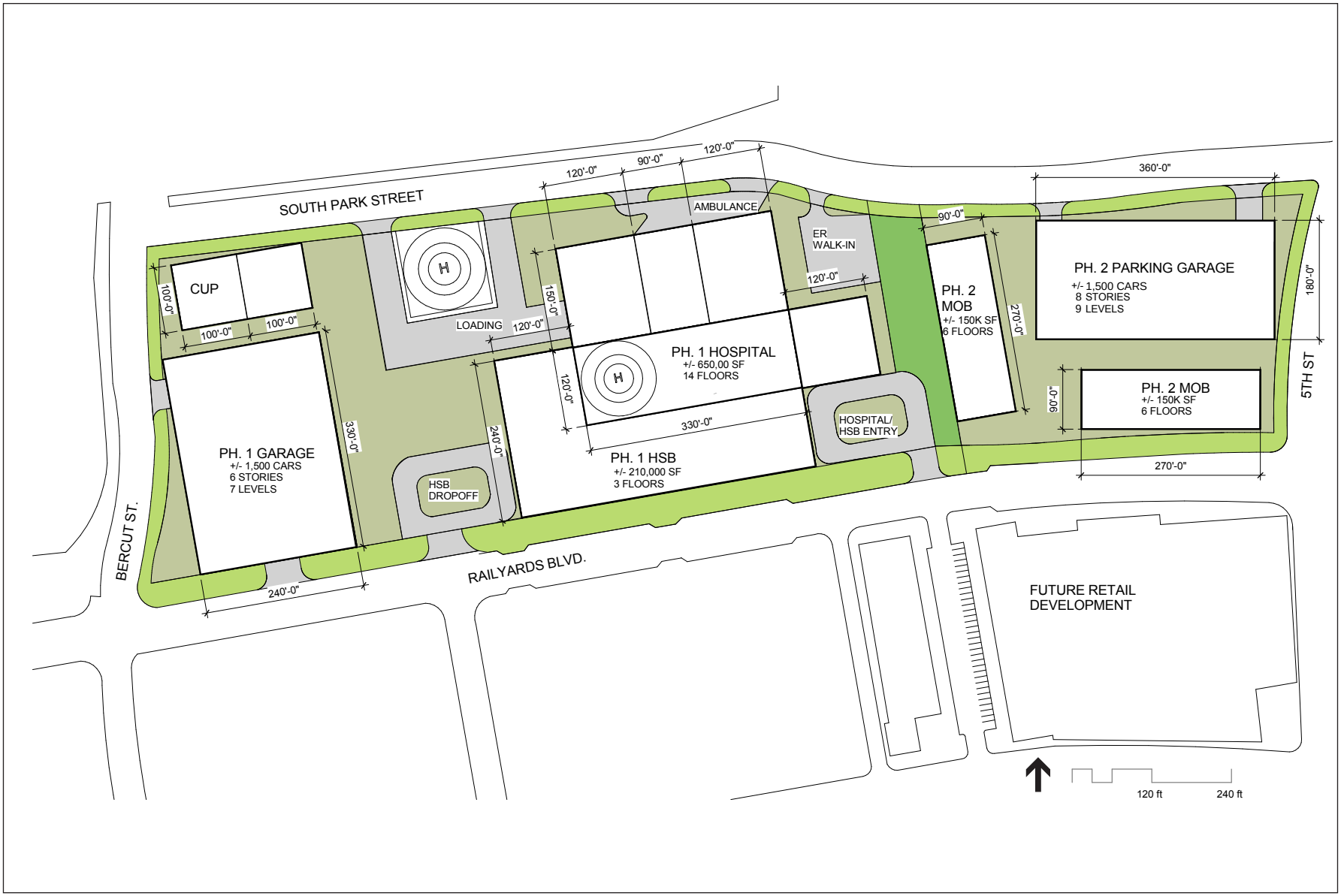
Morse Avenue Sacramento Medical Center which requires replacement pursuant to State seismic safety laws and regulations. The KP Medical Center would be constructed on an approximately 17.8-acre parcel proposed to be designated H-SPD, located in the western portion of the RSP Area, and bounded by Railyards Boulevard, 5th Street, South Park Street, and Bercut Drive. Based on illustrative plans prepared for this SEIR, the proposed KP Medical Center would be constructed in phases, and would ultimately include a 420-bed, 658,000 sf hospital, an adjacent and connected 210,000 sf Hospital Support Building, a total of 300,000 sf in two medical office buildings, a helistop to facilitate transfer of patients, a 60,000 sf Central Utility Plant, two 1,500 space parking structures, and associated vehicular circulation and parking in select surface lots (see **Figure S-3**).

Major League Soccer (MLS) Stadium

Sacramento Soccer and Entertainment Holdings, Inc. (SSEH) is seeking approval of entitlements and Site Plan and Design Review for a proposed 25,000-ticketed attendee capacity outdoor sports and entertainment stadium that would become the home of a new Major League Soccer (MLS) team. The proposed MLS Stadium would be located on an approximately 14.7-acre site on the eastern end of the RSP Area, generally bounded by Railyards Boulevard, 10th Street, 8th Street, and the former railroad embankment that forms the northern boundary of the RSP Area. The proposed MLS Stadium would accommodate approximately 37 sports and entertainment events each year, ranging in attendance from a few thousand to over 27,000 for infrequent very large events (see **Figure S-4**). It is anticipated that MLS soccer games would attract sold out crowds of approximately 25,000. The MLS Stadium would be an enclosed rectangular stadium structure, with a concrete seating bowl surrounded by a façade made of tubular metal and translucent panels with a roofline approximately 90-feet in height. The stadium structure would be surrounded by approximately five acres of open plaza areas that would accommodate event attendees and entertainment activities, including occasional outdoor music events.

Stormwater Outfall

On the far western edge of the RSP Area, the RSPU applicant has proposed construction of a Stormwater Outfall that would discharge stormwater and other runoff to the Sacramento River. The proposed Stormwater Outfall would include a pump station that would be constructed on a parcel located under the elevated Interstate 5, and would then be connected to a outfall structure on the east bank of the Sacramento River via a set of underground pipes that would pass over the designated Sacramento River levee (see **Figure S-5**). The outfall structure would be located immediately above the summertime water level, and would be submerged during higher flows. Stormwater and other runoff from a majority of the RSP Area would be directed to the pump station and outfall through a drainage system that would be constructed throughout the RSP Area.



SOURCE: LIONAKIS 2016

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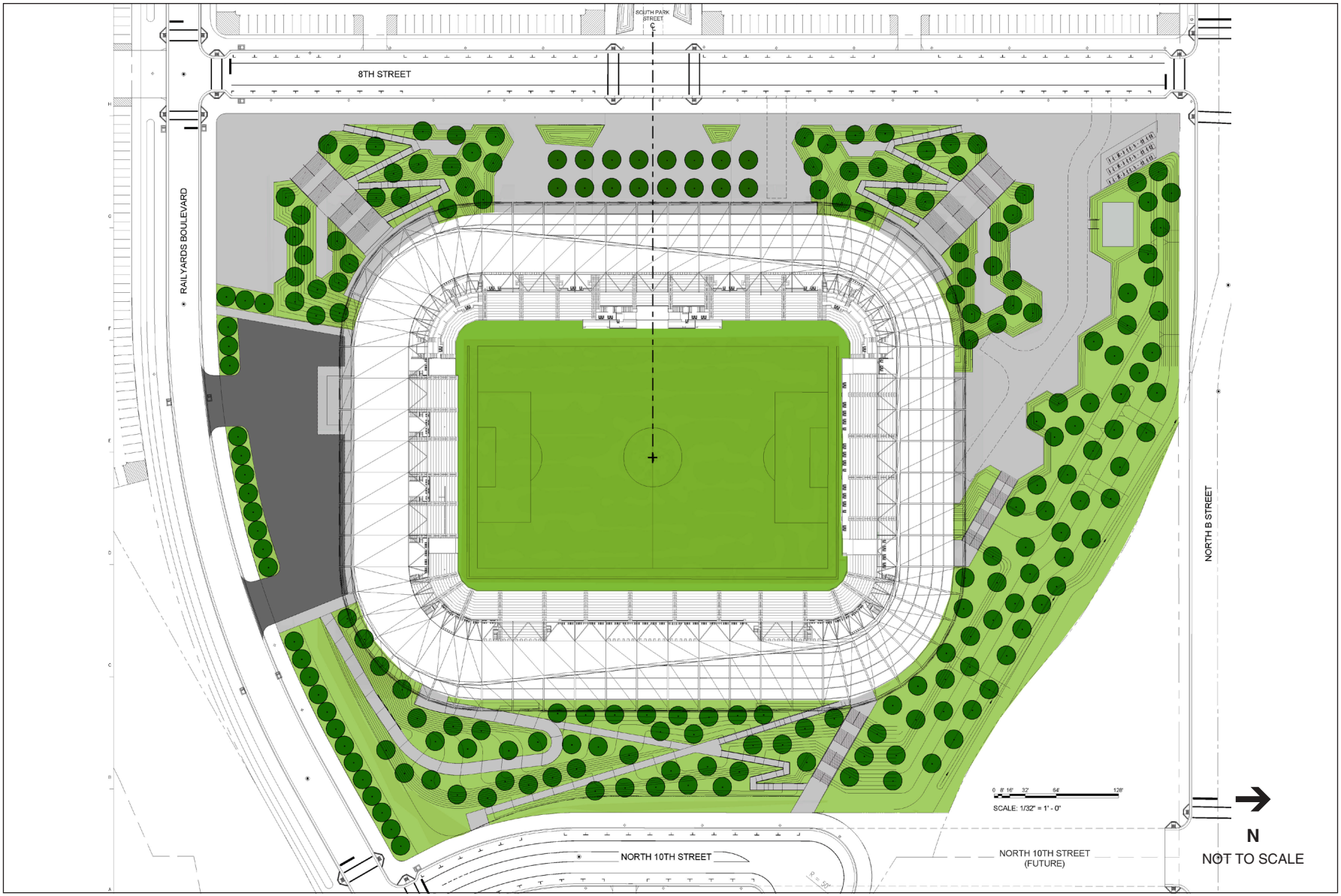
Figure S-3

Illustrative Site Plan: KP Medical Center - Phase 2



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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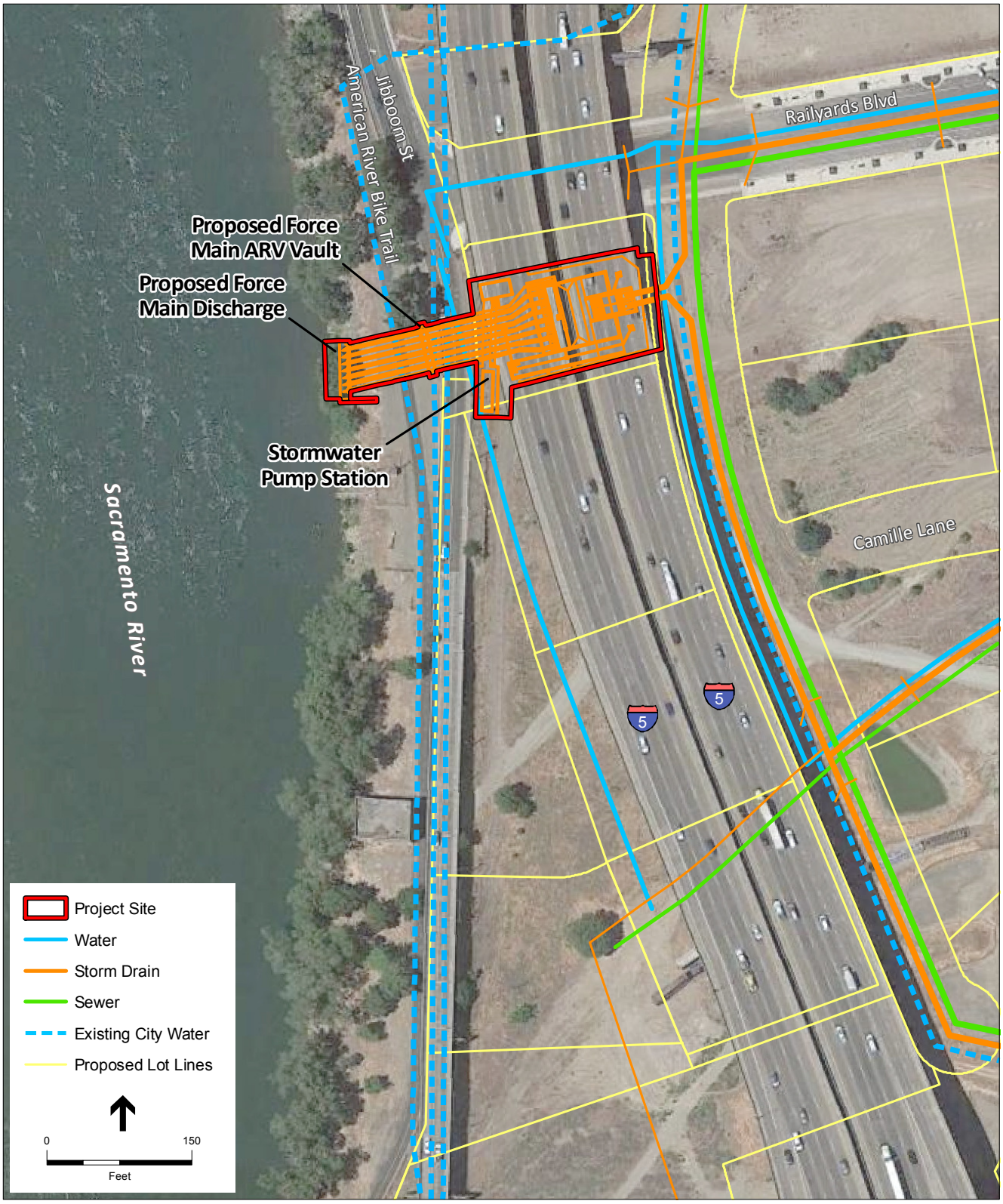
Figure S-4

Major League Soccer Stadium Conceptual Site Plan



SOURCE: Google, 2015; Kimley Horn, 2015; City of Sacramento, 2015; ESA, 2016

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Figure S-5

Pump Station and Outfall Site

Notice of Preparation Comments

During the public comment period on the Notice of Preparation (NOP), June 26, 2015 through July 30, 2015, the City of Sacramento received 12 written comment letters regarding the Proposed Project (see Appendix A for the NOP and Comment Letters). The comment letters included a number of comments pertaining to the project and the scope of the SEIR. The comments requested that the SEIR include analysis of issues such as:

- The planned mix of uses in the RSPU, and the related effects on trip making and travel modes;
- Effects on roads and bridges in West Sacramento, including the proposed Streetcar system;
- Effects on the regional highways and interchanges;
- Circulation planning and modes of travel for attendees at events at the MLS Stadium;
- Adequacy of bicycle access to and from the RSP Area, as well as bicycle access and parking for the proposed KP Medical Center and MLS Stadium projects;
- Construction and operational emissions of criteria pollutants, as well as greenhouse gas emissions;
- The provisions in the proposed RSPU for preservation of the historic Central Shops;
- Light, glare, and noise potentially emanating from the proposed MLS Stadium;
- Energy efficiency and effects on the local electricity system; and
- The status of remediation activities in the RSP Area, and potential effects of the proposed RSPU on those activities.

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 projects. It is organized to summarize the effects of the proposed RSPU, which includes the KP Medical Center, MLS Stadium, and Stormwater Outfall, and to identify the unique effects of the individual proposed projects. This overview does not constitute a complete summary of every effect of the project described in the Draft SEIR, but rather it contains a description of those impacts that the City considers the principal environmental impacts of the proposed projects. At the end of this chapter, Table S-2, Summary Table of Impacts and Mitigation Measures, includes a complete summary of all impacts and mitigation measures described in Chapter 4 of the Draft SEIR.

In addition, **Table S-4**, Summary Comparison Table presents the impacts identified in the 2007 RSP EIR and a summary comparison of the magnitude of the impacts of the 2007 RSP and the proposed RSPU.

Railyards Specific Plan Update

Aesthetics, Light and Glare

The proposed RSPU would change the visual character of the RSP Area from an undeveloped former industrial area to a highly urbanized set of five distinct districts comparable in visual character to Sacramento's Central Business District and immediately surrounding neighborhoods, developed around the visually prominent Central Shops buildings. Views of the RSP Area east of I-5 would be substantially changed, particularly from locations that afford prominent views into the Railyards, such as from the elevated I-5 freeway, and views east and west from 7th Street that traverses the RSP Area. The proposed RSPU would include adoption of an updated set of Railyards Design Guidelines that would be intended to create a unified identity within the RSP Area, with buildings that are compatible in scale, design, character, quality and style.

Compared to the 2007 RSP, it is anticipated that the RSPU would result in the construction of fewer high-rise buildings, and more large floor plate, mid-rise buildings, in the RSP Area on blocks of varying sizes. These changes would tend to decrease visual sense that the RSP Area is be an extension of the Central Business District. Instead the RSP Area would visually appear distinct, as a transition both in terms of height, scale and massing between the CBD and the lower density River District. Although the proposed RSPU would result in modest changes in the street-wall heights and building massing in the RSP Area, similar to the 2007 RSP the RSPU would transform the visual character of the RSP Area from an undeveloped and visually blighted area adjacent to downtown Sacramento to an urbanized extension of the Central City.

Views to and from the RSP Area would, for the most part, not be materially affected or would be improved. The increase of the planned street-wall height on Block 46 on the west side of 7th Street between F Street and the UPRR tracks, however, would adversely affect the visual character of this portion of the corridor, reducing views, sky access, and sunlight to residential and office uses on the east side of 7th Street.

The height of development that would be allowed in the Riverfront District would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street viaduct. The development in this District would reduce the degree of visual access to the River both at the pedestrian level and from the elevated section of I-5 and could result in conflicts with the direction of policies of the 2035 General Plan.

The construction of new buildings that could reach as high as 25 to 30 stories (300 to 360 feet) in the East End District, as well as the proposed MLS Stadium at a height of 90 feet with an open roof, could result in light spillover onto adjacent residential properties in Alkali Flat and two residences on Water Street. The effects described for the proposed RSPU would be similar to those described for the 2007 RSP, although somewhat exacerbated by the effects of the light associated with the proposed MLS Stadium in the East End District.

Further, intense glare during the summer would create heat islands which could limit the usefulness of open spaces and/or cause substantial increases in energy use for building air conditioning. Because the details of construction materials to be used in the future are unknown, it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project area if the surfaces of structures are highly reflective.

A range of mitigation measures would be available to address size and scale concerns on 7th Street and in the Riverfront District, offset potential spillover light, and avoid hazardous glare effects. Additional height controls would be added to sensitive areas in the 7th Street corridor and in the Riverfront District. 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 to reduce lighting at any residential property to a level that typically would not disturb sleep or other interior activities. Notwithstanding the implementation of these measures, development of the MLS Stadium on a site that is currently vacant and dark would result in a substantial change in the existing environment and could result in unavoidable spillover light on nearby residential properties.

Air Quality

The proposed RSPU would be consistent with the growth projections for the RSP Area contained in the Sacramento Area Council of Government's (SACOG's) Metropolitan Transportation Plan/ Sustainable Communities Strategy. However, at buildout the proposed RSPU would generate unmitigated operational emissions of reactive organic gasses (ROG) and nitrogen oxides (NOx) that would exceed 65 pounds or more of NOx or 65 pounds or more of ROG per day. If not mitigated, the pollutant emissions generated during future operations of development pursuant to the proposed RSPU could conflict with or obstruct implementation of applicable air quality plans. The provisions of the proposed RSPU, combined with requirements embedded in regulatory documents such as the City's Climate Action Plan, CALGreen, and Title 24 would result in a reduction in emissions of at least 15 percent, which would bring the proposed projects into compliance with the air quality plans, so that this impact would be less than significant.

Construction and operation of land uses developed pursuant to the proposed RSPU would generate air emissions. Construction activities would generate significant impacts from emissions of NO_X, small particulate matter (PM_{10}), and fine particulates ($PM_{2.5}$). These impacts could be mitigated through the inclusion of SMAQMD Basic Construction Emission Control Practices, SMAQMD Enhanced Exhaust Control Practices, SMAQMD Fugitive Dust Control Practices, and payment of off-site mitigation fees that are used to implement actions that reduce NO_X, PM_{10}, and $PM_{2.5}$ in the air basin. With implementation of mitigation measures, $PM_{2.5}$ and PM_{10} emissions would be mitigated to a less-than-significant level, however emissions of NO_x would remain significant and unavoidable.

On an operational basis, most air pollutant emissions associated with the proposed RSPU would be created by motor vehicle travel to and from the RSP Area. The mixed-use character of the

future development, combined with proximity to other uses in downtown Sacramento and close-by transportation and transit options, would tend to decrease the relative amount of trip generation and vehicle miles travelled from the future development in the RSP Area. While there would be no predicted exceedances of carbon monoxide (CO) standards, despite the effects of the VMT-reducing factors, the overall amount of development in the RSPU would result in significant impacts on operational emissions of PM_{10} and $PM_{2.5}$ and ozone precursors (ROG and NO_X). These significant impacts would occur on days with and without MLS Stadium events. Despite the ability of the proposed RSPU to reduce pollutant emissions by at least 15% through the provisions of the proposed RSPU, combined with requirements embedded in regulatory documents such as the City's Climate Action Plan, CALGreen, and Title 24, the sheer size of the proposed RSPU development means that the SMAQMD significance threshold would continue to be exceeded, making these impacts significant and unavoidable.

Diesel particulate matter (DPM) represents the primary toxic air contaminant (TAC) of concern in the RSP Area. Exposure of sensitive receptors - both existing residences near the RSP Area and future new residences in the RSP Area - is the primary factor used to determine health risk. Operational DPM emissions were evaluated through the preparation of an health risk assessment (HRA) assuming full RSPU buildout conditions. Since construction durations for the proposed RSPU would constitute a small percentage of the total 70-year exposure period used for health risk evaluations, TACs generated during construction would not be expected to result in concentrations causing significant health risks and operation of the proposed projects would result in less-than-significant health risks. For operations, all of the land use options would result in cancer risks below the SMAQMD's threshold for stationary projects of 10 per million and acute and chronic health hazards below SMAQMD's threshold of 1.0. Consequently, the construction and operational health risks for the proposed RSPU would be less than significant.

The most frequent winds at the RSP Area are southwest winds: however, less frequent but stronger north, northwest, south, and southeast winds could create hazardous wind conditions. Under the proposed RSPU, future development of mid- and high-rise buildings, especially in the western and northern portions of the RSP Area, could create hazardous ground-level wind conditions. These impacts would be mitigated to a less-than-significant level through measures requiring evaluation by qualified wind experts, including potentially wind tunnel testing, and implementation of the expert recommendations.

Biological Resources

The RSP Area has been extensively disturbed by past and ongoing transportation, commercial, and industrial activities, as well as soil remediation work. Today habitats that are present in the RSP Area include annual grassland, constructed basin, developed, vacant, and valley foothill riparian.

Although annual grassland is sometimes considered suitable foraging habitat for the Swainson's hawk, the annual grassland within the RSP Area is comprised mainly of weedy species and is

disconnected from other Swainson's hawk foraging areas. The proposed projects could result in loss of a small quantity of low quality Swainson's hawk foraging habitat, which is considered a less-than-significant impact. While the foraging quality of the site is low, nesting Swainson's hawks have been recorded in mature riparian trees along the Sacramento River within one mile of the RSP Area. There are mature riparian trees along the Sacramento River, and other emergent trees within vacant habitats within RSP Area that provide potential nesting habitat for other raptor species as well. Potential impacts on nesting raptors, including Swainson's hawks, can be mitigated through a requirement for pre-construction nest surveys, and, if necessary, establishment of buffers around nesting trees.

The largest remaining nesting colony of purple martin, a type of swallow that nests in tree hollows and weep holes of bridge structures, is located under the elevated viaduct of the I Street Bridge, adjacent to the Riverfront District of the RSP Area. It is one of only four remaining purple martin nesting colonies in the Central Valley, all in the Sacramento area. Construction of planned development on Block 35 could obstruct flight paths to and from nests, loss of nesting material collection sites, and increased exposure to predators, potentially reducing the success of the I Street Bridge colony. Evidence suggests that the purple martin population is declining throughout the area and the colony could cease to exist due to reasons unrelated to the proposed RSPU. The City's I Street Bridge Replacement project, which is separate from the RSPU, proposes to remove the I Street Bridge viaduct, which would remove the current nesting habitat. Although these threats to the continued success of the colony are present, if the purple martin colony remains when development is initiated on Block 35, the proposed RSPU could adversely affect the colony.

The effects of the proposed RSPU could be mitigated through preparation and implementation of a Purple Martin Monitoring and Management Plan, which would establish land use and building design criteria, landscape design and maintenance requirements, as well as ongoing management actions. However, in light of the downward trend of the I Street Bridge purple martin population, and uncertainty of factors other than habitat modifications affecting the I Street colony of purple martin (i.e., disease, neonicotinoid pesticides), the Purple Martin Monitoring and Management Plan cannot be guaranteed to mitigate for impacts to the I Street Bridge martin colony. Thus the impact of implementation of the proposed RSPU on nesting birds would remain significant and unavoidable.

Elderberry shrubs are habitat for the federally-listed threatened valley elderberry longhorn beetle (VELB). Surveys conducted in 2015 and 2016 identified elderberry shrubs at five separate locations within, and at two locations immediately adjacent to the RSP Area. The proposed RSPU would result in significant impacts to elderberry shrubs, the host plant for the VELB. Mitigation measures would require compensation for any elderberry shrubs that require removal.

Potential roosting habitat for the protected bats is present within dense-foliaged trees within the RSP Area, as well as under the I Street Bridge, the elevated structure of I-5, and within the

Central Shops Historic District and the Sacramento Valley Station buildings. The proposed MLS Stadium and KP Medical Center do not contain suitable habitat for roosting bats. Development pursuant to the proposed RSPU could result in removal or disturbance to pallid bat or hoary bat maternity roosts. Mitigation would involve pre-construction surveys to identify any maternity roosting sites within 100 feet of project activities, and if found, observance of no-disturbance zones around those sites.

Landscape lighting, nighttime vehicle traffic, and high-rise buildings in the portion of the RSP Area to the west of I-5 could result in increases in artificial ambient lighting conditions that could spillover onto the Sacramento River, where it could interfere with the movement of migratory fish species within the Sacramento River by creating artificial visual conditions and/or increase predation opportunities for non-native predatory fish species. Required mitigation measures would reduce potential night lighting impacts by ensuring no lighting is directed towards the river, and light spillover is minimized in areas within portions of the RSP Area west of I-5.

Cultural Resources

The RSP Area 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. The RSP Area has environmental attributes, such as the confluence of two major rivers and elevated areas suitable for habitation, to support a wide range of prehistoric resource types, from long-term occupation sites to isolated artifacts. Extensive ground disturbance has occurred throughout the extensive remediation activity in the RSP Area, and no prehistoric resources have been definitively identified. Nevertheless, Native American tribal representatives have indicated that there may have been three cemetery locations within the RSP Area based oral history information.

While there has been extensive disturbance during the remediation process, areas within the RSP Area could still contain a variety of important prehistoric and historic-period resources. The proposed RSPU would include construction involving ground-disturbing activities that could damage or destroy potentially significant buried resources, including human remains, or submerged archaeological sites. Preparation and implementation of Archaeological Treatment Plans in sensitive areas, and accidental discovery procedures during construction throughout the RSP Area, would lessen anticipated impacts to archaeological resources by ensuring that previously unidentified archaeological resources are protected.

The RSPU would include the rehabilitation and adaptive reuse of the historic Central Shops buildings. New construction designs that do not recognize and reflect the importance of these features in their construction plans could fail to preserve or highlight the character of the district. Failure to sympathetically incorporate these features into surrounding design plans would result in a significant impact to the historic district. Mitigation through preparation of and compliance with an Historic District Plan for the Central Shops, in conjunction with compliance with the Secretary of Interior Standards for the Treatment of Historic Properties for any new construction in the Central Shops District, and review and coordination with the City of Sacramento

Preservation Director or the Preservation Commission pursuant to the requirements of the Preservation Development Project Site Plan and Design Review process, would reduce anticipated impacts on the Central Shops Historic District to a less-than-significant level.

Based on analysis undertaken in the SEIR, it is expected that any effects on features outside of the historic Central Shops or in the Alkali Flat Historic District would be less than significant.

The City of Sacramento and surrounding area are not highly sensitive for paleontological resources. Nonetheless, if such resources are present, they could be damaged or destroyed during project excavation, pile driving, utilities and/or and related construction activities. Mitigation requires that work cease if paleontological resources are discovered during construction, and that the resources are appropriately evaluated and either avoided or, if avoidance is not feasible, that a treatment plan be prepared and implemented. With mitigation, impacts on paleontological resources would be less than significant.

Energy Demand and Conservation

The analysis presented in the Energy Demand and Conservation section complies with the requirement in Appendix F of the CEQA Guidelines for an evaluation of a proposed project's potential energy implications and encourages measures to avoid or reduce the inefficient, wasteful, or unnecessary consumption of energy. The analysis presents estimates of construction and operational demand for electricity, natural gas, and transportation fuels. Based on the estimates of energy consumption, construction and operation of the proposed RSPU would be accomplished without the addition of energy infrastructure that could result in adverse environmental effects.

In addition, the analysis considers the potential for wasteful or inefficient use of energy, and concludes that development pursuant to the proposed RSPU would be designed and operated to minimize the use of electrical, natural gas, and transportation fuel energy. Future development in the RSP Area would comply with State and local regulations that increase the efficiency of operations. In addition, the proposed KP Medical Center project would achieve LEED Silver certification or equivalent. The proposed MLS Stadium would be designed and constructed to achieve the US Green Building Council's Leadership in Energy and Environmental Design (LEED) equivalent energy and environmental design to the extent feasible. For these reasons, the proposed RSPU would not result in the wasteful or inefficient use of energy.

Geology, Soils, and Seismicity

The SEIR evaluates the potential for construction and operation of the proposed RSPU to result in adverse impacts associated with geologic and soil constraints, such as settlement and slope instability, seismic hazards, and the loss of mineral resources. Because of the geologic and topographic characteristics of the RSP Area, the possibility of adverse effects related to the exposure to earthquake fault rupture, landslides and unstable soils, and loss of access to important mineral resources is not substantial.

Construction pursuant to the proposed RSPU near or adjacent to the existing historic Central Shops buildings could result in temporary instability in the soil surrounding the existing historic buildings. Such impacts could be avoided through implementation of measures that would require monitor and/or stabilize and reinforce historic structures prior to trenching or other construction activities within 50 feet of historic buildings.

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 (CAP). The evaluation considers the proposed RSPU in comparison to the City's CAP 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 2035 General Plan;
2. Incorporation of traffic calming measures where appropriate;
3. Incorporation of pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan;
4. Incorporation of bicycle facilities consistent with the City's Bicycle Master Plan;
5. Generation of at least 15% of energy demand from on-site renewable energy systems, or exceedance of the 2013 Title 24 energy efficiency standards by at least 10% for residential development and 5% for commercial development; and
6. Compliance with minimum CALGreen Tier 1 water efficiency standards.

Based on this comparison, the proposed RSPU would be consistent with the CAP and pursuant to CEQA Guidelines section 15183.5(b) would therefore have a less-than-considerable contribution to cumulative greenhouse gas (GHG) emissions.

Hazards and Hazardous Materials

The RSP Area served as the principal locomotive and maintenance rebuilding facility for the Central Pacific Railroad, and later Southern Pacific Railroad, starting in 1863. Many different industrial operations occurred at the RSP Area over its history. Industrial activities ceased in the mid-1990s and are no longer performed on the site; however, these historic activities involved on-site disposals, spills, and other releases of hazardous chemical products and items containing hazardous substances that resulted in soil and groundwater contamination. Soil within the RSP Area contained metals (primarily lead), petroleum hydrocarbons, volatile organic compounds, and asbestos. The metals, petroleum hydrocarbons, and volatile organic compounds ultimately led to degradation of shallow groundwater underlying the site. Additional information on the types and extent of contamination is set forth below and discussed at greater length in section 4.8, Hazards.

Investigation and remediation of hazardous substances in the RSP Area has been ongoing since 1988 pursuant to an Enforceable Agreement between the UPRR (formerly Southern Pacific) and the California Department of Toxic Substances Control. Today the soils within a majority of the RSP Area are largely remediated, and groundwater remediation systems are in place and will operate for decades to come. DTSC concluded that the property subject to the Enforceable Agreement, as remediated and when used in compliance with the Environmental Restrictions of a 2015 Land Use Covenant (LUC), would not present an unacceptable risk to present and future human health or safety or the environment. The 2015 LUC applies to properties that have been certified as remediated, and are owned by DRV. The 2015 LUC requires implementation of a Railyards Projects Soil and Groundwater Management Plan (SGMP) for certified properties. The Plan describes required management, handling, and procedures associated with encountered soil, groundwater, and general waste streams with the potential to require special handling. The proposed RSPU also requires that DRV properties that have yet to be remediated and/or certified also comply with the SGMP. Most other properties within the RSP Area that are not owned by DRV have also been remediated, and are subject to separate land use covenants that govern land uses developed on those sites, as well as related construction activities.

A small portion of the RSP Area has not been remediated—the West Jibboom area, which is not owned by DRV. The only element of the RSPU that would occur within this area is the portion of the Stormwater Outfall outside of the DRV-owned property (west of Jibboom Street and on the riverbank). Because it is not covered by an existing land use covenant or the SGMP, there is a risk that construction workers could be exposed to contaminated soils, if they are present on that site. Mitigation requiring that if suspect soils are encountered, work stop until the soils can be investigated and remediated if needed, would reduce this impact to a less-than-significant level.

The proposed RSPU involves renovation and/or restoration of the Central Shops buildings that could release asbestos, lead-based paint, or other hazardous substances, to the environment if not properly identified, removed, contained, and transported. Compliance with applicable laws and regulations at the federal, State, and local levels would prevent the exposure of individuals and the environment to the hazards. Therefore, risk of exposing people to asbestos containing materials, lead-based paint or other hazardous materials would be less than significant.

Two contaminated groundwater plumes are located below the RSP Area. Dewatering activities associated with construction could expose construction workers to contaminated groundwater from these plumes and/or interfere with groundwater remediation activities. As discussed above, most of the RSP Area would be subject to land use covenants and/or the SGMP, which govern various construction activities, including dewatering. Therefore, impacts associated with groundwater contamination would not be significant for these properties. The Stormwater Outfall would be located on a site not subject to the SGMP or land use covenants. Therefore, mitigation is recommended to ensure that if evidence of groundwater contamination arises, it is appropriately investigated and handled. With mitigation, this impact would be less than significant.

Despite the presence of land use covenants and the SGMP, the potential future use of porous utility lines (e.g., terra cotta drain pipes), could result in infiltration by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes. The SEIR includes mitigation measures that would require installation of features such as membrane barriers, concrete trenches, and venting, along with routine monitoring, to ensure no adverse effects on water quality.

Hydrology and Water Quality

For the most part, potential effects of the proposed RSPU 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. While the RSP Area is within an area protected from the 100-year flood, in the vicinity of the RSP Area, the existing storm drainage facilities, including the Combined Sewer System and Basin 52, are subject to flooding during intense storms due to insufficient capacity; thus, runoff of storm drainage from the RSP Area requires construction of a new system that would convey runoff to the proposed Stormwater Outfall. By designing the project stormwater systems to avoid project runoff from entering the City's Combined Sewer System, the proposed RSPU would not exceed current peak flows, and the potential effect would be less than significant. Further, because the area is protected from major floods by the regional flood protection system, the proposed lowering of the northern embankment and the maintenance of a minimum 31-foot elevation along the alignment of the UPRR tracks, the proposed project would not adversely affect either regional or local flooding conditions.

Noise and Vibration

The RSP Area is close to a number of residential buildings that are home to people who would meet the definition of sensitive noise receptor, including the nearby Lofts at Globe Mills near 11th and C Streets, the Creamery at Alkali Flat project (currently under construction), homes and apartments along D Street in Alkali Flat, two homes located on the south side of Water Street near the intersection with Bannon Street, the Dos Rios public housing project at North 10th and North D Streets, the Cannery Place Apartments at the Township 9, the Quinn Cottages near North A and North 14th Streets, and the Ping Yuen Apartments and Riverview Plaza on I Street. In addition, the KCRA studios located at D Street between 9th and 10th Streets is an unusual circumstance of a business that, because of live broadcasting throughout the day and evening, is uniquely sensitive to loud noises and such disturbances. Finally, the buildings in the Central Shops Historic District could be sensitive to vibration created during construction.

Residents and other users of adjacent buildings would be exposed to noise from construction activities within the RSP Area, as well as game noise and other amplified sound created during events and from increased traffic on downtown streets. During construction, especially in the East End District, demolition, excavation, and construction activities would generate noise levels during day and night times that would disturb people and interrupt sleep and noise sensitive work

activities. The same activities in the vicinity of the historic Central Shops buildings could generate vibrations that could damage nearby buildings. 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.

In addition to construction noise, the proposed RSPU would add traffic to area streets that would experience marginal increases in ambient noise levels. Future traffic increases associated with the development of the proposed RSPU would result in noise increases along roadway segments in the vicinity of these proposed projects that would expose nearby sensitive receptors to substantial noise increases over baseline conditions. 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.

Helicopter noise is addressed under KP Medical Center, below. Game and sound system generated noise originating from events at the proposed MLS Stadium are addressed under MLS Stadium, below.

Public Services

The evaluation of public services effects of the proposed RSPU considers impacts related to police protection, fire protection, schools, parks and recreational facilities, and libraries.

Police Services

The Sacramento Police Department (Sacramento PD) would provide police protection to the RSP Area, and traffic management, as appropriate, before and after events at the proposed MLS Stadium. The proposed RSPU would generate demand for additional police protection services due to the increases in population resulting from RSPU housing development. Since the 2007 RSP EIR was certified, the Richards Police Facility has been built 0.5 miles to the north of the RSP Area, and could provide services to population of the RSP Area. In addition, the residences

and businesses in the RSP Area would pay taxes and fees to finance the City's General Fund and thereby fund Sacramento PD services.

Fire Protection Services

Fire protection would be provided by the Sacramento Fire Department (SFD). The RSPU would result in new employees, residents and visitors within the RSP Area, and this increased activity would increase demand for fire protection and emergency services. The proposed RSPU would support approximately 12,600 to 21,000 residents, along with non-residential (e.g., commercial, medical) uses, and therefore increase demand for fire protection services. The RSPU provides for a fire station at one of two locations within the RSP Area, either the southeast corner of Railyards Boulevard and 7th Street or the northeast corner of Railyards Boulevard and 10th Street.

Although Station #2 at 13th and I Street is at capacity, sufficient combined capacity exists among the four stations in the RSP Area vicinity (Stations #1, 2, 5, and 14) to meet the increased call volumes projected to be generated by development pursuant to the proposed RSPU. Although the construction of a new fire station is not required to serve the proposed RSPU, an additional fire station in the RSP Area would provide additional capacity to respond to calls.

Public Schools

The RSP Area is served by two school districts, Sacramento City Unified School District (SCUSD) and Twin Rivers Unified School District (TRUSD). In the SCUSD, the RSP Area would be served by three schools: William Land Elementary School, Sutter Middle School, and C.K. McClatchy High School. In the TRUSD, the RSP Area would be served by Woodlake Elementary School, Rio Tierra Junior High School, and Grant Union High School.

The proposed RSPU could generate as many as 2,600 students, which would need to be accommodated at SCUSD and TRUSD schools. Existing elementary schools could not accommodate all of the new students under existing conditions, even if a school is built within the RSP Area. As a result, additional school facilities and equipment would be required to serve both scenarios. Project developers would be required to pay applicable school impact fees. SCUSD and TRUSD have the ability to incorporate additional capacity at existing schools (through, for example, portables) and to build new schools over time, if needed to serve increased enrollment. Further, an elementary school could be constructed within the RSP Area. As explained in the section 4.10, Public Services, California law provides that payment of the required fee is complete mitigation for any impacts to schools.

The California Education Code establishes threshold for development of new school sites, including measures to be taken if a school is proposed within 1,500 feet of a railroad track due to the potential risk to students. Placement of a school on any parcel within 1,500 of the tracks would be considered a significant impact. Mitigation is recommended to ensure that proper precautions are taken to protect students from potential hazards resulting from placing a school near a railroad track.

Parks and Recreation Facilities

The proposed RSPU would include up to 6,000 to 10,000 housing units and support 12,600 to 21,000 residents. This increase in population and employees would create an additional demand for parks and recreational facilities within the RSP Area and, more generally, the Central City area. The proposed RSPU would provide approximately 30 acres of parks and open space but this would not meet the City's identified demand for parks using City standards.

The SEIR includes a mitigation measure that would ensure that residential needs are met through dedication of parks and open space, payment of in-lieu fees and/or provision of "turnkey" parks improvements.

Public Libraries

The Sacramento Public Library (SPL) would serve residents in the RSP Area. The proposed RSPU would support approximately 12,600 to 14,000 residents, which would increase demand for library services. This population was anticipated in the 2007 Sacramento Public Library Facilities Master Plan, so no new libraries would need to be built. In addition, new development, as well as residents and businesses, would pay taxes and fees that would be available to finance the existing library system and support future service needs.

Transportation

The analysis of transportation and circulation effects of the proposed RSPU 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, and the weekday pre-event peak hour for MLS Stadium events. A detailed study was completed to identify reasonable expectations for use of non-automotive modes of transportation to and from the RSP Area, including transit, walk, and bicycle. The conclusions of that study are that under baseline conditions, approximately 12.7% of the daily trips would be "internalized" (i.e., remain within the RSP Area due to the project's mixed use nature), and approximately 19.2% of daily external trips would be made with non-automotive modes, including 7.3% by transit, and about 11.9% by foot or bicycle. In the long term, under cumulative conditions, it is anticipated that approximately 13.8% of the daily trips would be remain internal, and non-automotive travel would constitute 22.9% of external travel to and from the RSP Area, with transit use increasing to approximately 9%, and walk and bicycle use rising to 13.9% of daily trips.

Area Intersections

The RSPU proposes an internal roadway network that would be sized to accommodate its anticipated travel demand. A portion of the already built (but not yet open to traffic) segment of Railyards Boulevard west of 7th Street would be restriped to consist of two eastbound lanes and one westbound lane (versus two westbound and one eastbound lane). While the RSP Area is

within the City's Tier 1 Investment Area in which LOS F operations may be considered acceptable, all intersections within the RSP Area would operate at LOS E or better during the AM and PM peak hours under baseline plus RSPU conditions. However, a total of four (4) study intersections outside the RSP Area would operate at LOS F. A variety of factors contribute to degraded intersection operations under cumulative plus RSPU conditions including the addition of regional traffic within the RSP Area associated with the new I Street Bridge over the Sacramento River and Truxel Road bridge over the American River.

None of the mitigation measures for baseline intersection impacts identified in the 2007 RSP EIR are applicable to the RSPU for various reasons such as changes in LOS policies and different physical improvements now built/planned in the RSP Area. All RSPU intersection impacts would be less than significant after mitigation.

The proposed MLS Stadium is part of the RSPU. As is discussed in detail later in this section, the proposed MLS Stadium would cause severe congestion during the one-hour prior to the beginning of a sold-out 25,000-person MLS soccer match. A variety of mitigation measures are recommended to address those conditions, including various intersection/street widenings, bicycle/pedestrian improvements, and implementation of an Event Transportation Management Plan (TMP). Those mitigations are incorporated into the list of RSPU mitigations.

Freeway Segments

Similar to the 2007 RSP EIR, the proposed RSPU would cause some freeway facilities maintained by Caltrans to have degraded operating conditions. The addition of RSPU trips would cause significant impacts to four facilities. Payment into the voluntary I-5 Freeway Subregional Corridor Mitigation Program (SCMP) would represent fair share contributions to improve I-5, thereby mitigating the impact to less than significant. However, the I-5 SCMP would not address off-ramp queuing impacts at the I-5 NB off-ramp at J Street, which results in a significant and unavoidable queuing impact at this location. Queuing impacts at the I-5/Richards Boulevard interchange would be significant and unavoidable in the short-term until such time that interchange reconstruction (which is partially funded through the I-5 SCMP) occurs.

Transit

The proposed RSPU's roadway network would be used by buses and light rail trains (that run along 7th Street). The RSPU would not cause undue delays to transit vehicles. The RSPU would provide crosswalks, sidewalks, and multi-use paths to provide access to the planned light rail station on 7th Street north of Railyards Boulevard. Accordingly, the RSPU would not fail to adequately provide access to transit. Therefore, impacts would be considered less than significant.

Bicycle and Pedestrian Access

The RSPU would provide a series of Class I, II, III, and IV bicycle facilities throughout the RSP Area that would connect with existing/planned bicycle facilities to the west, east, north, and south. The proposed location and facility types are not consistent with the planned bicycle

network within the RSP Area as shown in the City's Bikeway Master Plan. If the RSPU is approved, then the preferred network shown in the City's Bikeway Master Plan should be modified accordingly. The lack of consistency does not constitute a significant effect because the RSPU bicycle network provides for a convenient and connected system of bike facilities. Accordingly, the RSPU would not adversely affect existing bicycle facilities or fail to provide for access by bicycle. Under cumulative conditions, the RSPU would include a connection to the City's planned cycle track on 12th Street. In addition, to address the loss of bicycling opportunities on 7th Street between F Street and Railyards Boulevard (due to the planned reconfiguration of 7th Street to consist of a shared vehicle/LRT and vehicle-only lane in each direction), 6th Street from H Street to Railyards Boulevard would be reconfigured to include Class IV protected bike lanes. Therefore, impacts would be considered less than significant.

Utilities and Service Systems

Water Supply

The City obtains the majority of its water supply from two surface water sources, the Sacramento River and the American River. Groundwater makes up the balance of supply. The proposed RSPU would generate a demand for potable water of between approximately 1,871 and 2,278 acre feet per year. In compliance with the California Water Code, the City prepared a Water Supply Assessment (WSA) which considers the availability of water to serve the RSPU 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 RSPU. Further, the City's existing water transmission system is sufficient to meet the demands throughout the downtown area. However, under cumulative conditions there would be future years when drought conditions could trigger legal limits on withdrawals from the City's Fairbairn Treatment Plant on the American River. While the City's existing water rights would be sufficient to provide water to meet foreseeable development within the City, including the proposed RSPU, at least through 2035, the City's ability to divert water from existing facilities would become insufficient in or before 2020.

Mitigation measures in the SEIR note that in order to ensure that sufficient capacity would be available to meet cumulative demands, the City would be required implement one or more of the following measures: (1) additional water conservation, (2) a new water diversion and/or treatment infrastructure, or (3) additional groundwater pumping. Implementation of one or more of the above options could sufficiently increase water treatment capacity to meet cumulative demand. However, because the specific method has not yet been determined, and because significant environmental effects could result from implementation of each of the above options, the impact is considered significant and unavoidable.

Wastewater

Wastewater from the RSP Area 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 CSS is a legacy system that was designed to provide both stormwater and sanitary sewer service (combined in a single pipeline system) within this area. Because the system does not meet City standards for stormwater conveyance capacity, it is subject to outflow and, infrequently, overflow during major storm events.

The proposed RSPU would include the construction of a new separated sewer system in the RSP Area that would discharge wastewater flows to the CSS at a connection near 3rd/I Streets. The proposed RSPU would comply with the City design requirements and flow limitations within the CSS.

Drainage

Other than a small amount of stormwater that would drain to the American River along North 7th Street, all future stormwater runoff in the RSP Area would be discharged through the Stormwater Outfall into the Sacramento River, not into the CSS. However, if development in the RSP Area precedes completion of the Stormwater Outfall, capacity limitations of interim stormwater retention basins could result in stormwater overflows that could ultimately discharge to the CSS, potentially causing flooding in streets downstream from the RSP Area.

The proposed RSPU includes provisions that require design and operation of interim stormwater retention basins to include excess capacity above the City design criteria for the 10-day 100-year storm in order to retain any additional stormwater runoff from storm events that occur before the retention basins are emptied to prevent localized flooding.

Solid Waste

Within the City of Sacramento, residential waste is collected by the City's Recycling and Solid Waste Division and commercial and multi-family waste is collected by private franchised haulers. Solid waste collected by the commercial haulers is taken to either a transfer station and then transported to a landfill or is taken directly to a landfill facility. Commercial waste can be taken to a variety of landfills, as long as they are compliant with the Sacramento Regional Solid Waste Authority (SWA) Code for commercial waste hauling. The existing landfills have capacity to accept the waste generated by the proposed projects, so this impact would be less than significant.

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.

Removal of Obstacles to Growth

The proposed projects would involve substantial construction of new roads and utility infrastructure, connecting to the existing system of local roads and utility infrastructure. The expansion of wastewater and drainage systems to accommodate the proposed projects would

simply provide capacity for the RSP Area. As such, development of the RSPU wastewater and drainage systems would not remove an obstacle to growth to areas outside of the RSP Area.

The construction of the circulation system in the RSP Area, and connection of it to the surrounding circulation system would provide additional connectivity in a part of the Central City that is currently constrained. Roadway accesses to be constructed as part of the RSPU include Railyards Boulevard connections with Jibboom Street to the west and 12th Street to the east; the extensions of the 5th and 6th Streets to North B Street; and the construction of 8th and 10th Streets, from Railyards Boulevard to North B Street in the River District. In addition, the RSP Area circulation system would connect the future I Street Bridge Replacement to the Sacramento Central City circulation system. At full build-out the RSP Area roadway network would provide additional access connecting CBD to the River District which could remove obstacles for further development of the RSP Area and could provide additional capacity that would support development in downtown Sacramento, the River District, and West Sacramento. This additional development is already provided for in the City of Sacramento 2035 General Plan, the River District Specific Plan, and the Washington Area Specific Plan and Bridge District Specific Plan in West Sacramento, and the environmental effects of this potentially induced growth has been considered in the EIRs prepared for each of those planning documents. Thus, the additional circulation improvements that would be part of the proposed RSPU would not remove an obstacle to development.

Economic Stimulus

It is expected that through an economic "multiplier effect," the proposed RSPU would result in direct employment growth of approximately 22,903 jobs, including jobs at the proposed KP Medical Center and MLS Stadium projects, and generate indirect and induced employment growth associated with the increased employment in the Sacramento regional economy. Increased employment in the RSP Area would provide increased wage and salary incomes that would support additional household spending for a wide variety of goods and services. Increased future employment generated by resident and employee spending ultimately results in physical development of space to accommodate those employees. These additional jobs and related increased physical space 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 and other regional plans such as SACOG's MTP/SCS, and their associated EIRs.

Urban Decay

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. An urban decay study was presented in the 2007 RSP EIR and included an analysis based on the supply and demand effects of the retail component of the 2007 RSP, as well as other retail development and residential population of a larger market area.

The conclusion of the analysis is that there is sufficient demand from the local market area so that retail and restaurant space in the RSP Area alone would not be projected to result in closure of retail stores and restaurants. That analysis concluded that there would be a modest oversupply of retail space in the market area, but not an amount that would be of such magnitude as to create urban decay.

The proposed RSPU would reduce the amount of retail space in the RSP Area. The residential population of the RSP Area would also likely be reduced. In addition, a major relevant changed condition is the reconfiguration of the former Downtown Plaza (now called Downtown Commons), with a resulting decrease in retail space at that nearby location. The net effect of the changes to proposed retail land uses called for in the RSPU and the changes in the retail space in the Downtown Commons project is that the prior documented oversupply of retail space would be eliminated under all residential scenarios. Based upon these findings, the analysis concludes that under the proposed RSPU combined with cumulative retail projects would not cause or contribute to urban decay.

KP Medical Center

As described under the Project Description, the proposed KP Medical Center would be a part of the proposed RSPU, and, thus, would contribute to a number of the significant impacts that are described above for the overall RSPU. The discussion below provides an overview of environmental effects of the KP Medical Center.

Aesthetics, Light and Glare

The proposed KP Medical Center would not contribute to any of the aesthetic, light and/or glare effects identified for the proposed RSPU. Effects on views and visual character would be generally isolated to locations in the RSP Area outside of and away from the KP Medical Center site, including the 7th Street corridor, the Riverfront District, and lighting effects are largely related to the proposed MLS Stadium. As such, there would be no significant impacts on aesthetics, light and glare generated by the proposed KP Medical Center.

Air Quality

Construction and operation of the proposed KP Medical Center would generate a portion of the air emissions predicted for the proposed RSPU. Under the Baseline Plus KP Medical Center scenario the construction emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant. However, because the proposed KP Medical Center would be part of the proposed RSPU, which would have significant and unavoidable construction emissions of NO_X, the same mitigation measures described for the proposed RSPU would be required for the KP Medical Center.

Biological Resources

The proposed KP Medical Center project site is a flat, undeveloped site that was previously disturbed as part of the soil remediation of the RSP Area. The site is largely devoid of vegetation other than scattered weeds. Despite the lack of habitat value on the project site itself, like other development within the RSPU, it is possible that construction of the proposed KP Medical Center could result in the disturbance of raptors nesting in trees within 500 feet of the site. Mitigation measures are available to reduce this effect to insignificance. None of the other biological impacts of the proposed RSPU would be attributable to the proposed KP Medical Center.

Cultural Resources

No historic structures exist on the KP Medical Center site. The project site is not in proximity to the Central Shops Historic District, the Alkali Flat Historic District, or the historic I Street Bridge, and therefore would have no adverse effects on those historic resources. Archival research, including review of records of subsurface investigations undertaken as part of the remediation process, did not identify any archaeological resources and indicates that there is a low potential for unidentified archaeological resources to be located during construction. Thus, the KP Medical Center site is not identified as an archaeologically sensitive area. While unlikely, there is a possibility of inadvertent discovery of historic or pre-historic archaeological resources during ground disturbing activities. Discovery of historic or pre-historic archaeological or paleontological resources during excavation at the KP Medical Center site would be mitigated by ceasing work during resource evaluation and recovery.

Energy Demand and Conservation

Like the proposed RSPU, the KP Medical Center would rely on electricity from SMUD and natural gas from PG&E. The construction of a Central Utility Plant (CUP) as part of the project would improve energy efficiency, and would be one of a number of sustainability and green measures that would be implemented to achieve LEED Silver or equivalent. As a result of the energy efficiency measures included in the proposed KP Medical Center, along with the increased transportation energy efficiency that would result from the centralized and transit-accessible location of the project, would ensure that the KP Medical Center would not result in wasteful or inefficient use of energy.

Geology, Soils and Seismicity

Like the proposed RSPU of which it would be a part, the KP Medical Center would have less-than-significant impacts related to geology, soils, and seismicity. Because of its location, the KP Medical Center would have no impact on the stability of the Central Shops.

Global Climate Change

The proposed KP Medical Center would be consistent with the City of Sacramento's Climate Action Plan (CAP). Based on the City's CAP Consistency Checklist, the proposed KP Medical Center would respond positively to all of the relevant requirements of the CAP, including

consistency with the uses and densities established in the 2035 General Plan, consistency with the City's Pedestrian and Bicycle Master Plans, and required levels of energy and water efficiency. Thus, the proposed KP Medical Center would have a less-than-considerable contribution to cumulative greenhouse gas (GHG) emissions that contribute to global climate change.

Hazards and Hazardous Materials

The soil at the KP Medical Center site has been previously remediated and is considered cleaned up consistent with the requirements of the Environmental Restrictions of the 2015 Land Use Covenant and the provisions of the SGMP. Like other property within the RSP Area, the site overlies areas where groundwater contamination will require long-term remediation programs that are currently ongoing. Because in these areas there is a risk of exposing people to contaminated groundwater during construction dewatering, the KP Medical Center would comply with the requirements of the Railyards Projects Soil and Groundwater Management Plan, reducing potential impacts to less than significant.

Hydrology and Water Quality

The KP Medical Center site, like the rest of the RSP Area, is provided a minimum 100-year flood protection by the regional flood protection system anchored by levees on the south bank of the American River and the east bank of the Sacramento River. Through implementation of the proposed Railyards Water Quality Plan, as well as construction of the Drainage Master Plan, including the proposed new Stormwater Outfall on the Sacramento River, the proposed KP Medical Center would not have significant impacts related to hydrology or water quality. The Draft SEIR acknowledges the potential exists that the KP Medical Center could be constructed prior to the completion of the proposed new Stormwater Outfall. In that event, the potential impacts would be addressed through the construction on property within the RSP Area of stormwater retention basins sufficient to contain runoff from the KP Medical Center site.

Noise and Vibration

Like other development pursuant to the RSPU, the proposed KP Medical Center would generate construction and operational noise that could conflict with City standards. Measures to reduce construction noise impacts would be required, but the potential for use of impact pile drivers could make these significant impacts unavoidable. Similarly, operational noise from heating and ventilation equipment could adversely affect residences constructed elsewhere in the RSP Area, and, despite noise reduction measures, could continue to be in excess of City standards.

Although the proposed KP Medical Center would not be a Level 1 trauma center, it would include a helistop that could be used an estimated two to six times per week for patient transfer. The helistop could be located at ground level, or could be constructed on the roof of the hospital building. Irrespective of the location, it is anticipated that helicopter activity would not result in significant noise impacts due to the infrequency of helicopter operations and the ability of helicopters to travel over areas distant from residences (such as the I-5 corridor).

Public Services

Like the proposed RSPU, in addition to its own 24-hour private security, the KP Medical Center would be provided police protection by the Sacramento Police Department and fire protection from the Sacramento Fire Department. The proposed KP Medical Center could be provided service without creating new physical environmental effects due to the construction of new facilities. Because the proposed KP Medical Center would not include residential uses, there would be no increase in student enrollment, and thus no effects on the Sacramento Unified School District or the Twin Rivers Unified School District. Finally, the KP Medical Center would not generate increased demand for parks and recreation facilities or library services.

Transportation

Although the KP Medical Center would connect Bercut Drive to Railyards Boulevard and construct frontage improvements along South Park Street and 5th Street, no other off-site street improvements are proposed. The KP Medical Center would add substantial levels of traffic to a backbone roadway network within the RSP Area that would not have the capacity to handle those trips. Accordingly, the baseline plus KP Medical Center scenario shows extensive queuing along portions of Railyards Boulevard, 7th Street, North B Street, and Bercut Drive. Traffic generated by the proposed KP Medical Center would degrade the overall roadway system operation to the extent that without additional mitigation the project would not be consistent with General Plan Policy M 1.2.2 relating to the City's Level of Service Policy and would be detrimental toward achieving other General Plan circulation policies regarding to multi-modal improvements. Therefore, this impact is considered potentially significant. Recommended mitigation measures for these impacts would require coordinated traffic signals along Railyards Boulevard and increased capacity at the critical 7th Street/Railyards Boulevard intersection. Increased capacity could be provided by connecting 5th Street and 6th Street, respectively, to North B Street, or reconstructing the North B Street/7th Street intersection to increase its capacity. Impacts would be less than significant with implementation of any of these mitigation options.

To address other intersection and freeway impacts, the KP Medical Center would be required to pay the I-5 SCMP and implement a Transportation Demand Management (TDM) program. Queuing impacts at the I-5/Richards Boulevard interchange would be significant and unavoidable in the short-term until such time that interchange reconstruction (which is partially funded through the I-5 SCMP) occurs. Impacts to bicycle, pedestrian, and transit facilities would be less than significant and require no mitigation.

Utilities and Service Systems

As a component of the proposed RSPU, to be served by the proposed water, wastewater, and drainage systems to be constructed under the RSPU, the KP Medical Center would have the same impacts related to utilities and services systems as the RSPU. As described above, in the event of its construction prior to completion of the proposed Stormwater Outfall, the KP Medical Center would require construction within the RSP Area of temporary retention basins sized to

sufficiently hold runoff from new impervious surfaces on the KP Medical Center site. Like other future development in the RSP Area, the KP Medical Center would be part of the future cumulative demand for water supply and treatment in Sacramento. Although it would implement CALGreen Tier 1 water efficiency standards, future demand generated by the KP Medical Center and other development in the City could result in the need for additional citywide conservation programs, new or expanded surface water supplies, and/or additional groundwater pumping.

Urban Decay

The proposed KP Medical Center project would relocate surgical, clinical, and associated uses from the KP Sacramento Morse Avenue Medical Center (Morse Avenue facility) to the KP Medical Center within the RSP Area. Given that Kaiser is both a medical insurer and medical care provider, and that the Kaiser system is a closed one, there are few non-Kaiser medical care providers and/or pharmacies located in close proximity to the Morse Avenue facility. The closure of the Morse Avenue facility could have some impact on remaining providers, but such impact would likely be negligible, primarily since the closed nature of the Kaiser system makes it unlikely that any of these businesses is highly dependent on the presence of the Morse Avenue facility. There is no evidence to suggest that the closure of the Morse Avenue facility as a result of the proposed KP Medical Center in the RSP Area would result in the types of extensive and extended vacancies that can lead to urban decay.

MLS Stadium

As described under the Project Description, the proposed MLS Stadium would be a part of the proposed RSPU, and, thus, would contribute to many of the significant impacts that are described above for the overall RSPU. The discussion below highlights environmental effects that would be unique to the proposed MLS Stadium, or impacts of the overall RSPU to which the proposed MLS Stadium would contribute.

Aesthetics, Light and Glare

The primary aesthetic impact of the proposed MLS Stadium would involve the creation of new light sources and associated potential spillover of light onto nearby residential properties. Major event facilities such as the MLS Stadium are typically highly lit for visibility and include substantial area lighting to ensure the safety of large numbers of pedestrians in surrounding open plaza areas. Lighting for the Stadium would be comprised of event field lighting, exterior stadium lighting (i.e., building perimeter lighting and site lighting), emergency lighting, and digital signage.

There is a potential for spillover lighting from the MLS Stadium site to adversely affect nearby residential units constructed in the RSP Area, across 8th Street and Railyards Boulevard, as well as on the northern edges of the Alkali Flat neighborhood. Mitigation measures that would be required include shielding of construction lighting, submission of a lighting plan for the MLS Stadium that would require spillover lighting be minimized, and compliance with City lighting

regulations for all signage and lighting, including digital signs and use of searchlights. Notwithstanding the implementation of these measures, the potential remains that spillover light could disturb adjacent and nearby homes, and so this significant impact is considered unavoidable.

Air Quality

Construction and operation of the proposed MLS Stadium would generate a portion of the air emissions predicted for the proposed RSPU. Under the Baseline Plus MLS Stadium scenario the construction emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant. However, because it would be part of the proposed RSPU, which would have significant and unavoidable construction emissions of NO_X, the same mitigation measures described for the proposed RSPU would be required for the proposed MLS Stadium.

Biological Resources

The proposed MLS Stadium project site is a topographically varied, undeveloped site that was is currently highly disturbed as part of the soil remediation of the RSP Area. The site is open dirt with scattered weeds, as well as some concentrations of non-native shrubs. Despite the lack of habitat value on the project site itself, like other development within the RSPU, it is possible that construction of the proposed MLS Stadium could result in the disturbance of raptors nesting in trees within 500 feet of the site. Mitigation measures are available to reduce this effect to insignificance. None of the other biological impacts of the proposed RSPU would be attributable to the proposed MLS Stadium.

Cultural Resources

The proposed MLS Stadium is in an area that was historically occupied by multiple spurs of the railroad alignment in the early twentieth century, and the Southern Pacific Railroad's Car Shop 9 and its associated multiple siding tracks by the 1920s. No historic structures exist on the MLS Stadium site. The project site is not in proximity to the Central Shops Historic District, the Alkali Flat Historic District, or the historic I Street Bridge, and therefore would have no adverse effects on those historic resources.

Archival research, including review of records of extensive subsurface disturbances undertaken as part of the remediation process, did not identify any archaeological resources on the MLS Stadium site, and indicates that there is a low potential for unidentified archaeological resources to be located during construction. Thus, the proposed MLS Stadium site is not identified as an archaeologically sensitive area. The site is in an area that has been identified as an area of concern by local Native American tribes, and, while unlikely, there is a possibility of inadvertent discovery of historic or pre-historic archaeological resources during ground disturbing activities. Discovery of historic or pre-historic archaeological resources during excavation at the MLS Stadium site would be mitigated by ceasing work if resources are discovered, followed by resource evaluation and recovery. Similarly, if paleontological resources are inadvertently

discovered, mitigation requires that construction activities cease until the resource can be evaluated and recovered.

Energy Demand and Conservation

Like the proposed RSPU, the MLS Stadium would rely on electricity from SMUD and natural gas from PG&E. The proposed MLS Stadium would be designed and constructed to achieve the US Green Building Council's Leadership in Energy and Environmental Design (LEED) equivalent energy efficiency and environmental design. LEED equivalency may be achieved through varying levels of performance related to the sustainability factors identified in Table 2 12. Depending on final designs, the proposed MLS Stadium may exceed some targets and fall short of others. Multiple strategies are being investigated to achieve the targets including several that would improve energy efficiency:

- Emphasis on quality transit and alternative mode use, including bicycle facilities, green vehicles, resulting in commensurate reductions in transportation fuel use;
- Water efficiency measures that reduce indoor and outdoor water use, resulting in reduced energy demand for the conveyance of potable water;
- Systems to optimize energy performance, including energy metering, demand response, maximizing use of shade structures and wind resources on the site, use of LED and sensor lighting, and potential use of solar panels for on-site energy generation; and
- Maximizing use of natural light, reducing energy demand for artificial lighting.

As a result of the energy efficiency measures included in the proposed MLS Stadium, along with the increased transportation energy efficiency that would result from the centralized and transit-accessible location of the project, would ensure that the proposed MLS Stadium would not result in wasteful or inefficient use of energy.

Geology, Soils and Seismicity

Like the proposed RSPU of which it would be a part, the proposed MLS Stadium would have less-than-significant impacts related to geology, soils, and seismicity. The MLS Stadium site is not located near the Central Shops, so it would have no impact on their stability.

Global Climate Change

The proposed MLS Stadium would be consistent with the City of Sacramento's Climate Action Plan (CAP). Based on the City's CAP Consistency Checklist, the proposed MLS Stadium would respond positively to all of the relevant requirements of the CAP, including consistency with the uses and densities established in the 2035 General Plan, consistency with the City's Pedestrian and Bicycle Master Plans, and required levels of energy and water efficiency. Thus, the proposed MLS Stadium would have a less-than-considerable contribution to cumulative greenhouse gas emissions that contribute to global climate change.

Hazards and Hazardous Materials

The soil under a vast majority of the MLS Stadium site has been previously remediated and is considered cleaned up consistent with the requirements of the Environmental Restrictions of the 2015 Land Use Covenant. However, two small areas below the existing portion of Track 150, clipping the southeastern and southwestern corners of the Car Shop Nine Study Area were inaccessible for remediation. These minor areas will require further remediation in accordance with the Remedial Action Plan prior to excavation or initiation of any redevelopment activities. Because these areas are owned by DRV, they are subject to the SGMP, which contains measures to protect against exposure to contaminated soils and groundwater.

Like other property within the RSP Area, the site overlies areas where groundwater contamination will require long-term remediation programs that are currently ongoing. Because in these areas there is a risk of exposing people to contaminated groundwater during construction dewatering, the MLS Stadium would comply with the requirements of the Railyards Projects Soil and Groundwater Management Plan, reducing potential impacts to less than significant.

Hydrology and Water Quality

The proposed MLS Stadium site, like the rest of the RSP Area, is provided a minimum 100-year flood protection by the regional flood protection system anchored by levees on the south bank of the American River and the east bank of the Sacramento River. Through implementation of the proposed Railyards Water Quality Plan, as well as construction of the Drainage Master Plan, including the proposed new Stormwater Outfall on the Sacramento River, the proposed MLS Stadium would not have significant impacts related to hydrology or water quality. The Draft SEIR acknowledges the potential exists that the proposed MLS Stadium could be constructed prior to the completion of the proposed new Stormwater Outfall. In that event, the potential impacts would be addressed through the construction on property within the RSP Area of stormwater retention basins sufficient to contain runoff from the MLS Stadium site.

Noise and Vibration

Construction of the proposed MLS Stadium may require the use of impact-driven piles. The sounds levels generated during the two-month foundations and footings construction phase would result in annoyance and potential disturbance of activities at sensitive uses within approximately 500 feet, including residences at The Creamery at Alkali Flat and at the KCRA broadcast studio, as well as at any residences that may be occupied within the RSP Area east of 7th Street. Mitigation measures would require temporary noise barriers, and use of quiet pile drivers, as well as coordination with KCRA. Nevertheless, these impacts would remain significant and unavoidable.

Events at the proposed MLS Stadium would create noise from amplified speakers in the Stadium and surrounding plaza, as well as game noise generated by attendees and public address announcers in the Stadium, plazas and on streets around the project site. Noise generated inside

the Stadium would be attenuated by the Stadium's concrete seating bowl and partial roof structure. Game noise such as that created during a soccer game would be lower than the existing noise generated by passing trains on the UPRR tracks, but of a magnitude that would exceed City's exterior noise criteria up to approximately 800 feet from the proposed MLS Stadium, potentially affecting residential properties in the RSP Area and in the northern part of the Alkali Flat neighborhood along D Street.

Amplified sound, such as that created at a music concert, would be anticipated to be substantially louder. It is currently projected that concerts would occur only up to seven times per year. Under those conditions, estimated noise levels could exceed nighttime exterior noise criteria up to approximately 3,000 feet from the MLS Stadium, potentially affecting the Alkali Flat neighborhood, part of the Mansion Flats neighborhood, and residences in the River District, such as the Dos Rios housing project, the Quinn Cottages, and part of the Township 9 development. To the extent feasible, compliance with the City's Noise Control Ordinance would be achieved through the inclusion of acoustical features in the design of the MLS Stadium and associated sound systems, as well as additional limitations on the level of amplification at temporary stages in the Stadium plazas. However, it is estimated that despite such measures this impact would remain significant and unavoidable during concert events.

Public Services

Like the proposed RSPU, the proposed MLS Stadium would be provided police protection by the Sacramento Police Department and fire protection from the Sacramento Fire Department. The proposed MLS Stadium could be provided service without creating new physical environmental effects due to the construction of new facilities.

Pursuant to the Event Transportation Management Plan (included in Appendix J.2 of the Draft SEIR), the Stadium Operator would be required to implement transportation management measures that could include physically blocking or controlling traffic routes; directing traffic toward appropriate garages and/or temporary surface parking lots, streets or freeway ramps; and facilitating emergency vehicle access and pedestrian flow. It is expected that traffic management would be implemented by the Sacramento Police Department under contract to the Stadium Operator. Traffic management is addressed in the Draft Event Transportation Management Plan for the proposed MLS Stadium, included in Appendix J.2 of the Draft EIR.

Because the proposed MLS Stadium would not include residential uses, there would be no increase in student enrollment, and thus no effects on the Sacramento Unified School District or the Twin Rivers Unified School District. Finally, the MLS Stadium would include approximately five acres of public plazas. It would not generate increased demand for parks and recreation facilities or library services, because it would not have a residential population.

Transportation

Under baseline conditions, approximately 90 percent of MLS Stadium attendees to a weekday evening (7:30 to 8:00 PM start) MLS soccer match are expected to drive, with the remainder walking, biking, or taking some form of transit. This equates to about 7,000 inbound vehicle trips during the Pre-event peak hour for a sold-out 25,000-person match. Based on available and proposed parking locations, it is expected that approximately 47 percent of these attendees would park in vacant/underdeveloped lots located north of the RSP Area, 39 percent would park in designated lots within the RSP Area, and 14 percent would park south of the UPRR tracks.

Under baseline plus MLS Stadium conditions without any mitigation measures in place, severe traffic congestion and gridlock would occur during the Pre-event peak hour. To address this significant impact, a series of mitigation measures would be required, including extension of 6th Street from North B Street to Railyards Boulevard, extension of South Park Street from 6th Street to 7th Street, installation of traffic signals at several intersections in the MLS Stadium vicinity, modifying the 7th Street/Railyards Boulevard, 7th Street/North B Street, and 12th Street/ North B Street intersections to increase their capacity, and implementation of an Event Transportation Management Plan (TMP) to accommodate vehicular traffic, heavy pedestrian flows, bicyclists, transit, drop-offs and pick-ups, and other considerations. With implementation of these mitigation measures, intersections surrounding the MLS Stadium would improve from LOS E or F (without any mitigation) to an LOS D or better condition, thereby mitigating the impact to less than significant.

Impacts of the MLS Stadium on freeway segments would be less than significant. However, impacts to freeway off-ramp queuing would be cumulatively significant, with recommended mitigation being the payment of the I-5 SCMP.

Impacts of the MLS Stadium to transit and bicycle facilities would be less than significant. The light rail platform would be less than a one-quarter-mile walk from the MLS Stadium via either Railyards Boulevard or the Pedestrian Plaza greenway in the alignment of South Park Street, between 7th and 8th Streets. Sidewalks along these streets would be widened to 16 feet to accommodate heavy pedestrian travel demand. As discussed in the Draft Event TMP (see Appendix J.2), buses and paratransit vehicles would be able to use 8th Street or 10th Street (adjacent to the MLS Stadium) for loading and unloading of passengers. Roadways in the MLS Stadium vicinity would be designed with a mix of Class I (off-street path), Class II (on-street bike lane), or Class IV (protected on-street) bicycle facilities to accommodate bicycle travel. The site plan would provide parking for 500 or more bicycles.

To address heavy pedestrian flows, the Event TMP would provide for a series of pedestrian barriers to channel pedestrians toward the 100-foot wide Pedestrian Plaza greenway, which would have a minimum 30-foot width of travel between 7th and 8th Streets. To address large volumes of pedestrians at signalized intersections, all crosswalks at the 7th Street/Railyards Boulevard, 7th Street/South Park Street, and 7th Street/North B Street intersections would be required to be

20 feet wide. Additionally, special signal timing would extended pedestrian walk intervals. During post-event conditions, selected street closures would occur. The combined effect of wider sidewalks, and extended pedestrian walk phases would be improved pedestrian flows at these facilities. Accordingly, pedestrian facility impacts on 7th Street from North B Street to Railyards Boulevard would be mitigated to less than significant.

The existing sidewalks on North 7th Street between North B Street and Richards Boulevard and the crosswalks at the North 7th Street/Richards Boulevard intersection are not of sufficient widths to accommodate pedestrian volumes before and after MLS matches. The Event TMP has identified a variety of mitigation measure options including a restricting or relocating parking supply to the south, private shuttles, special-event LRT train service, widening sidewalks along North 7th Street, and providing Traffic Control Officers and safety barriers to provide increased safety to those pedestrians walking along North 7th Street. The Event TMP would require the development and implementation of mitigation measures to ensure pedestrian safety to the satisfaction of the City Police Department and the City Traffic Engineer. With these measures, this impact is would be reduced to less than significant.

Utilities and Service Systems

As a component of the proposed RSPU, to be served by the proposed water, wastewater, and drainage systems to be constructed under the RSPU, the proposed MLS Stadium would have the same impacts related to utilities and services systems as the RSPU. As described above, in the event of its construction prior to completion of the proposed Stormwater Outfall, the MLS Stadium would require construction within the RSP Area of a temporary retention basin sized to sufficiently hold runoff from new impervious surfaces on the MLS Stadium site. Like other future development in the RSP Area, the proposed MLS Stadium would be part of the future cumulative demand for water supply and treatment in Sacramento. Although it has established a target of reducing water demand by 25% below CALGreen Tier 1 water efficiency standards, future demand generated by the MLS Stadium and other development in the City could result in the need for additional citywide conservation programs, new or expanded surface water supplies, and/or additional groundwater pumping.

Stormwater Outfall

As described under the Project Description, the proposed Stormwater Outfall would be a part of the storm drainage system that would be constructed to support the development provided for in the proposed RSPU. As a piece of infrastructure, in and of itself, the Stormwater Outfall would not generate demand for resources, traffic and related effects, demand for public services or public utilities. The discussion below highlights environmental effects that would be unique to the proposed Stormwater Outfall, or impacts of the overall RSPU to which the proposed Stormwater Outfall would contribute.

Aesthetics, Light and Glare

Once constructed, the proposed Stormwater Outfall would be largely below grade and not a part of the visible development in the RSP Area. The outfall structure, including the headwall would be visible on the east riverbank of the Sacramento River, largely visible from the West Sacramento side of the River, but would generally blend into the urbanized character of the riverbank.

Air Quality

Construction of the proposed Stormwater Outfall would generate a portion of the air emissions predicted for the proposed RSPU. Under the Baseline Plus Stormwater Outfall scenario the construction emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant. However, because it would be part of the proposed RSPU, the same mitigation measures described for the proposed RSPU would be required for the proposed MLS Stadium, including use of SMAQMD Basic Construction Emission Control Practices, and SMAQMD Enhanced Exhaust Control Practices.

Biological Resources

The Sacramento River adjacent to the RSP Area provides habitat (and is designated as critical habitat) for several endangered and threatened fish species, including Delta smelt, winter- and spring-run Chinook salmon, Central Valley steelhead, and North American green sturgeon. Outfall construction activities that could affect fish and/or fish habitat in the Sacramento River include excavation and backfill, construction of the new outfall, use of staging areas and placement of excavated material, construction of a cofferdam, and dewatering. Potential sedimentation, increased turbidity, or the release and exposure of contaminants could adversely affect fish and fish habitats; however, these impacts would be avoided and/or minimized through the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs). Regulatory compliance would also prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River as part of long-term operation of the Outfall. Construction activities, including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats, and loss to SRA habitat. Therefore, these construction-related impacts associated with the Stormwater Outfall would be potentially significant.

Mitigation requirements would include restriction of in-water work to a period from August 1 through October 31 periods when sensitive protected fish species are least likely to be present, replacement of (through restoration, preservation or credit purchase) permanently impacted habitat, and minimization of effects associated with pile driving and dewatering. This, in combination with compliance with the CESA and FESA, CWA Regulations, National Pollution Discharge Elimination System (NPDES) Regulations, local water quality, and runoff standards would reduce this impact to less than significant.

Development of the Stormwater Outfall would result in up to 0.01 acres of fill below the OHWM of the Sacramento River, and removal of up to 0.05 acres of valley foothill riparian habitat. Placement of fill below the OHWM of the Sacramento River, and removal of riparian habitat is considered a significant impact. Mitigation would involve a combination of restoration/ enhancement, and/or purchase of restoration credits. By ensuring that the proposed Stormwater Outfall achieves no net loss of waters of the U.S. or riparian habitat, this impact would be reduced to a less-than-significant level.

The proposed Stormwater Outfall site is a steep, highly disturbed riverbank with several trees and large shrubs that would be removed as part of project construction. Despite the lack of habitat value on the project site itself, like other development within the RSPU, it is possible that construction of the proposed Stormwater Outfall could result in the disturbance of raptors nesting in trees within 500 feet of the site. Mitigation measures are available to reduce this effect to insignificance.

Cultural Resources

The Stormwater Outfall would be constructed in an area that was not previously identified as archaeologically sensitive. The closest previously identified archaeologically sensitive area is Slater's Addition, a thin strip of this circa 1850s former residential area is mapped just to the south of the proposed Stormwater Outfall.

While shipwrecks have been documented along the Sacramento River, no historically documented shipwrecks have been identified within the footprint of the Stormwater Outfall. The remnants of the historic Pioneer Flouring Mill lack sufficient integrity to reflect their historic associations, and as such have been recommended ineligible for listing. No other known submerged resources have been documented within or in the river adjacent to the RSP Area.

During the late nineteenth and early twentieth centuries, the area where the Stormwater Outfall is planned was historically occupied by the Sycamore neighborhood. Historic Sanborn Insurance Maps indicate the Sycamore neighborhood as a small cluster of houses on the riverfront, just north of the train tracks. The 1900 census lists several fishermen, railroad employees, and a few saloonkeepers living in this area. Nothing remains of these resources within the Stormwater Outfall site.

While unlikely, there is a possibility of unexpected discovery of historic or pre-historic archaeological and/or paleontological resources during ground disturbing activities. Discovery of historic or pre-historic archaeological or paleontological resources during excavation at the Stormwater Outfall site would be mitigated by ceasing work if resources are discovered, followed by resource evaluation and recovery.

Energy Demand and Conservation

The operation of the proposed Stormwater Outfall would consume electricity, and in emergencies, natural gas to fuel generators. Because the proposed Stormwater Outfall and associated pump station would be designed to comply with Title 24 and would employ modern pump technology, it would minimize the available energy consumed by operation of the pump station. Further, because the proposed RSPU includes a minimum of landscaped area that could result in runoff, the design would result in reduced levels of irrigation runoff that could require pumping through the Outfall.

Geology, Soils and Seismicity

Like the proposed RSPU of which it would be a part, the proposed MLS Stadium would have less-than-significant impacts related to geology, soils, and seismicity.

Global Climate Change

The CAP Consistency Review Checklist does not apply to the Stormwater Outfall because the Outfall is not a land use development project. However, the electricity used to supply the pumps would be supplied by SMUD. As an electric utility, SMUD is required to generate a portion of its electricity with renewable sources of energy. By 2020, SMUD must generate 33 percent of its electricity using renewable resources. In 2014, SMUD generated 27 percent of its electricity using renewable energy. Consequently, the proposed Stormwater Outfall's indirect generation of GHGs through its electricity consumption would be based on the percentage of renewable resources included in SMUD's energy portfolio. In addition, the use of diesel fuel would occur for only periodic testing and during emergency electrical outages. Finally, the proposed Stormwater Outfall represents a critical piece of infrastructure that would allow development of the RSP Area and would not be inconsistent with the City's CAP. For these reasons, the proposed Stormwater Outfall would have a less-than-significant impact on climate change.

Hazards and Hazardous Materials

The Stormwater Outfall site is located partly within property owned by the applicant (the pump station would be located in the Northern Shops Study Area) and partly within the West Jibboom Street Property that is within the RSP Area but outside the applicant's property (the outfall structure on the riverbank). The portion of the proposed Stormwater Outfall located in the Northern Shops Area would be constructed in compliance with the Environmental Restrictions of the 2015 LUC (including compliance with the Railyards Projects Soil and Groundwater Management Plan). However, the portion of the proposed Stormwater Outfall outside of the Northern Shops Study Area (and outside the applicant's property) would not be covered by the 2015 Land Use Covenant. Based on existing documentation, it appears unlikely that there are contaminated soils located within the Stormwater Outfall footprint. Nonetheless, if such soils are encountered during construction, people could be exposed to unacceptable health risks associated with contaminated soils. Contaminated groundwater is not expected to be encountered, but if present it could also expose people to contaminants. Mitigation requires that work cease if any

evidence of contaminated soil or groundwater is detected until such evidence can be investigated and, if needed, remediated.

Hydrology and Water Quality

The proposed Stormwater Outfall would be part of the storm drainage system that would serve to convey and discharge runoff from the RSP Area. In and of itself, it would not contribute runoff to the system, nor would affect operational water quality. As discussed under Biological Resources, construction on the Sacramento River riverbank could have water quality impacts related to sedimentation; mitigation measures put in place to protect sensitive aquatic resources would avoid significant water quality impacts.

The proposed Stormwater Outfall would be constructed adjacent to and over the east levee of the Sacramento River. It would require authorization of an encroachment permit from the Central Valley Flood Protection Board and a Section 408 authorization from the U.S. Army Corps of Engineers. These permit processes would protect against any potential hydrological changes that could adversely affect the integrity of the levee or adverse hydraulic changes that could affect other in-river resources or structures.

Noise and Vibration

The proposed Stormwater Outfall project site is located a substantial distance from any sensitive receptors, and is in an area that is dominated by the noise of passing traffic on Interstate 5. There would be no construction or operational noise effects that would rise to a level of significance, and no requirements for mitigation for noise or vibration.

Public Services

The proposed Stormwater Outfall would place no new demands on the City of Sacramento Police Department or Fire Department. It would not generate any new demand for parks and recreational services, nor for library services.

Transportation

Other than a limited amount of truck traffic required during the construction of the proposed Stormwater Outfall, and occasional trips to the site for the purposes of maintenance, there would be no material transportation effects of the proposed Stormwater Outfall.

Utilities and Service Systems

As a piece of infrastructure, the proposed Stormwater Outfall would not generate any specific demands for water, generation of wastewater, increased runoff, or generation of solid waste.

Significant and Unavoidable Environmental Effects

Throughout this SEIR, 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 RSPU project-specific unavoidable significant environmental impacts include those listed below.

Impact 4.1-3: The proposed projects could create substantial new sources of light.

Impact 4.2-3: Construction of the proposed projects could result in long-term (operational) emissions of NO_x ROG, PM_{10}, or $PM_{2.5}$.

Impact 4.3-2: Development of the proposed projects could result in the loss of potential nesting habitat for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.

Impact 4.10-1: Construction of the proposed projects could generate noise that would conflict with City standards.

Impact 4.10-2: Operations of the proposed projects could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.

Impact 4.10-4: Construction of the proposed projects could expose existing and/or planned buildings, and persons within, to vibration that could disturb people and damage buildings.

Impact 4.12-3: The proposed projects could worsen vehicle queuing at off-ramps on I-5.

Cumulative Effects

The key unavoidable significant cumulative environmental impacts include those listed below.

Impact 4.2-9: The proposed projects could contribute to cumulative increases in long-term (operational) emissions of NO_X ROG, PM_{10} and $PM_{2.5}$.

Impact 4.3-11: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative harm to, or loss of nesting habitat, for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.

Impact 4.4-8: The proposed projects could contribute to the cumulative loss or alteration of archaeological resources, including human remains.

Impact 4.10-7: The proposed projects would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.

Impact 4.12-10: The proposed projects could worsen vehicle queuing at off-ramps on I-5 under cumulative conditions.

Impact 4.13-7: The proposed projects would contribute to cumulative increases in demand for water supply and treatment.

Alternatives to the Proposed Projects

The SEIR presents a discussion of a reasonable range of alternatives for each of the proposed projects. The evaluation of alternatives augments and expands upon the reasonable range of alternatives that was considered in the 2007 RSP EIR. Some alternatives initially considered by the City for evaluation in the SEIR were eliminated from further consideration because they were either infeasible or would exacerbate impacts compared to the proposed projects.

The alternatives evaluated in the SEIR are described below. The comparative evaluation of these alternatives is presented in Chapter 6 of the SEIR.

Railyards Specific Plan Update

No Project/No Build Alternative

The CEQA Guidelines require the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines section 15126.6(e)(1)). The No Project/No Build Alternative describes an alternative in which no development would occur in the RSP Area with the exception of the continued current use of the Sacramento Valley Station; office and retail uses in the adjacent Railway Express Agency (REA) building; parking lots that front on 7th Street between F and H Streets; and streets that were called for in the 2007 RSP, constructed following approval of the 2007 RSP, and will be opened in the coming months, including 5th and 6th Streets between H Street and Railyards Boulevard, as well as Railyards Boulevard from 7th Street to Bercut Drive.

Under the No Project/No Build Alternative, the City Council would not approve the project, and none of the mitigation measures identified within this Draft EIR would be implemented. It is reasonable to assume that, even if the project is not approved and the project site remains largely undeveloped, the previously approved future Sacramento County Courthouse on Lot 41, and extensions of F and G streets between 5th and 7th streets would move forward.

No Project/No Action Alternative

The No Project/No Action Alternative assumes that the RSP Area would be redeveloped under current conditions consistent with the land use designations and allowable uses identified in the 2007 RSP and 2035 General Plan (Figure 6-1). For the most part, the type of uses (e.g., office, high density residential, historic/cultural) are very similar to those included in the proposed RSPU, although the number of units, square footage, distribution and mix of uses differ, and there would be no specific provision for the KP Medical Center or the MLS stadium. In general, the

amount of residential and office development could be higher under the No Action Alternative, while the amount of retail would be much higher (515,000 sf under the RSPU compared to 1.4 million sf for the 2007 RSP). Land uses have also been redistributed in some cases. For example, the area bound by 7th and 10th Streets, Railyards Boulevard and North B Street is designated residential/mixed use (allowing retail and neighborhood office, but not other office uses) in the 2007 RSP, but R-5 SPD or C-3 SPD in the proposed RSPU, which allows both residential and high rise office.

The 2007 RSP has some key differences from the 2016 RSPU including: (1) a Sports and Entertainment Facility Overlay on four blocks north of the rail line and on either side of 7th Street, and inconsistent with the location of the proposed MLS Stadium; (2) no provisions for a major medical center; and (3) stormwater flows would be managed with a cistern that would detain those flows, and discharge them to both the City's CSS and a new outfall on the Sacramento River.

Decreased Density/Intensity Alternative

The Decreased Density/Intensity Alternative would reduce impacts associated with the amount of development that would occur within the RSP Area. By reducing the number of residential units and the square footage for retail, commercial and other uses, the resident, employee and visitor population within the RSP Area would drop, resulting in a reduction in the number of vehicles associated with RSP Area development, and the associated levels of air emissions and traffic noise. The demand for public and utility services would also be reduced.

The Decreased Density/Intensity Alternative would retain the same distribution of land uses, but would reduce the total amount of development that would be allowed within the RSP Area. Under this alternative, there would be a 40 percent reduction in residential, office and retail uses. As shown in Table 6-2, the number of residential uses would be reduced to 3,600 to 6,000 units, office would be reduced to 1.7 to 2.3 million sf (with the higher office square footage corresponding to the lower number of dwelling units), and retail uses would be reduced from 514,000 to 308,000 sf. The number of hotel rooms would be reduced to 660. Flex space and office and retail uses within the Central Shops District would also be reduced by 40 percent. The Hospital and Hospital Support Building would not be reduced in size, but the medical office buildings would be reduced in by 40 percent, from 300,000 sf to 180,000 sf. The MLS Stadium would remain the same, as would the proposed roadway system and other infrastructure.

KP Medical Center

No Project/No KP Medical Center

For the KP Medical Center, under the "No Project/No Build" alternative, the existing site conditions would remain. That is, the site would remain undeveloped in close to its current state. Some additional grading could be undertaken in order to complete remediation activities, but then no additional changes would occur.

For the "No Project/No Action" alternative, it is assumed that the RSPU would be developed, but with a different set of land uses in the area designated Hospital SPD under the proposed project. For this alternatives analysis, it is assumed that the 17.8-acre site within the RSP Area would be developed with the land uses assumed under the Land Use Variant, including 921,002 sf of office, 92,100 sf of retail, 138,150 sf of flex space, and 250 residential units. The street system would be similar to the proposed KP Medical Center, except that Huntington Street would be extended between Railyards Boulevard and South Park Street.

Under this alternative, Kaiser would continue to operate its Sacramento Medical Center at the Morse Avenue location in unincorporated Sacramento County. In order to continue using the Morse Avenue facility, seismic retrofits would be required to meet State requirements, and other changes would be required to meet current code requirements, such as increasing the size of hospital rooms. As a result, the number of beds available within the existing facility would be reduced from 283 beds to approximately 70 beds, requiring a large addition and/or new facilities in order to maintain existing service levels.

Reduced Medical Center

The Reduced Medical Center Alternative would provide for the full range of hospital services proposed for the KP Medical Center, but at a level reduced by one-third. The hospital would be reduced to a total of approximately 280 beds, similar in size to the existing Morse Avenue facility (there are 287 beds at the Morse Avenue facility), and the other facilities (Hospital Support Building, Medical Office Buildings, Central Utility Plant) would be reduced by approximately one-third. The project site would remain the same, but the height of the buildings in the medical center would be reduced with the hospital reduced to 10 stories and the medical office buildings to 4 stories.

While the Reduced Medical Center Alternative would provide a replacement for the Morse Avenue facility, it would not provide for any growth in membership and/or expansion of services as provided for by the proposed KP Medical Center. Therefore, it would not serve as a regional medical center to the extent of the proposed KP Medical Center.

MLS Stadium

No Project/No Stadium

Under this alternative, the MLS Stadium would not be built within the RSP Area. As discussed earlier, a "No Project/No Build" alternative would assume that the MLS Stadium site would remain undeveloped and that the only changes that would occur would be related to finalizing remediation of the site. Under a "No Project/No Action" alternative, it is assumed that the land uses identified in the Land Use Variant would be developed on the Stadium site, including: 750 residential units, 30,700 sf of retail space, and 46,050 sf of flex space. As described under the Land Use Variant, the roadway system would differ from the proposed MLS Stadium, because South Park Street, 8th Street and 9th Street would extend into the site to provide more circulation to the smaller blocks. A small park would be developed in the center of the site.

Smaller Stadium

This alternative would reduce the size of the MLS Stadium to a capacity for 18,000 ticketed attendees, which is the same size as another professional soccer facility, Avaya Field in San Jose. Although the ticketed capacity would be reduced by 28 percent, the size of the building would not change substantially, because the size of the field could not be reduced and there would still need to be paved entryways and gathering spaces outside of and within the Stadium. As a result of the reduced capacity of the Stadium, average annual attendance would be reduced by approximately 30 percent, as would the size of the employment force required for Stadium events.

Relocated Railyards Stadium

The Relocated Railyards Stadium site would be bounded by 7th Street on the east, Railyards Boulevard on the south, 5th Street on the west and the embankment on the north. This alternative location would reduce impacts specific to the MLS Stadium, such as game noise and lighting, by moving the source of those impacts farther from the sensitive uses east of 7th Street and south of the RSP Area. The entrance to the Relocated Railyards Stadium and the associated plazas and stages would front 7th Street.

Residential land uses that would be displaced by the relocated Stadium would be moved to the former location, essentially swapped with the Stadium. Therefore, the area bounded by 7th Street, 10th Street, Railyards Boulevard and the embankment would be zoned R-5. Because of this "swap," this alternative is assumed to have the same number of dwelling units and non-residential square footage as would occur under the proposed MLS Stadium. The roadway system would be altered to provide through access to the residential blocks east of 7th Street and 6th Street and Judah Street would not be extended north of Railyards Boulevard.

Natomas MLS Stadium

The Natomas MLS Stadium assumes a 25,000-capacity stadium would be constructed at what is now the Sleep Train Arena complex, located south of Del Paso Road, east of Interstate 5, west of Truxel Road and north of Arena Boulevard in North Natomas. For purposes of this alternative, it is assumed that the existing Sleep Train Arena would be demolished, and replaced by the MLS Stadium with dimensions and design similar to the Stadium proposed for the RSP Area (see Figure 6-4). Approximately 15 acres would be used for the Stadium, which would include the same amenities as the proposed MLS Stadium. Parking would be provided on site, in the existing parking lot, which has more than 12,000 spaces.

Stormwater Outfall

No Project/Stormwater Outfall

Under the No Project alternative, the proposed Stormwater Outfall would not be built, and either the RSPU would use a different facility to manage stormwater, such as the cistern that was proposed in the 2007 RSP, or the RSP Area would not develop. No "No Action" alternative is considered for the Stormwater Outfall, because it must be large enough to serve the RSPU (or use

a combination of a smaller outfall and cistern or similar facility) and discharge to the Sacramento River. Moving the Stormwater Outfall to a different location along the river would not avoid or lessen any significant impacts. Therefore, the SEIR does not consider any additional alternatives to the proposed Stormwater Outfall.

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.

Railyards Specific Plan Update

For the proposed RSPU, aside from the No Project Alternative, the environmentally superior alternative would be the Reduced Density Alternative. This alternative would have a similar footprint to the proposed RSPU, but because the levels of traffic would be reduced, there would be substantial reductions in air emissions, noise, and demand for water. In particular, traffic noise would be reduced to acceptable levels along 7th Street.

KP Medical Center

The Reduced Medical Center Alternative would have a similar footprint to the proposed KP Medical Center, so ground-disturbing activities would be the same. However, with the reduction of in-patient beds from 420 to 280, and a reduction of about one-third in the amount of medical office uses, traffic, noise and demand for water would all be substantially reduced. Therefore, other than the No Project Alternative, the Reduced Medical Center Alternative would be environmentally superior.

MLS Stadium

The determination of environmentally superior alternative for the MLS Stadium depends on which impacts are weighted most heavily. If the primary concerns are noise and light, then the Natomas Stadium Alternative, would be environmentally superior because it would locate the Stadium at a greater distance from sensitive users. However, if the primary concerns are minimizing vehicle miles travelled and air emissions, and maximizing use of alternative modes of transportation, then the Smaller Stadium Alternative would be environmentally superior because, although it would have significant noise and lighting impacts, they would be lessened due to the reduction in size of the stadium structure.

Stormwater Outfall

The No Build alternative for the Stormwater Outfall would preclude development of the RSP Area, because some form of discharge to the Sacramento River is necessary to avoid discharges that could overflow the CSS. The previous option considered in the 2007 RSP was a cistern that would discharge to the CSS combined with a smaller outfall. The smaller outfall would have the same impacts as the proposed Stormwater Outfall, although the magnitude would be reduced because of the smaller size. However, the cistern would discharge to the CSS, which does not have the capacity to accept more than minor stormwater flows. Therefore, the environmentally superior alternative would be the Stormwater Outfall as proposed.

Summary Table

Table S-3 (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.

In addition to disclosing the physical environmental impacts of the proposed projects, and of a reasonable range of potentially alternatives, compared to the existing conditions present today, this SEIR provides information to allow the reader to compare the impacts that are presented for the proposed RSPU to the impacts of the 2007 RSP as disclosed in the 2007 RSP EIR. **Table S-4** (Comparison to 2007 EIR Impacts) presents a summary of how the effects of the proposed RSPU compare to the disclosed impacts of the 2007 RSP.

TABLE S-3.
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.1 Aesthetics, Light and Glare											
Existing Plus Baseline											
4.1-1: The implementation of the RSPU, including the potential development of large-floor plate and high-rise buildings in the RSP Area east of I-5, could alter public views.	S	S	LTS	LTS	LTS	**4.1-1 (RSPU)** *Within Lot 46, the maximum street-wall height for structures facing 7th Street shall be 35 feet in height.*	LTS	LTS	NA	NA	NA
4.1-2: The potential development of high-rise buildings adjacent to the riverfront could conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge.	S	S	NI	NI	NI	**4.1-2 (RSPU)** For development within the allowable footprints on Lot 35, the following base height requirements shall be added to the RSPU Design Guidelines and enforced through the SPD and the City's Site Plan and Design Review permit process: • On the southern development lot, any portion of a building within 80 feet of the required setback from the riverbank shall be no greater than 35 feet in height.	LTS	LTS	NA	NA	NA
4.1-3: The proposed projects could create substantial new sources of light	PS	PS	LTS	S	NI	**4.1-3(a) (RSPU, MLS)** i. East of 6th Street, all exterior lighting and advertising (including signage) shall be directed onto the specific location intended for illumination (e.g., parking lots, driveways, and walkways) and shielded away from adjacent properties and public rights-of-way to minimize light spillover onto adjacent areas. Light structures for surface parking areas, vehicular access ways, and walkways shall not exceed a height of 25 feet. Monument lighting and night-lit signage is prohibited on building facades that face existing residential neighborhoods. ii. Prior to issuance of a Site Plan and Design Review Permit for each specific development project, the applicant shall submit a lighting plan to the Development Services Department for review and approval. The plan shall specify the lighting type and placement to ensure that the effects of security and other outdoor lighting are minimized on adjacent uses and do not create spillover effects. iii. Landscape illumination and exterior sign lighting shall follow the City Code. **4.1-3(b) (MLS)** i. 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 Stadium project site boundaries that is improved with light-sensitive uses. ii. Prior to issuance of a building permit, the project applicant shall submit to the Community Development Department a signage and lighting design plan for the Stadium which establishes lighting design standards and guidelines. The lighting design plan shall, at a minimum: • Require exterior lighting included within the Stadium to incorporate fixtures and light sources that focus light on-site to minimize spillover light; • Ensure that 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; and • Require that for exterior LED lighting, 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. iii. Prior to issuance of a building permit for the Stadium 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 install and test the displays to insure compliance with all City lighting regulations and these mitigation measures. iv. The project applicant shall comply with City Code Section 8.072.010, which establishes regulations regarding the use of searchlights.	SU	SU	NA	SU	NA
4.1-4: The proposed projects could create a new source of glare	PS	PS	LTS	LTS	LTS	**4.1-4 (RSPU)** Highly reflective mirrored glass walls shall not be used as a primary building material (no more than 35 percent) for building facades adjacent to major roadways. Instead, low emission (Low-E) glass shall be used in order to reduce the reflective qualities of the building, while maintaining energy efficiency.	LTS	LTS	LTS	LTS	LTS
Cumulative											
4.1-5: The proposed projects could contribute to substantial cumulative degradation of the existing visual character or quality in the vicinity.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.1-6: The proposed projects could cause an introduction of building height and mass that conflicts with the character of the Sacramento River riverfront between Old Sacramento and Discovery Park	PS	PS	NI	NI	NI	**4.1-6 (RSPU)** Implement Mitigation Measure 4.1-2.	LTS	LTS	NA	NA	NA

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

TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.1 Aesthetics, Light and Glare (cont.)											
Cumulative (cont.)											
4.1-7: The proposed projects could contribute to cumulative increases in light.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.1-8: The proposed projects could contribute to cumulative sources of glare.	S	S	LTS	LTS	LTS	**4.1-8 (RSPU)** Implement Mitigation Measure 4.1-4.	LTS	LTS	NA	NA	NA
4.2 Air Quality											
Existing Plus Baseline											
4.2-1: The proposed projects could conflict with or obstruct implementation of an applicable air quality plan.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.2-2: Construction of the proposed projects could result in short-term emissions of NOx, PM10 and PM2.5.	S	S	S	S	S	**4.2-2(a) (RSPU, KPMC, MLS, SO)** City approval of any grading or improvement plans shall include the following SMAQMD Basic Construction Emission Control Practices: • 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) (RSPU, KPMC, MLS, SO)** 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 supersede 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.	LTS	LTS	LTS	LTS	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.2 Air Quality (cont.)											
Existing Plus Baseline (cont.)											
4.2-2 (cont.)						**4.2-2(c) (RSPU, KPMC, MLS, SO)** City approval of any grading or improvement plans shall include the following SMAQMD Fugitive Dust Control Practices: • Water exposed soil with adequate frequency for continued moist soil. • Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph. • Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas. • Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established. • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. • Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads. • Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance. **4.2-2(d) (RSPU)** Project applicants shall pay into the SMAQMD's construction mitigation fund to offset construction-generated emissions of NOx that exceed SMAQMD's daily emission threshold of 85 lbs/day. Fees shall be paid to SMAQMD based upon the previously agreed upon Railyards Specific Plan fee of $2,603 per acre developed.					
4.2-3: The proposed projects could result in long-term (operational) emissions of NOx, ROG, PM10, and PM2.5.	S	S	S	S	LTS	No further mitigation required.	SU	SU	SU	SU	NA
4.2-4: The proposed projects could increase CO concentrations	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.2-5: Implementation of the proposed project could result in short-term and long-term exposure to Toxic Air Contaminants (TACs).	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.2-6: Implementation of the proposed projects could create objectionable odors.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.2-7: Implementation of the proposed projects could alter wind speed at ground level (pedestrian level).	PS	PS	PS	LTS	LTS	**4.2-7 (RSPU, KPMC)** The following measures are recommended to assure that future buildings developed in the RSP Area do not cause hazardous wind conditions for pedestrians in areas of substantial public use: 1) New buildings with heights of more than 85-feet shall be evaluated by a qualified wind expert to determine the potential to cause a new wind hazard or aggravate an existing wind hazard for pedestrians in areas of substantial public use. Based on a review of wind conditions, other development in the vicinity, and the project design, the evaluator may have sufficient evidence to form a professional opinion about the potential for the project to cause a hazardous wind environment. If sufficient evidence is available to conclude that no wind hazards will be created, no further mitigation is required. If sufficient evidence to establish safe pedestrian conditions is not available, the City shall require wind-tunnel testing to provide the evidence that a wind hazard would not result in public areas. 2) If required wind tunnel testing identifies wind hazards, the qualified wind expert shall work with the City and/or project proponent to develop corrective measures such as building design changes, protective structures, or landscaping modifications to help reduce pedestrian-level wind speeds to acceptable levels. The City shall require implementation of such corrective measures as a condition of the building permit.	LTS	LTS	LTS	NA	NA
Cumulative											
4.2-8: The proposed projects could contribute to cumulative increases in short-term (construction) emissions.	S	S	S	S	S	**4.2-8 (RSPU)** Implement Mitigation Measure 4.2-2.	LTS	LTS	LTS	LTS	LTS
4.2-9: The proposed projects could contribute to cumulative increases in long-term (operational) emissions of NOx ROG, PM10 and PM2.5.	S	S	S	S	S	No further mitigation required.	SU	SU	SU	SU	SU

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.2 Air Quality (cont.)											
Cumulative (cont.)											
4.2-10: The proposed projects could contribute to cumulative increases in CO concentrations.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.2-11: The proposed projects would contribute to cumulative increases in short- and long-term exposures to Toxic Air Contaminants.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.2-12: The proposed projects could contribute to cumulative changes in wind levels in downtown Sacramento.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.3 Biological Resources											
Existing Plus Baseline											
4.3-1: Development of the proposed projects could result in the loss of potential foraging habitat for Swainson's hawk.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.3-2: Development of the proposed projects could result in the loss of potential nesting habitat for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.	PS	PS	PS	PS	PS	**4.3-2(a) (RSPU, KPMC, MLS, SO)** 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 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. Maintaining a 100-ft buffer around each active purple martin nest. No construction activities are permitted within this buffer. For other 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. Completion of the nesting cycle shall be determined by a qualified biologist. **4.3-2(b) (RSPU)** If three years of consecutive surveys of the suitable habitat (i.e., weep holes) within the I Street Bridge viaduct, I-5 elevated structure within the RSP Area, or the proposed new I Street Bridge over the Sacramento River do not indicate purple martins use of the area as breeding habitat, then no further mitigation is required. The following mitigation shall only be required if purple martin have been documented nesting in the suitable habitat (i.e., weep holes) within the I Street Bridge viaduct, or the I-5 elevated structure within the RSP Area, or the proposed new I Street Bridge for at least one of three previous years prior to development within 500 feet of aforementioned areas. Prior to construction within 500 feet of an active purple martin colony (active within the past three years), the applicant shall retain a qualified biologist to prepare and then shall implement a Purple Martin Monitoring and Management Plan (PMMMP), to the satisfaction of the City. The PMMMP shall be enforced by the City in areas of suitable habitat (i.e., weep holes) within 500 feet of the I Street Bridge viaduct, or the elevated structure of Interstate 5 within the RSP Area. The PMMMP shall identify land use and building design requirements, landscape design and maintenance requirements, and management actions for the protection, enhancement, creation, and/or replacement of purple martin habitat within the RSP Area. Performance of the PMMMP shall be based on land use, and building design standards, landscape design, and maintenance criteria, and management actions that benefit purple martin. The PMMMP shall be tailored to the status and nesting locations of purple martins onsite at the time of plan creation, and will include at minimum the criteria below, or equivalent measures to conserve, protect, and restore purple martin habitat.	SU	SU	SU	SU	SU

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.3 Biological Resources (cont.)											
Existing Plus Baseline (cont.)											
4.3-2 (cont.)						• **Land Use and Building Design Criteria:** – Prohibit buildings that obstruct flight path to and from nest sites within 120 feet of nesting locations. – Maintain a minimum of 21 feet of vertical space beneath weep holes – Maintain 230 feet of perching wire within 200 feet of the colony • **Landscape Design and Maintenance Requirements:** – Prohibit trees taller than nest height within 330 feet of nest sites – Limit tree plantings within 500 feet of the site to those that produce suitable nesting material (pine species). Areas beneath trees shall not be landscaped, and litter material left in place for next material use by birds – Ensure suitable nesting material is available for martin use. If no nest material is available for martins, place nesting material (straw, pine needles, etc.) within area for use by purple martin during the breeding bird season – Prohibit planting of ornamental fruit bearing trees within 500 feet of purples martin nests, including the colonization of weedy fruit-bearing trees such as privet • **Management Actions:** – Install, or cause to be installed, and/or maintain to ensure good working order, nest guards on weep holes where purple martin are known to nest, subject to approval from the facility's owner					
4.3-3: The proposed projects could result in impacts to special-status fish species and degradation of designated critical habitat.	LTS	LTS	LTS	LTS	PS	**4.3-3 (SO)** To avoid, minimize, or compensate for potential impacts to protected and sensitive riverine species and critical habitat, and prevent impacts to special-status fish species the following actions shall be undertaken by the project applicant: a) Unless prior approval is granted by NMFS, USFWS, and/or CDFW, (as applicable) in-water work shall be restricted to the August 1 to October 31 period to avoid/minimize construction impacts to special-status fish species. b) Project-related impacts to riverine (e.g., valley-foothill) riparian vegetation shall be minimized by replacing lost vegetation onsite at a minimum ratio of 1:1, along the Sacramento River, if feasible. Mitigation and/or restoration plans for all habitats that require revegetation, habitat creation, restoration, and enhancement shall be approved by the regulatory agencies, as applicable, and shall include construction specifications; irrigation schedules; planting palettes (showing container stock/box plantings, cutting specifications, and seed mixes); monitoring, maintenance, and remediation schedules; and success criteria, assurances and contingency measures. Revegetation specifications, species composition and density shall be developed by an experienced restoration ecologist. The restoration sites shall be evaluated to ensure that required revegetation has been performed in areas where temporary construction has been completed. A report documenting restoration efforts shall be submitted by the applicant to the City and applicable regulatory agencies. If necessary, remedial revegetation should occur during the same rainy season that the remedial recommendation is made. Restoration sites shall be monitored by qualified restoration ecologists for three to five years, or until success criteria are achieved. Restoration plans shall be included in the final construction documents. Grading and revegetation activities shall comply with applicable regulations and mitigation measures identified in this EIR pertaining to dust, air emissions, noise, water quality and other potential environmental effects. Alternatively, if approved by regulatory agencies, the applicant may purchase mitigation credits from approved mitigation banks. Final mitigation ratios and locations are to be established in consultation with the regulatory agencies prior to riverbed disturbing activities and detailed mitigation requirements will be identified in the final regulatory agency permits. c) To the extent feasible, the project applicant shall plant riparian vegetation and install biotechnical features, such as brush piles, logs, and rootwads, to replace habitat impacted by construction of the outfall structure. These structures shall compensate for potential impacts associated with increased predation around the new structure. Specific measures shall include elements that contribute to nearshore cover in the immediate vicinity of the structure to increase the potential for juvenile fish while discouraging occupancy of the same structures by predaceous species. The precise amount and relative value of affected riparian and cover habitat would be determined during project-level analysis of proposed activities. d) Mitigation of riverine habitat would occur through creation, restoration, enhancement, and/or preservation of this habitat type within an approved off-site location and/or mitigation bank at a ratio to be established in consultation with the regulatory agencies. Mitigation banking would involve using mitigation credits from mitigation banks approved by the regulatory agencies. Final mitigation ratios and locations are to be established in consultation with the regulatory agencies prior to riverbed disturbing activities and detailed mitigation requirements will be identified in the final regulatory agency permits. e) The cofferdam sheetpiles at the outfall structure construction site shall be installed using a vibratory hammer where possible to minimize underwater sound pressure levels to the greatest extent feasible and associated effects to sensitive fish species. If impact pile driving is required, sound pressure levels shall be managed (through operational controls) to achieve single-strike sound levels less than 206 dB peak (dBpeak) and 183 dB sound exposure level (dBSEL) measured at a distance of 10 meters. Additionally, pile driving shall only be conducted during daytime hours (allowing for regular periods of no impact) and shall commence at low-energy levels and slowly build to impact force (allowing for fish to move away from the construction site). The project applicant shall also consult with NMFS, USFWS, and CDFW (as part of obtaining permit approvals, e.g., FESA Section 7 and Fish and Game Code Section 1600) to determine necessary impact minimization actions, which may include surveying the outfall site to determine fish	NA	NA	NA	NA	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation: RSPU	RSPU LUV	KPMC	MLS	SO	Mitigation Measures	Significance After Mitigation: RSPU	RSPU LUV	KPMC	MLS	SO
4.3 Biological Resources (cont.)											
Existing Plus Baseline (cont.)											
4.3-3 (cont.)						presence prior to installation. The project applicant shall implement any additional measures developed through the FESA Section 7 and Fish and Game Code Section 1600 permit processes, to ensure that impacts are avoided and/or minimized. f) To reduce the potential for fish stranding or minimize the potential for harm during cofferdam dewatering activities, the project applicant or its contractor shall implement a fish rescue plan. Prior to the closure of the cofferdam in the Sacramento River, seining by a qualified fisheries biologist will be conducted within the cofferdam using a small-mesh seine to direct and move fish out of the cofferdam area. Upon completion of seining, the entrance to the cofferdam will be blocked with a net to prevent fish from entering the cofferdam isolation area before the cofferdam is completed. Once the cofferdam is completed and the area within the cofferdam is closed and isolated, additional seining will be conducted within the cofferdam to remove any remaining fish. Once most of the fish have been removed from the isolated area, portable pumps with intakes equipped with 1.75 mm mesh screen shall be used to dewater to a depth of 1.5-2 feet. A qualified biologist shall implement further fish rescue operations using electrofishing and dip nets. All fish that are captured will be placed in clean 5-gallon buckets and/or coolers filled with Sacramento River water, transported downstream of the construction area, and released back into suitable habitat in the Sacramento River with minimal handling. After all fish have been removed using multiple seine passes, electrofishing, and dip nets (as necessary), portable pumps with screens (see above) will be used for final dewatering. NMFS, USFWS, and CDFW shall be notified at least 48 hours prior to the fish rescue.					
4.3-4: Development of the proposed projects could result in removal of habitat for the Valley Elderberry Longhorn Beetle.	S	S	NI	NI	NI	**4.3-4 (RSPU)** (1) Prior to construction within the RSP Area, 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."	LTS	LTS	NA	NA	NA
4.3-5: Development of the proposed projects could result in removal of habitat for the western pond turtle.	LTS	LTS	NI	NI	LTS	None required	NA	NA	NA	NA	NA
4.3-6: Development of the proposed projects could result in impacts to bat species.	PS	PS	NI	NI	PS	**4.3-6 (RSPU, SO)** Minimize potential adverse effects to bat species. Vegetation removal, including tree removal, shall be conducted between September 16 and January 31, to the extent feasible, to minimize the potential loss of bat maternity roosts. The applicant shall conduct pre-construction surveys for roost sites prior to construction activities within 100 feet of the I 5, I Street Bridge, and riparian habitat along the Sacramento River during the bat pupping season (April 1 through July 31). This survey shall be conducted by a wildlife biologist qualified to identify bat species. If no bats are roosting, then no further mitigation is required. If a bat maternity roost is identified, buffers around the roost site shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from tree removal or other project activities.	LTS	LTS	NA	NA	LTS
4.3-7: Development of the proposed projects could result in net reduction of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands.	S	S	NI	NI	S	**4.3-7 (SO)** The applicant shall prepare a wetland and riparian mitigation plan that ensures no net loss of waters of the U.S. and riparian vegetation. The wetland and riparian mitigation plan shall be based on a wetland delineation verified by USACE. This measure may be implemented through the 404 permit and Streambed Alteration Agreement process. The plan shall include the following: 1) The project proponent shall compensate for the loss of wetland and riparian habitat through a combination of restoration/enhancement, and the purchase of mitigation credits at an approved mitigation bank. The ratio of compensation shall be determined in consultation with USACE and California Department of Fish and Wildlife (CDFW), as part of the 404 permit and Streambed Alteration Agreement process, but shall not be less than 1:1. 2) Prior to any construction activities on the site, a protective fence shall be erected around the boundaries of areas that would be disturbed by construction. This fence shall remain in place until all construction activity in the immediate area is completed. No activity shall be permitted within the protected areas except for those expressly permitted by USACE and/or CDFW. 3) Water quality in the Sacramento River shall be protected using erosion control techniques during construction including, but not necessarily limited to, preservation of existing vegetation, mulches (e.g., hydraulic, straw, wood), and geotextiles and mats, during construction.	LTS	LTS	NA	NA	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.3 Biological Resources (cont.)											
Existing Plus Baseline (cont.)											
4.3-8: Development of the proposed projects could result in isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.	PS	PS	LTS	NI	LTS	**4.3-8 (RSPU, KPMC, SO)** The applicant shall reduce spillover lighting from the proposed project onto the Sacramento River by implementing the following: The applicant shall place structural barriers to screen automobile headlights that are directed perpendicular to the river shall be screened along the western project edge. This may be accomplished through the placement of a 3-4 foot vegetated hedge or other structural methods that would not additionally hinder wildlife movement through riverine riparian vegetation. Outdoor lighting within the RSP Area west of I-5shall be of the minimum wattage required for the particular use and shall be directed to the specific location intended for illumination (e.g., roads, walkways, or recreation fields) to prevent stray light spillover onto sensitive riverine habitat. All fixtures on elevated light standards within the RSP Area west of I-5, such as in parking lots or along roadways, shall be shielded to reduce direct exposure to the Sacramento River.	LTS	LTS	NA	NA	NA
4.3-9: Development of the proposed projects could conflict with local policies protecting trees.	S	S	S	S	S	**4.3-9 (RSPU, KPMC, MLS, SO)** All tree removal within the RSP Area shall comply with the current City of Sacramento tree protection ordinance The applicant shall implement mitigation measures to protect retained trees, and replace for the loss of tree resources (tree protection, and replacement measures shall be determined in consultation with the City).	LTS	LTS	LTS	LTS	LTS
Cumulative											
4.3-10: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of foraging habitat for Swainson's hawk.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.3-11: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative harm to, or loss of nesting habitat, for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.	S	S	S	S	S	**4.3-11(a) and 4.3-11(b) (RSPU)** Implement Mitigation Measure 4.3-2(a) and 4.3-2(b).	SU	SU	SU	SU	SU
4.3-12: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to cumulative impacts to special-status fish species and degradation of designated critical habitat.	PS	PS	NI	NI	PS	**4.3-12 (SO)** Implement Mitigation Measure 4.3-2(a) through 4.3-2(f).	LTS	LTS	NA	NA	LTS
4.3-13: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the Valley Elderberry Longhorn Beetle.	PS	PS	NI	NI	NI	**4.3-13 (RSPU)** Implement Mitigation Measure 4.3-4.	LTS	LTS	NA	NA	NA
4.3-14: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the western pond turtle.	LTS	LTS	NI	NI	LTS	None required.	NA	NA	NA	NA	NA
4.3-15: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat, or impacts to for bat species.	S	S	NI	NI	S	**4.3-15 (RSPU, SO)** Implement Mitigation Measure 4.3-6.	LTS	LTS	NA	NA	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.3 Biological Resources (cont.)											
Cumulative (cont.)											
4.3-16: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands.	S	S	NI	NI	S	**4.3-16 (SO)** Implement Mitigation Measure 4.3-7.	LTS	LTS	NA	NA	LTS
4.3-17: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.	PS	PS	NI	NI	PS	**4.3-17 (RSPU, SO)** Implement Mitigation Measure 4.3-8.	LTS	LTS	NA	NA	LTS
4.3-18: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of locally protected trees.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.4 Cultural Resources											
Existing Plus Baseline											
4.4-1: The proposed projects could cause a substantial adverse change in the significance of an archaeological resource, including human remains.	PS	PS	PS	PS	PS	**4.4-1(a) (RSPU ASAs)** i. Prior to any ground-disturbing activity in Archaeologically Sensitive Areas (ASAs), a focused Archaeological Testing Plan (ATP) shall be prepared and implemented to determine the presence/absence of archaeological resources and to assess their eligibility to the CRHR. The ATP shall be reviewed and approved by the Preservation Director prior to implementation. An example outline of the ATP is included in Appendix E of this Draft SEIR. ii. If the testing program identifies CRHR-eligible archaeological resources, an Archaeological Mitigation Plan shall be prepared and implemented. iii. Based upon the results of test excavations, it may be necessary to conduct archaeological monitoring in some areas. IN these areas, an Archaeological Monitoring Plan shall be prepared and implemented to ensure appropriate identification and treatment of anticipated archaeological resources, if any are discovered during grading or construction activities. At a minimum, the Monitoring Plan shall include provisions to result in the cessation of activities upon discovery, evaluation of such resources for historic significance, and if the resource is significant, appropriate treatment based on recommendations of a qualified archaeologist. Appropriate treatment shall include protection of the resource from further damage, and one of the following, as appropriate: (1) preservation in place; (2) return of the resource to the most likely descendent (MLD) (if determined to be of Native American origin), (3) curation in an appropriate location or facility, and/or (4) recordation. The City Preservation Director shall approve the Archaeological Monitoring Plan prior to implementation. An example outline of an Archaeological Monitoring Plan is included in Appendix E of this Draft SEIR. iv. Prior to construction activities, an archaeologist will lead an in-field tailgate training session for project construction crews on the kinds and types of resources that may be present, and give plans for actions of work stoppage to occur should archeological features be encountered. **4.4-1(b) (RSPU, footprint of the northern levee embankment only)** Within the current footprint of the northern levee embankment, prior to ground-disturbing activities that are anticipated to extend below the level of North B Street (e.g. excavation below the base of the extant levee embankment), an Archaeological Monitoring Plan shall be prepared and implemented to ensure appropriate identification and treatment of anticipated archaeological resources, if any are discovered during grading or construction activities. In the event of inadvertent discovery of a potential archaeological resource or human remains, Mitigation Measure 4.4-1(c) will be implemented. **4.4-1(c) (RSPU, KPMC, MLS, SO)** In the event that unanticipated archaeological resources or human remains are encountered, compliance with federal and state regulations and guidelines regarding the treatment of cultural resources and human remains shall be required. The following details the procedures to be followed in the event that new cultural resource sites or human remains are discovered.	LTS	LTS	LTS	LTS	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.4 Cultural Resources (cont.)											
Existing Plus Baseline (cont.)											
4.4-1 (cont.)						i. If a monitoring archaeologist or a member of the construction team believes that an archaeological resource has inadvertently been uncovered, all work adjacent to the discovery shall cease, and an SOI qualified archaeologist immediately notified. Appropriate steps shall be taken, as directed by the archaeologist, to protect the discovery site. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the archaeological resources in accordance with Federal and State Law. At a minimum the area will be secured to a distance of 50 feet from the discovery. Vehicles, equipment, and unauthorized personnel shall not be permitted to traverse the discovery site. The archaeologist shall conduct a field investigation and assess the significance of the find. Impacts to cultural resources shall be lessened to a less-than-significant level through data recovery or other methods determined adequate by the archaeologist and consistent with the Secretary of the Interior's Standards for Archaeological Documentation. All identified cultural resources shall be recorded on the appropriate DPR 523 (A-L) form and filed with the North Central Information Center. ii. If human remains are discovered at the project construction site during any phase of construction, all ground-disturbing activity within 50 feet of the resources shall be halted and the County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. If the remains are determined to be Chinese, or any other ethnic group, the appropriate local organization affiliated with that group shall be contacted and all reasonable effort shall be made to identify the remains and determine and contact the most likely descendant. The approved mitigation shall be implemented before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered. If the remains are of Native American origin, the landowner or the landowner's representative shall contact the Native American Heritage Commission to identify the Most Likely Descendant. That individual shall be asked to make a recommendation to the landowner for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.983. If the Most Likely Descendant fails to make a recommendation or the landowner or his or her authorized representative rejects the recommendation of the descendant, and if mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner, then the landowner or authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. **4.4-1(d) (SO)** The title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the California State Lands Commission (CSLC) (PRC Section 6313[a]). In the case of an inadvertent discovery of a submerged shipwreck or related artifacts, all work must cease in the immediate vicinity of the find and the lead agency's archaeological resource staff will be notified immediately in order to initiate consultation with the CSLC staff within two business days of such discovery. PRC Section 6313 (c) states any submerged historic resource remaining in state waters for more than 50 years will be presumed to be archaeologically or historically significant. If the lead agency's archaeologist, in consultation with the CSLC staff, determines that a historical resource may be present, the lead agency will retain the services of a qualified maritime archeological consultant. The maritime archeological consultant will recommend whether the discovery is an historical/archeological resource that retains sufficient integrity and is of potential historical or scientific significance. The maritime archeological consultant also will recommend as to what action, if any, is warranted. Based on this information, and consultation with the CSLC, implementation of additional measures may be required. Measures shall include preservation in situ of the historical resource, implementation of a data recovery program, or other such action that preserves the cultural value of the resource. The maritime archeological consultant will submit a Final Cultural Resources Technical Report to the lead agency, NCIC, and the CSLC staff. This report will include an evaluation of the historical significance, with a description of the archeological and historical research methods employed in any archeological data recovery program undertaken.					
4.4-2: The proposed projects could cause a substantial adverse change in to the Central Shops Historic District, or the Water Tower.	S	S	NI	NI	NI	**4.4-2(a) (RSPU Central Shops District)** Consistent with Section 17.604 and other sections of Title 17 of the City's Planning & Development Code, and in coordination and consultation with the Preservation Director and the Preservation Commission, and adopted by the City Council, a Historic District Plan that is specifically focused on the Historic District in the Central Shops shall be prepared. Any development within the Historic District shall comply with the standards and criteria identified in the plan. The Historic District Plan shall include, at a minimum, the following components: 1. Statement of the goals for review of development projects within the Historic District; 2. A representation of the historical development of land uses, existing land uses, and any adopted plans for future land uses; 3. A statement of findings, including the following: a. The historical or pre-historical period to which the area is significant. b. The predominant periods or styles of the structures or features therein.	LTS	LTS	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.4 Cultural Resources (cont.)											
Existing Plus Baseline (cont.)											
4.4-2 (cont.)						c. The significant features and characteristics of such periods or styles, as represented in the Historic District and incorporating the findings of the historic district designation completed by the City in 2007, including, but not limited to, structure height, bulk, distinctive architectural details, materials, textures, archeological and landscape, hardscape and site features and fixtures. d. A statement, consistent with Title 17, Sacramento Register of Historic and Cultural Resources, of this chapter, of the standards and criteria to be used in determining the appropriateness of any development project involving a landmark, contributing resource or noncontributing resource within the Historic District. **4.4-2(b) (RSPU Central Shops District)** A copy of the full Southern Pacific Company Sacramento Shops HAER document (HAER CA303) shall be completed, and filed with the City's Preservation Office and Center for Sacramento History, including the historic narrative, architectural drawings, and photographs, and archive quality copies disseminated to the appropriate state, regional, and local repositories.					
4.4-3: The proposed projects could cause a substantial adverse change to the Central Shops Historic District, or Water Tower, by new construction surrounding and affecting the contributing resources and the significant features and characteristics of the district.	PS	S	NI	NI	NI	**4.4-3 (RSPU Central Shops and Transition Zone)** Any proposed new project within the Central Shops Historic District (including new construction on Lot 22) shall be designed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, specifically the standards for rehabilitation and new construction within a historic district. Standards 9 and 10 for Rehabilitation state that: 9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and shall be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment. 10. New additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. The RSPU Design Guidelines and policies shall be consistent with these standards. In addition to compliance with the above, with the proposed adopted Historic District plan, and with the Design Guidelines established as part of the proposed RSPU, the project developer shall ensure that any new project involving the design of a new building shall not have a significant impact on the Historic District's contributing resources or its features and characteristics. The City of Sacramento Historic Preservation Director, or the Commission, as appropriate per Preservation Development Project Site Plan & Design Review requirements of Title 17 of the City Code, shall review any proposed project's site plan and design to ensure its compatibility with the SOI Standards and the adopted Historic District plan.	LTS	LTS	NA	NA	NA
4.4-4: The proposed projects could cause a substantial adverse change to the I Street Bridge.	LTS	LTS	NI	NI	NI	None required.	NA	NA	NA	NA	NA
4.4-5: The proposed projects could cause a substantial adverse change in the significance of historic resources outside of the Central Shops, specifically the remnant portion of the Pioneer/Sperry Grain Mill, California State Landmark 780 the First Transcontinental Railroad, and the Sacramento River Levees.	LTS	LTS	NI	NI	NI	None required.	NA	NA	NA	NA	NA
4.4-6: The proposed projects could cause a substantial adverse change in the significance of the Alkali Flat West and North Historic Districts.	LTS	LTS	NI	LTS	NI	None required.	NA	NA	NA	NA	NA
4.4-7: Construction of the proposed projects could damage and/or destroy paleontological resources.	PS	PS	PS	PS	PS	**4.4-7 (RSPU, KPMC, MLS, SO)** 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.	LTS	LTS	LTS	LTS	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.4 Cultural Resources (cont.)											
Cumulative											
4.4-8: The proposed projects could contribute to the cumulative loss or alteration of archaeological resources, including human remains.	PS	PS	PS	PS	PS	**4.4-8** Implement Mitigation Measures 4.4-1(a) through 4.4-1 (d).	SU	SU	SU	SU	SU
4.4-9: The proposed projects could contribute to the cumulative loss or alteration of historic built resources, including the Central Shops Historic District (the Southern Pacific Railroad Shops), the Water Tower, the Sacramento Valley Station, or the Alkali Flat Historic Districts.	S	S	NI	NI	NI	**4.4-9** Implement Mitigation Measure 4.4-2 and 4.4-3.	LTS	LTS	NA	NA	NA
4.4-10: The Proposed projects would contribute to cumulative losses of paleontological resources.	S	S	S	S	S	**4.4-10** Implement Mitigation Measure 4.4-7.	LTS	LTS	LTS	LTS	LTS
4.5 Energy Demand and Conservation											
Existing Plus Baseline											
4.5-1: The proposed project would increase demand for energy, specifically electricity and natural gas, the construction of which could cause significant environmental effects.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.5-2: The proposed projects could result in the wasteful, inefficient, or unnecessary use of energy.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
Cumulative											
4.5-3: The proposed project would contribute to cumulative increases in demand for energy.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.6 Geology, Soils, and Seismicity											
Existing Plus Baseline											
4.6-1: The proposed projects could expose people and structures to seismic hazards, such as groundshaking and liquefaction.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.6-2: The proposed projects could result in damage to the historic Central Shops.	PS	PS	LTS	LTS	NI	**4.6-2 (RSPU)** a) To the extent feasible, the historic buildings shall be stabilized and reinforced prior to trenching or other construction activities within 50 feet of the buildings. b) A pre-excavation settlement-damage survey shall be prepared that shall include, at a minimum, visual inspection of existing vulnerable structures for cracks and other settlement defects, and establishment of horizontal and vertical control points on the buildings. A monitoring program of surveying horizontal and vertical control points on structures and shoring shall be followed to determine the effects of dewatering, excavation, and construction on the particular building site. If it is determined by the engineer that the existing buildings could be subject to damage, work shall cease until appropriate remedies to prevent damage are identified. c) 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.	LTS	LTS	LTS	LTS	LTS

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.6 Geology, Soils, and Seismicity (cont.)											
Existing Plus Baseline (cont.)											
4.6-3: The proposed projects could cause erosion or the loss of topsoil during construction or operation.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.6-4: The proposed projects could expose people or structures to unstable soil conditions, including expansive soils and subsidence.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
Cumulative											
4.6-5: The proposed projects could contribute to cumulative increases in the number of people exposed to seismic and geologic risks.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.6-6: The proposed projects could contribute to cumulative increases in erosion within the Sacramento watershed.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.7 Global Climate Change											
Cumulative											
4.7-1: Implementation of the proposed projects could conflict with the City of Sacramento's Climate Action Plan.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.8 Hazards and Hazardous Materials											
Existing Plus Baseline											
4.8-1: Construction of the proposed projects could result in the exposure of people to health risk associated with contaminated soils and debris.	PS	PS	LTS	LTS	PS	**4.8-1 (RSPU, West Jibboom only, SO)** 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 work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a qualified professional. The 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.	LTS	LTS	NA	NA	LTS
4.8-2: Renovation of Central Shop buildings could expose people to asbestos-containing materials, lead-based paint and/or other hazardous materials.	LTS	LTS	NI	NI	NI	None required.	NA	NA	NA	NA	NA
4.8-3: Development of the proposed projects could expose people to existing contaminated groundwater during dewatering activities.	PS	PS	LTS	LTS	PS	**4.8-3 (RSPU, West Jibboom only, SO)** Implement Mitigation Measure 4.8-1.	LTS	LTS	NA	NA	LTS
4.8-4: Construction of the proposed projects' infrastructure and buildings could interfere with remediation efforts.	PS	PS	LTS	LTS	PS	**4.8-4 (RSPU, West Jibboom only, SO)** Implement Mitigation Measure 4.8-1.	LTS	LTS	NA	NA	LTS
4.8-5: Occupancy of the proposed projects could increase the use of hazardous substances during occupancy.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.8 Hazards and Hazardous Materials (cont.)											
Existing Plus Baseline (cont.)											
4.8-6: Development of the proposed projects would bring new occupants or visitors in proximity to hazardous substances transportation routes, such as I-5 and the UPRR rail lines.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.8-7: Operation of the proposed projects could result in the exposure of people to health risks associated with contaminated soils and groundwater.	PS	PS	PS	PS	PS	**4.8-7 (RSPU, KPMC, MLS, SO)** a) In areas where the groundwater contamination has the potential to reach water, sewer or storm drainage pipelines due to fluctuations in the elevation of the groundwater table, or where volatile contaminants in soil vapor could enter porous utility lines, measures such as concrete trenches, membrane barriers and venting will be used to prevent infiltration in accordance with DTSC requirements. b) Routine monitoring of the above areas shall be performed by the landowners and/or the City, reported to DTSC and Regional Water Board, and corrective actions implemented if the results indicate adverse change in water quality. For stormwater, the monitoring may be conducted through the City's MSR 4 program.	LTS	LTS	LTS	LTS	LTS
Cumulative											
4.8-8: The proposed projects in combination with development of other projects in the surrounding area known to contain, or could contain contaminated soil or groundwater, could present a hazard to construction workers if not properly managed.	S	S	LTS	LTS	S	**4.8-8 (RSPU, West Jibboom only, SO)** Implement Mitigation Measure 4.8-1.	LTS	LTS	NA	NA	LTS
4.8-9: The proposed projects could contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume and Lagoon Groundwater.	S	S	LTS	LTS	S	**4.8-9 (RSPU, West Jibboom only, SO)** Implement Mitigation Measure 4.8-1.	LTS	LTS	NA	NA	LTS
4.8-10: The proposed projects 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.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.9 Hydrology and Water Quality											
Existing Plus Baseline											
4.9-1: The proposed projects could degrade water quality during construction.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.9-2: Operation of the proposed projects could generate new sources of polluted runoff.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.9-3: The proposed projects could expose people or property to an increased risk of flood hazards.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.9-4: The proposed projects could adversely affect groundwater supplies, groundwater quality and/or interfere with groundwater recharge.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.9 Hydrology and Water Quality (cont.)											
Cumulative											
4.9-5: The proposed projects would contribute to the cumulative degradation of water quality.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.9-6: The proposed projects could contribute to cumulative increases in the risk of flooding.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.9-7: The proposed projects could contribute to cumulative impact on groundwater supplies, quality, and recharge.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.10 Noise and Vibration											
Existing Plus Baseline											
4.10-1: Construction of the proposed projects could generate noise that would conflict with City standards.	S	S	S	S	LTS	**4.10-1 (RSPU, KPMC, MLS)** The contractor shall ensure that the following measures are implemented during all phases of project construction: a) Whenever construction occurs within 130 feet to occupied residences (on or offsite), temporary barriers shall be constructed around the construction sites to shield the ground floor of the noise-sensitive uses. These barriers shall be of ¾-inch Medium Density Overlay (MDO) plywood sheeting, or other material of equivalent utility and appearance, and shall achieve a Sound Transmission Class of STC-30, or greater, based on certified sound transmission loss data taken according to ASTM Test Method E90 or as approved by the City of Sacramento Building Official. b) Construction equipment staging areas shall be located as far as feasible from residential areas while still serving the needs of construction contractors. c) Use of auger displacement for installation of foundation piles, if feasible. If impact pile driving is required, “sonic” pile- drivers shall be used, unless engineering studies are submitted to the City that show this is not feasible, based on geotechnical considerations. d) Prior to impact pile driving activities in Blocks 49, 50 and 52, the applicant shall coordinate with the KCRA building management staff in order to minimize disruption from pile driving, to the extent feasible.	SU	SU	SU	SU	NA
4.10-2: Operations of the proposed projects could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.	S	S	PS	S	LTS	**4.10-2 (a) (RSPU, KPMC, MLS)** The project sponsor shall ensure that the following measures are implemented for all development under the proposed Specific Plan: i. Prior to the issuance of building permits, the applicant shall submit engineering and acoustical specification for project mechanical HVAC equipment and the proposed locations of onsite loading docks to the Planning Director demonstrating that the HVAC equipment and loading dock design (types, location, enclosure, specification) will control noise from the equipment to at least 10 dBA below existing ambient levels at nearby residential and other noise-sensitive land uses. ii. Noise-generating stationary equipment associated with proposed commercial and/or office uses, including portable generators, compressors, and compactors shall be enclosed or acoustically shielded to reduce noise-related impacts to noise-sensitive residential uses. iii. In order to avoid the exposure of rail noise to onsite future sensitive receptors that would exceed the City of Sacramento exterior noise standards, residential units within Blocks 35, 49 and 50 shall not be placed closer than 190 feet from the centerline of the UPRR rail line. **4.10-2(b) (MLS)** i. The project applicant shall retain a qualified acoustical consultant to verify that the MLS Stadium architectural and outdoor amplified sound system designs incorporate all feasible acoustical features in order to comply with the City of Sacramento Noise Control Ordinance. ii. The project applicant shall be required to limit speakers at temporary plaza stages outside the stadium to be no louder than 100 dBA measured fie (5) feet from the source.	SU	SU	SU	SU	SU
4.10-3: The proposed projects could result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation.	PS	LTS	LTS	PS	LTS	**4.10-3(a) (RSPU)** Prior to the issuance of building permits for residential projects within the RSP Area, 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 proposed projects. 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.	LTS	NA	NA	LTS	LTS

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

TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.10 Noise and Vibration (cont.)											
Existing Plus Baseline (cont.)											
4.10-3 (cont.)						**4.10-3(b) (MLS)** Implement Mitigation Measure 4.10-2(b) to minimize noise from outdoor amplified sound systems.					
4.10-4: Construction of the proposed projects could expose existing and/or planned buildings, and persons within, to vibration that could disturb people and damage buildings.	PS	PS	PS	PS	LTS	**4.10-4 (RSPU, KPMC, MLS)** Prior to the issuance of any building permit for each phase of project development, the project applicant shall develop a 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: 1) 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 0.25 PPV for 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: 2) Buffer distances and types of equipment selected to minimize vibration impacts during construction at nearby receptors in order to meet the specified standards. 3) Implement a vibration, crack, and line and grade monitoring program at existing historic buildings located within 47 feet of construction activities. The following elements shall be included in this program: a) During building construction: i) 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 the building construction of blocks 23 and 24. ii) 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. iii) 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. b) Post-construction i) 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. ii) 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 a work plan for the repairs and a completion report to ensure compliance with the SOI Standards to the City Chief Building Official and City Preservation Director for review and comment.	SU	SU	SU	SU	NA
4.10-5: The residential, non-residential, and mixed-use buildings constructed pursuant to the RSPU could be exposed to vibration levels due to existing rail operations and/or I 5 traffic.	S	S	NI	NI	LTS	**4.10-5 (RSPU)** a) The historic structures in the Central Shops Historic District shall be stabilized using methods that would protect against vibration levels identified in the screening analysis (shown in Figure 6.8-3 of the 2007 RSP EIR). b) Prior to design review, the applicant shall have a certified vibration consultant prepare a site-specific vibration analysis for residential uses and historic structures that are within the screening distance (shown in Figure 6.8-3 of the 2007 RSP EIR) for freight and passenger trains or light rail trains. The analysis shall detail how the vibration levels at these receptors would meet the applicable vibration standards to avoid potential structural damage and human annoyance. The results of the analysis shall be incorporated into project design.	LTS	LTS	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.10 Noise and Vibration (cont.)											
Cumulative											
4.10-6: The proposed projects would result in exposure of people to cumulative increases in construction noise levels.	S	S	S	S	LTS	**4.10-6 (RSPU, KPMC, MLS)** Implement Mitigation Measure 4.10-1.	LTS	LTS	LTS	LTS	NA
4.10-7: The proposed projects would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.	S	S	S	S	LTS	**4.10-7 (RSPU, KPMC, MLS)** Implement Mitigation Measure 4.10-4.	SU	SU	SU	SU	NA
4.10-8: The proposed projects would contribute to cumulative increases in traffic and rail noise levels.	LTS	LTS	LTS	LTS	LTS	None required.	NA	NA	NA	NA	NA
4.10-9: Implementation of the proposed projects would contribute to cumulative increases in residential interior noise levels of 45 dBA Ldn or greater.	PS	PS	LTS	PS	LTS	**4.10-9(a) (RSPU)** Implement Mitigation Measures 4.10-3(a). **4.10-9(b) (RSPU, MLS)** Implement Mitigation Measure 4.10-3(b).	LTS	LTS	NA	LTS	NA
4.11 Public Services											
4.11-1: The proposed projects would increase demand for police protection services within the City of Sacramento.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.11-2: The proposed projects would contribute to cumulative increase in demand for police protection services within the Central City.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.11-3: The proposed projects would increase the demand for fire protection services.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.11-4: The proposed projects would contribute to cumulative increases in demand for fire protection services within the Central City.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.11-5: The proposed projects would generate additional students in Sacramento City Unified School District and Twin Rivers Unified School District.	LTS	LTS	NI	NI	NI	None required	NA	NA	NA	NA	NA
4.11-6: The proposed projects could result in a school located in proximity to existing hazards, specifically railroad tracks.	S	S	NI	NI	NI	**4.11-6 (RSPU)** Prior to school site approval within 1,500 feet of the railroad tracks, the SCUSD shall retain a competent professional to prepare a safety study that assesses cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track, need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossings, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, and preparation of an evacuation plan. Based on this information and the proposed location and design of the school, the study shall demonstrate that the school design and construction would not expose students to risks associated with train accidents. In the event these conditions cannot be satisfied, SCUSD shall proceed in a manner than complies with California Code of Regulations, Title 5, section 14010(d).	LTS	LTS	NA	NA	NA
4.11-7: The proposed projects would contribute to the cumulative increases in student enrollment in the Sacramento City Unified School District and the Twin Rivers Unified School District.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.11 Public Services											
4.11-8: The proposed projects would increase the demand for parks and recreational facilities.	S	S	NI	NI	NI	**4.11-8 (RSPU)** Prior to filing of the final map, the project applicant shall reach agreement with the City on which of the proposed project elements and acreage meet the applicable City parkland dedication requirements. The project applicant shall pay in-lieu fees (Quimby) on the difference in acreage between the City parkland requirement and the amount of parkland the proposed project would supply. The applicant shall pay Park Impact Fees (PIF) or enter into a "turnkey" agreement to construct the park facilities to satisfy its PIF obligation.	LTS	LTS	NA	NA	NA
4.11-9: The proposed projects would contribute to cumulative increases in demand on City parks and recreational facilities.	S	S	NI	NI	NI	**4.11-9 (RSPU)** Implement Mitigation Measure 4.11-8.	LTS	LTS	NA	NA	NA
4.11-10: The proposed projects could result in an increased demand for library services.	LTS	LTS	NI	NI	NI	None required	NA	NA	NA	NA	NA
4.11-11: The proposed projects would contribute to the cumulative increase in demand for library services in the City of Sacramento.	LTS	LTS	LTS	LTS	LTS	None required	NA	NA	NA	NA	NA
4.12 Transportation											
Existing Plus Baseline											
4.12-1: The proposed projects could worsen conditions at intersections in the City of Sacramento.	PS	PS	PS	PS	NI	**4.12-1(a) (RSPU)** i. Implement Event Transportation Management Plan (TMP) to the satisfaction of the City Traffic Engineer and subject to the performance standards set forth within, including: 1. Vehicle Queuing on City Streets: Through added intersections capacity and/or traffic management, traffic does not queue back to upstream locations during the Pre-Event peak hour including (but not limited to): • Northbound 7th Street traffic does not spill back from Railyards Boulevard into the UPRR undercrossing (i.e., queues do not extend any greater than 600 feet from Railyards Boulevard). • Westbound North B Street traffic does not spill back from 7th Street to 8th Street • Westbound North B Street traffic does not spill back from 8th Street to 12th Street • Southbound 7th Street traffic does not spill back to LRT tracks at North B Street 2. Pedestrian Flows: Through pedestrian flow management, pedestrians do not spill out of sidewalks onto streets with moving vehicles, particularly along 7th Street between Richards Boulevard and G Street, Railyards Boulevard between 5th Street and 8th Street, and North B Street between 7th Street and 12th Street. 3. Vehicular Parking: A comprehensive parking plan is implemented that includes (but is not limited to) a reservation system, smartphone parking app, directional signage, real-time parking garage occupancy, etc. that minimizes unnecessary vehicular circulation (while looking for parking) within and adjacent to the RSP Area. 4. Bicycle Parking: Signage is clearly visible to direct bicyclists to MLS Stadium event bicycle parking, which has an adequate supply to accommodate a typical MLS Stadium event. 5. Light Rail Transit: A new light rail station/stop is constructed on 7th Street north of Railyards Boulevard and operational at the time the stadium opens, providing an adequate level of LRT service to meet the Pre- and Post-Event ridership demands. 6. Bus/Paratransit: Specific locations are provided to accommodate public buses and paratransit vehicle stops within one block of the MLS Stadium. 7. Ridesharing: Specific locations are provided for pick-up / drop-off areas such that taxi, Uber, or similar ridesharing services do not impede overall vehicular or pedestrian flow (including maintaining uncongested conditions along 10th Street to enable emergency vehicle response). 8. Truck Staging: Delivery trucks associated with special events do not park or idle along 7th Street, 8th Street, North B Street, or Railyards Boulevard. ii. Each project developed pursuant to the RSPU (including the Land Use Variant) shall pay the applicable fee for the I-5 Subregional Corridor Mitigation Program (SCMP) prior to issuance of building permits. iii. Convert existing Dos Rios Street leg at 12th Street/North B Street intersection to a right-turn only intersection that does not operate as part of the traffic signal.	LTS	LTS	LTS	LTS	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.12 Transportation (cont.)											
Existing Plus Baseline (cont.)											
4.12-1 (cont.)						**4.12-1(b) (KPMC)** The following measures shall be implemented prior to issuance of the Certificate of Occupancy for Phase 1 of the KP Medical Center. i. Implement Mitigation Measure 4.12-1(a)(ii). ii. Implement Transportation Demand Management (TDM) Program. iii. Widen Railyards Boulevard at 7th Street to provide a dedicated northbound left-turn lane and dedicated southbound right-turn lane. Operate signal with protected northbound left-turn phasing. iv. Coordinate traffic signals on Railyards Boulevard at 5th, 6th, and 7th Streets. v. Implement either Option 1a, 1b, or Option 1c: • Option 1a: Extend 5th Street northerly from South Park Street to North B Street. Install traffic signal at the 5th Street/South Park Street intersection. Operate with 5th Street/North B Street intersection with side-street stop-control. Widen eastbound North B Street at 7th Street to include a dedicated left-turn lane and a shared through/right lane and operate east-west approaches with protected left-turn phasing. • Option 1b: Extend South Park Street easterly from 5th Street and extend 6th Street northerly from South Park Street extension to North B Street. Install traffic signal at the 5th Street/South Park Street intersection. Operate 6th Street/North B Street intersection with side-street stop-control. Widen eastbound North B Street at 7th Street to include a dedicated left-turn lane and a shared through/right lane and operate east-west approaches with protected left-turn phasing. • Option 1c: Widen 7th Street/North B Street intersection to consist of a left-turn lane and a shared through/right lane on all approaches. Operate signal with protected left-turn phasing. **4.12-1(c) (MLS)** i. Implement Mitigation Measure 4.12-1(a)(i). ii. Convert existing Dos Rios Street leg at 12th Street/North B Street intersection to a right-turn only intersection that does not operate as part of the traffic signal. iii. Implement Transportation Demand Management (TDM) Program, if required by city code. iv. Construct South Park Street between 6th Street and 7th Street. v. Construct 6th Street between Railyards Boulevard and North B Street. vi. Install traffic signals at 7th Street/South Park Street, 6th Street/North B Street, Railyards Boulevard/8th Street, and North B Street/8th Street. vii. Widen 7th Street at Railyards Boulevard to provide dedicated northbound and southbound left-turn lanes, and operate signal with protected left-turn phasing. viii. Widen/restripe 7th Street at North B Street to consist of one left-turn lane and one shared through/right lane on all approaches, and operate signal with protected left-turn phasing.					
4.12-2: The proposed projects could worsen conditions on freeway facilities maintained by Caltrans.	S	S	S	LTS	NI	**4.12-2 (RSPU, KPMC)** Implement Mitigation Measure 4.12-1(a)(ii).	LTS	LTS	LTS	LTS	NA
4.12-3: The proposed projects could worsen vehicle queuing at off-ramps on I-5.	S	S	S	S	NI	**4.12-3 (RSPU, KPMC, MLS)** Implement Mitigation Measure 4.12-1(a)(ii).	SU	SU	SU	SU	NA
4.12-4: The proposed projects could adversely affect public transit operations or fail to adequately provide access to transit.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.12-5: The proposed projects could adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.12-6: The proposed projects could adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	LTS	LTS	LTS	S	NI	**4.12-6 (MLS)** Implement Mitigation Measure 4.12-1(a)(i).	NA	NA	NA	LTS	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.12 Transportation (cont.)											
Cumulative											
4.12-7: The proposed projects could cause construction-related traffic impacts.	S	S	S	S	NI	**4.12-7 (RSPU, KPMC, MLS)** Before issuance of grading permits for the project site, the project applicants 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 and transit • Manual traffic control when necessary • Proper advance warning and posted signage concerning street closures • Provisions for pedestrian and bicycle safety A copy of each 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.	LTS	LTS	LTS	LTS	NA
4.12-8: The proposed projects could contribute to cumulatively unacceptable intersection operations in the City of Sacramento.	PS	PS	PS	PS	NI	**4.12-8(a) (RSPU)** i. Implement Mitigation Measure 4.12-1(a)(i). ii. Implement Mitigation Measure 4.12-1(a)(ii). **4.12-8(b) (KPMC)** i. Implement Mitigation Measure 4.12-1(a)(ii). ii. Implement Mitigation Measure 4.12-1(b)(ii). **4.12-8(c) (MLS)** i. Implement Mitigation Measure 4.12-1(a)(i). ii. Implement Mitigation Measure 4.12-1(c)(iii).	LTS	LTS	LTS	LTS	NA
4.12-9: The proposed projects could worsen cumulative conditions on freeway facilities maintained by Caltrans.	S	S	PS	LTS	NI	**4.12-9 (RSPU, KPMC)** i. Implement Mitigation Measure 4.12-1(a)(ii).	LTS	LTS	LTS	NA	NA
4.12-10: The proposed projects could worsen vehicle queuing at off-ramps on I-5 under cumulative conditions.	S	S	S	S	NI	**4.12-10 (RSPU, KPMC, MLS)** Implement Mitigation Measure 4.12-1(a)(ii).	SU	SU	SU	SU	NA
4.12-11: The proposed projects could adversely affect public transit operations or fail to adequately provide access to transit under cumulative conditions.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA
4.12-12: The proposed projects could adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle under cumulative conditions.	LTS	LTS	LTS	LTS	NI	None required.	NA	NA	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.12 Transportation (cont.)											
Cumulative (cont.)											
4.12-13: The proposed projects could adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians under cumulative conditions.	LTS	LTS	LTS	S	NI	**4.12-13 (MLS)** Implement Mitigation Measure 4.12-1(a)(i).	NA	NA	NA	LTS	NA
4.12-14: The proposed projects could cause construction-related traffic impacts under cumulative conditions.	S	S	PS	S	NI	**4.12-14 (RSPU, KPMC, MLS)** Implement Mitigation Measure 4.12-7.	LTS	LTS	LTS	LTS	NA
4.13 Utilities											
4.13-1: The proposed projects would increase demand for wastewater treatment.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-2: The proposed projects would increase flows to the City's combined sewer system.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-3: The proposed projects would contribute to cumulative increases in flows within the CSS.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-4: The proposed projects would contribute to cumulative increases in wastewater requiring treatment at the SRWWTP.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-5: The proposed projects could increase demand for potable water.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-6: The proposed projects could increase demand for treated water and water distribution systems.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-7: The proposed projects would contribute to cumulative increases in demand for water supply and treatment.	PS	PS	PS	PS	NI	**4.13-7 (RSPU)** In order 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 more of the following: a. Maximize Water Conservation b. Implement New Water Diversion and/or Treatment Infrastructure c. Implement Additional Groundwater Pumping – 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 mitigation measures identified for each mitigation project. The City would not be responsible for the actions taken by other local jurisdictions or agencies.	SU	SU	SU	SU	NA
4.13-8: The proposed projects would contribute to cumulative increases in demand for water conveyance.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA

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TABLE S-3 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation					Mitigation Measures	Significance After Mitigation				
	RSPU	RSPU LUV	KPMC	MLS	SO		RSPU	RSPU LUV	KPMC	MLS	SO
4.13 Utilities (cont.)											
4.13-9: The proposed projects would generate additional solid waste.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA
4.13-10: The proposed project would contribute to cumulative increases in solid waste.	LTS	LTS	LTS	LTS	NI	None required	NA	NA	NA	NA	NA

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TABLE S-4.
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.13 Urban Design and Visual Resources			4.1 Aesthetics, Light and Glare			
6.13-1: East of I-5, the potential development of large-floor plate and high-rise buildings across the project site could alter public views.	None Required	LTS	4.1-1: The implementation of the RSPU, including the potential development of large-floor plate and high-rise buildings in the RSP Area east of I-5, could alter public views.	4.1-1: As described above, implementation of the proposed RSPU would create a series of visual changes to the RSP Area, changing it from an undeveloped, vacant former industrial site to an urbanized extension of downtown Sacramento, and a visual transition from the Central Business District to the lower-scale more industrial visual character of the River District. Projects consistent with the RSPU, including the KP Medical Center, the MLS Stadium, and the Stormwater Outfall, would alter their sites from existing conditions, but in ways that would be largely consistent with the policy direction of relevant plans, policies, and guidelines. Thus, the effects of the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall on visual quality, character and views would be a **less-than-significant** impact.	4.1-1 (RSPU) *Maximum street-wall height for structures facing 7th St within Lot 46.*	LTS
6.13-2: The potential development of high-rise buildings adjacent to the riverfront could represent an introduction of building height and mass that conflicts with the character of the riverfront between Old Sacramento and the Jibboom Street bridge.	None Required	LTS	4.1-2: The potential development of high-rise buildings adjacent to the riverfront could conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge.	4.1-2: The height and bulk of development that would be allowed in the Riverfront District would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge. This impact would be considered **significant**.	4.1-2 (RSPU) *Addition of base height, bulk and massing requirements to the RSPU Design Guidelines and enforcement through the SPD.*	LTS
6.13-3: The proposed project could create substantial new sources of light.	6.13-3 *(a) Guidelines for control and design of lighting;* *(b) Submittal of a lighting plan* *(c) Exterior and landscape lighting shall follow municipal code*	LTS	4.1-3: The proposed projects could create substantial new sources of light	4.1-3: The effects described for the proposed RSPU would be similar to those described for the 2007 RSP, although somewhat exacerbated by the effects of the light associated with the proposed Stadium in the East End District. This impact is considered to be **potentially significant**.	4.1-3 (RSPU, MLS) **Identical 6.13-3* 4.1-4 (MLS) *(a) Construction lighting BMPs* *(b) Stadium lighting design plan.* *(c) Retain lighting design expert to implement compliant with city standards and light mitigation.* *(d) Comply with City Code Section 8.072.010.*	SU
6.13-4: The proposed project could create a new source of glare.	6.13-4 *Guidelines for reflective glass walls*	LTS	4.1-4: The proposed projects could create a new source of glare	4.1-4: Because the details of construction materials to be used on future buildings developed pursuant to the proposed RSPU are unknown, it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project area if the surfaces of structures are highly reflective. This is a **potentially significant** impact.	4.1-5 *Guidelines for reflective glass walls* This measure is identical to Mitigation Measure 6.13-4 of 2007 RSP EIR	LTS
6.13-5: Implementation of the proposed project, in combination with cumulative development in the areas surrounding the project site, could substantially degrade the existing visual character or quality of the vicinity.	None Required	LTS	4.1-5: The proposed projects could contribute to substantial cumulative degradation of the existing visual character or quality in the vicinity.	4.1-5: Because the proposed RPSU, including the KP Medical Center, MLS Stadium, and Stormwater Outfall, would not degrade the existing visual quality of the area, the project would not have cumulatively considerable contribution to this impact. Consequently, the cumulative change in the visual character of the areas surrounding the project site would be **less than significant**.	None Required	LTS
6.13-6: Implementation of the proposed project, in combination with cumulative development along the riverfront in Sacramento, could cause an introduction of building height and mass that conflicts with the character of the Sacramento River riverfront between Old Sacramento and Discovery Park.	None Required	LTS	4.1-6: The proposed projects could cause an introduction of building height and mass that conflicts with the character of the Sacramento River riverfront between Old Sacramento and Discovery Park	4.1-6: the height and bulk of development that would be allowed in the Riverfront District would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge, and would be inconsistent with the proposed RSPU Design Guidelines which states that in the Riverfront District it is the intent that "[t]owers should be slender on their upper stories so as to preserve visual access to the River for Interstate 5 motorists." For these reasons, the contribution of the proposed projects to the cumulative visual effects on along the Sacramento River would be cumulatively considerable, and therefore this cumulative impact would be **potentially significant**.	4.1-6 (RSPU) *Implement Mitigation Measure 4.1-2*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.13 Urban Design and Visual Resources (cont.)			4.1 Aesthetics, Light and Glare (cont.)			
6.13-7: Implementation of the proposed project, in combination with cumulative development in the areas adjacent to the project site, could create cumulative light effects that could impact adjacent properties.	None Required	LTS	4.1-7: The proposed projects could contribute to cumulative increases in light.	4.1-7: Spillover light is a site-specific effect that could only be added to by other projects in the immediate vicinity of the affected property. There are no other known projects along the 7th Street or northern edge of Alkali Flat between 7th Street and 12th Street, or in the North B Street/Bannon Street corridor. Therefore, there would be no cumulative impact associated with spillover lighting.	None Required	NI
6.13-8: Implementation of the proposed project, in combination with cumulative development along major roadways in the project vicinity, could create cumulative glare that could affect adjacent properties.	6.13-8 *Implement Mitigation Measure 6.13-4.*	LTS	4.1-8: The proposed projects could contribute to cumulative sources of glare.	4.1-8: Since the buildings to be developed pursuant to the proposed RSPU have yet to be designed and could produce glare effects, cumulative daytime glare along these major roadways in the project vicinity would be a potentially significant impact. The buildings built adjacent to I 5 in the Railyards could result in a significant daytime glare impact, therefore the proposed projects could result in a cumulatively considerable contribution to this significant cumulative impact.	4.1-7 (RSPU) *Implement Mitigation measure 4.1-5* This measure is identical to Mitigation Measure 6.13-8 of the 2007 RSP EIR	LTS
6.1 Air Quality			4.2 Air Quality			
6.1-1: The proposed project would generate particulate matter during grading of construction site(s) and construction of the proposed structures.	6.1-1 *Implement SMAQMD requirements prevention and control of fugitive dust, during grading and construction activities.*	LTS	4.2-2: Construction of the proposed projects could result in short-term emissions of NOx, PM10 and PM2.5.	4.2-2: Construction of the proposed RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall projects would result in emissions of PM10 and PM2.5 that would exceed the SMAQMD significance thresholds. This is because SMAQMD has established a zero emissions threshold for PM10 and PM2.5. All construction projects are required to implement the SMAQMD's Basic Construction Emission Control Practices to control PM10 and PM2.5. If BMPs are implemented, then SMAQMD uses different thresholds to determine significance as listed in the above tables. Also, buildout of the RSPU and RSPU Land Use Variant would generate unmitigated NOx emissions that would exceed SMAQMD's thresholds. Consequently, construction of any of the land uses would result in a **significant** impact. With implementation of Mitigation Measures 4.2-2(a – d), 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.	4.2-2(a) (RSPU, KPMC, MLS, SO) *Grading or improvement plans shall include SMAQMD Basic Construction Emission Control Practices.* 4.2-2(b) (RSPU, KPMC, MLS, SO) *Grading or improvement plans shall include SMAQMD Enhanced Exhaust Control Practices.* 4.2-2(c) (RSPU, KPMC, MLS, SO) *Grading or improvement plans shall include SMAQMD Fugitive Dust Control Practices.* 4.2-2(d) (RSPU) *Pay into the SMAQMD's construction mitigation fund to offset construction-generated emissions of NOx that exceed SMAQMD's daily emission threshold of 85 lbs/day.*	LTS
6.1-2: Construction of the proposed project would generate emissions of ozone precursors.	6.1-2 *Measures to be incorporated into construction contracts and included in construction plans*	LTS	4.2-2: See Above	4.2-2: See Above	4.2-2(a) – (d): *See Above.*	SU
6.1-3: Operation of the proposed project would result in the generation of increased ROG and NO_x emissions.	6.1-3 *Implementation of emission reduction strategies and requirements for the Railyards Air Quality Management Plan*	SU	4.2-3: The proposed projects could result in long-term (operational) emissions of NOx, ROG, PM10, and PM2.5.	4.2-3: Although the operation of the Stormwater Outfall and MLS Stadium (during both an event day non-event day) would not emit a substantial amount of criteria pollutant emissions during its operation, the combined operation emissions of all the proposed projects would result in ROG and NOx emissions that would exceed SMAQMD significance threshold. This would result in a **significant** impact. As is described under Impact 4.2-1, the SMAQMD recommends that lead agencies require projects creating emissions that would exceed the District's daily thresholds of ROG and/or NOx reduce their ozone precursor emissions from transportation sources by 15 percent. The RSPU without an MLS match and the RSPU Land Use Variant would result in a 17 and 16 percent reduction in NO_{xe} emissions by simply implementing the design features proposed under the Railyards Specific Plan. The RSPU with MLS match operation would result in a 15 percent reduction in NO_{xe} emissions after mitigation, respectively. All proposed projects would meet or exceed the 15 percent emission reduction/mitigation guideline established by the SMAQMD. Even with achievement of the SMAQMD-required 15 percent reduction in operational mobile source emissions, NOx and ROG emissions associated with RSPU and RSPU Land Use Variant would exceed the SMAQMD threshold of 65 pounds per day. Thus, this impact would remain **significant and unavoidable**. This impact conclusion is consistent with the 2007 RSP EIR.	None Required. (Consistent with SMAQMD direction, no further mitigation is required.)	SU

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.1 Air Quality (cont.)			4.2 Air Quality (cont.)			
6.1-4: Operation of the proposed project could cause an increase in CO concentrations from project-related traffic.	None Required	LTS	4.2-4: The proposed projects could increase CO concentrations	4.2-4: None of the intersections resulting in an LOS below E during the AM, PM, or pre-event peak hours affected by the proposed projects would result in significant CO concentrations. This impact would be **less than significant**.	None Required	LTS
6.1-5: Implementation of the proposed project could result in a substantial increase in exposure of sensitive receptors to toxic air contaminants.	None Required	LTS	4.2-5: Implementation of the proposed project could result in short-term and long-term exposure to Toxic Air Contaminants (TACs).	4.2-5: Since construction of the proposed projects would only represent between 1 to 27 percent of the 70 year evaluation period, and because DPM exhaust emissions from construction equipment will be reduced by 45% as compared to the state fleet average (based on Mitigation Measure 4.2-2 (b)), TACs generated during construction would not be expected to result in concentrations causing significant health risks. Also, operation of the proposed projects would result in less than significant health risks. This impact is **less than significant**. For operations, all of the land use options would result in cancer risks below the SMAQMD's threshold of 10 per million and acute and chronic health hazards below SMAQMD's threshold of 1.0. Consequently, the operational health risks for all options would be **less than significant**.	None Required	LTS
6.1-6: The proposed project could generate objectionable odors or expose on-site sensitive uses to odors from existing odor sources.	None Required	LTS	4.2-6: Implementation of the proposed projects could create objectionable odors.	4.2-6: The proposed projects could place sensitive land uses adjacent to the existing SRWTP, located north-west of the proposed project site. However, operation of the SRWTP would not involve any activities that would produce odorous emissions. Therefore, this impact would result in **less than significant** impact.	None Required	LTS
6.1-7: The proposed Specific Plan could alter wind speed at ground level (pedestrian level).	6.1-7 *Ground level wind speeds would not exceed 35 mph as a result of building design.*	LTS	4.2-7: Implementation of the proposed projects could alter wind speed at ground level (pedestrian level).	4.2-7: Buildings and other structures of approximately 85 feet or less would be unlikely to result in adverse pedestrian-level wind effects. Buildings over that height, especially if located on the western or northern edges of the West End District or the northern edge of the East End District, could create pedestrian-level wind hazards. Therefore, this impact would result in a **potentially significant** impact.	4.2-7 (RSPU, KPMC) *New buildings taller than 85-feet shall be evaluated by a qualified wind expert and be potentially subject to wind testing to determine wind hazard conditions. Mitigation would include project design change and other measures that would reduce wind hazard. (Update to MM 6.1-7 from the 2007 RSP EIR)*	LTS
6.1-8: Project construction activities would contribute to cumulative increases in ozone precursors.	6.1-8 *Implement Mitigation Measures 6.1-2 (a) through (e).*	LTS	4.2-8: The proposed project could contribute to cumulative increases in short-term (construction) emissions.	4.2-8: Construction of the proposed projects would result in significant emissions of NOX, PM10 and PM2.5, which could combine with emissions generated by other existing and future development within the SVAB to contribute to an air quality impact in the region. Since the proposed projects exceed the SMAQMD project level thresholds, they would also be considered significant contributors to cumulative emissions. Consequently, without mitigation, the proposed projects would have a cumulatively considerable contribution to a **significant** cumulative impact.	4.2-8 (RSPU, RSPU Land Use Variant) *Implement Mitigation Measure 4.2-2 (a) – (d).*	LTS
6.1-9: The proposed project would contribute to cumulative air quality degradation.	6.1-9 *Implement Mitigation Measures 6.1-3.*	SU	4.2-9: The proposed project could contribute to cumulative increases in long-term (operational) emissions of NO_X, ROG, PM10 and PM2.5.	4.2-9: As described in Impact 4.2-3, under non-event day conditions, the proposed project would result in substantial emissions of ROG and NO_X, 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 projects 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. As is described under mitigation measures for Impact 4.2-3, above, the traffic reduction variables built into the design and locality of the proposed projects would exceed 15 percent reduction in NO_X emissions after mitigation. Since the proposed RSPU would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Most of the selected measures listed above would not require monitoring beyond completion of proposed project construction. Nonetheless, even with the inclusion of the above-mentioned design features, NO_X and ROG emissions associated with either of the project scenarios would still exceed the SMAQMD threshold of 85 lbs/day. Thus, operational emissions of ozone precursors would be **significant and unavoidable**.	4.2-9 (RSPU, RSPU Land Use Variant) *Implement Mitigation Measure 4.2-3.* This measure is identical to MM 6.1-9 (Implement MM 6.1-3), of 2007 RSP EIR.	SU
6.1-10: Project construction would contribute to cumulative increases in particulate matter in the vicinity of the Specific Plan Area.	6.1-10 *Implement Mitigation Measures 6.1-1(a) through (g).*	SU	4.2-9: *See Above*	4.2-9: *See Above*	4.2-9 *See Above*	SU

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.1 Air Quality (cont.)			4.2 Air Quality (cont.)			
6.1-11: The proposed project could contribute to cumulative emissions of CO concentrations from project-related traffic.	None Required.	LTS	4.2-10: The proposed project could contribute to cumulative increases in CO concentrations.	4.2-10: Cumulative traffic was analyzed to determine its potential to affect CO concentrations along surface streets near sensitive receptors in the vicinity of the proposed project. A review of the traffic data shows that twenty five intersections would result in a LOS below E during the AM, PM, or pre-event peak hours during cumulative year 2035. Table 4.2-28 shows the results of the cumulative CO modeling. As shown in Table 4.2-28, there would be no exceedances of the CO 1-hour or 8-hour standard at any of the twenty five intersections. Thus, the proposed project would rest in a less-than-significant cumulative impact on local CO concentrations.	None Required	LTS
6.1-12: The proposed project could contribute to cumulative increases in TACs.	None Required.	LTS	4.2-11: The Proposed Project would contribute to cumulative increases in short- and long-term exposures to Toxic Air Contaminants.	4.2-11: The evaluation of health risks from TAC represents a local rather than regional analysis. The analysis described in Impact 4.2-5 and in Appendix HRA shows that TACs and resulting health risks produced during construction and full-buildout of the proposed projects would result in less than significant impacts. Impact 4.2-5 also includes an evaluation of the toxic air contaminants generated by I-5 on future residents and other sensitive receptors. The SMAQMD considers the project-level threshold of significance for evaluating TACs generated by a project as also applicable to a project's contribution to cumulative TACs. Therefore, since the project would not have a significant project-specific health risk, it would also not cause or contribute to a significant cumulative health risk. This impact is **less than significant**.	None Required	LTS
6.1-13: The proposed project could contribute to changes in wind levels throughout the Central City.	None Required.	LTS	4.2-12: The proposed projects could contribute to cumulative changes in wind levels in downtown Sacramento.	4.2-12: Development proposed near the RSP Area would not have a significant effect on wind approaching the Area unless that development is of substantial height and/or bulk. As discussed, the southwest winds and north to northwest winds are the most influential wind directions at the RSP Area. The existing development upwind in these wind directions are either low to mid-rise residential or commercial or open spaces. Generally, any new development in open areas would decrease wind speeds in the downwind direction, however, because there is already low rise development upwind of the RSP Area, development would need to be similar to the height and bulk of downtown Sacramento to effectively reduce approaching wind speeds. Therefore, taller development upwind of the RSP Area would mostly benefit the site; else wind conditions would be expected to be the same as existing. As such, the proposed projects would not contribute to a cumulative increase in wind levels in downtown Sacramento. This is considered a **less-than-significant** cumulative impact.	None Required	LTS
N/A	N/A	N/A	4.2-1: The proposed projects could conflict with or obstruct implementation of an applicable air quality plan.	4.2-1: Because the proposed projects would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed projects would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the proposed projects would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**. This impact was not analyzed in the 2007 RSP EIR.	None Required	LTS
6.2 Biological Resources			4.3 Biological Resources			
6.2-1: Development of the Specific Plan could result in the loss of potential foraging habitat for Swainson's hawk.	None Required.	LTS	4.3-1: Development of the proposed projects could result in the loss of potential foraging habitat for Swainson's hawk.	4.3-1: The proposed project would result in the conversion to urban development areas of low-quality, highly disturbed land that could serve as Swainson's hawk foraging habitat. As such, loss of foraging habitat for Swainson's hawk as a result of development of the proposed projects is considered a **less-than-significant** impact.	None Required	LTS
6.2-2: Development of the Specific Plan could result in the loss of potential nesting habitat for Swainson's hawk, white-tailed kite, and other sensitive riparian-nesting species, and burrowing owls.	6.2-2 *(a) Guidelines for Swainson's hawk nesting habitat.* *(b) Guidelines for nesting habitat for other protected or sensitive avian species.* *(c) Guidelines for burrowing owl nesting habitat.*	LTS	4.3-2: Development of the proposed projects could result in the loss of potential nesting habitat for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.	4.3-2: The RSP Area contains vegetation that may support protected nesting birds, including, but not limited to, Swainson's hawk, white-tailed kite, and purple martin. Potential for tree removal, construction-related disturbance to active nest sites is considered a **potentially significant** impact. In addition, development of the proposed RSPU could result in habitat degradation in the vicinity of the known I Street purple martin colony which is considered a **potentially significant** impact.	4.3-2 (a) (RSPU, KPMC, MLS, SO) Nesting birds impact avoidance and minimization measures. (b) (RSPU) Purple martin-specific impact avoidance and minimization measures.	SU
6.2-3: Development of the Specific Plan could result in take of an endangered and threatened fish species and degradation of designated critical habitat.	6.2-3 (a) – (g) *Implement measures for the avoidance, minimization, or compensation for potential impacts to protected and sensitive riverine species and critical habitat, and prevent any take of winter-run Chinook in the RSP.*	LTS	4.3-3: The proposed projects could result in impacts to special-status fish species and degradation of designated critical habitat.	4.3-3: Potential sedimentation, increased turbidity, or the release and exposure of contaminants could adversely affect fish and aquatic habitats; however, these impacts would be avoided and/or minimized through the development and implementation of a SWPPP with BMPS. Regulatory compliance would also prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River as part of long-term operation of the proposed projects. Construction activities, including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats, and loss to SRA habitat. Therefore, these construction-related impacts associated with the Stormwater Outfall would be **potentially significant**.	4.3-3 (SO) *Implement measures for the avoidance, minimization or compensation for potential impacts to protected and sensitive riverine species and critical habitat.* This measure is highly similar measures to Mitigation Measure 6.2-3 from the 2007 RSP EIR but language, work windows and other aspects of the measures are updated to meet 2016 standards and understanding.	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.2 Biological Resources (cont.)			4.3 Biological Resources (cont.)			
6.2-4: Development of the Specific Plan could result in the removal of habitat for the Valley Elderberry Longhorn Beetle.	None Required	LTS	4.3-4: Development of the proposed projects could result in removal of habitat for the Valley Elderberry Longhorn Beetle.	4.3-4: The proposed RSPU, including Land Use Variant, would result in impacts to elderberry shrubs, the host plant for the federally-listed threatened VELB. The proposed KP Medical Center, MLS Stadium, and Stormwater Outfall would have no impact on VELB. However, the proposed RSPU, including the Land Use Variant, would have a **significant** impact on VELB.	4.3-4 (RSPU) *(1) Survey Requirement for VELB habitat* *(2) Compliance with USFWS guidelines for VELB habitat.*	LTS
6.2-5: Development of the Specific Plan could affect habitat for western pond turtle.	None Required	LTS	4.3-5: Development of the proposed projects could result in removal of habitat for the western pond turtle.	4.3-5: Upland habitats within the RSP Area are unlikely to support western pond turtle. The Sacramento River adjacent to the RSP Area provides suitable aquatic habitat. However, construction of the portions of the proposed RSPU in the vicinity of the Sacramento River riverbank, including the proposed Stormwater Outfall, would not result in in the local extirpation of the western pond turtle, or reduction in the western pond turtle populations below self-sustaining levels. As such, impacts to this species from construction of the proposed projects would be **less than significant**.	None Required	LTS
6.2-6: Development of the Specific Plan could result in the loss of a sensitive bat species roosting site, which could result in substantially increased mortality or reduced reproductive success.	6.2-6 *Implement pre-construction bat survey and mitigation protocols if species are present.*	LTS	4.3-6: Development of the proposed projects could result in impacts to bat species.	4.3-6: The proposed MLS Stadium and KP Medical Center do not contain suitable habitat for roosting bats. Due to high levels of disturbance adjacent to this area, and because the sites are more than 100 feet from the closest potential roosting habitat, construction in this area is unlikely to cause disturbance to, or abandonment of, a maternity roost. Construction of the proposed Stormwater Outfall and development of the RSPU, including removal, redevelopment, or reconfiguration of the historic train depot buildings associated with the Central Shops Historic District and I Street Bridge, could result in removal or disturbance to maternity roosts, including those of the pallid bat and hoary bat, both species of special concern. Removal or disturbance of a special-status or common bat species maternity colony could result in the loss of a large number of individuals; therefore, this would be considered a **potentially significant** impact.	4.3-6 (RSPU, SO) *Measures to minimize potential adverse effects to bat species including optimal work window, pre-construction survey, and construction buffers.* This measure is similar to Mitigation Measure 6.2-6 in the 2007 RSP EIR. The 2007 RSP EIR has been modified to focus on avoidance of maternity roost sites during the pupping season.	LTS
6.2-7: Construction near I-5 and the I Street Bridge could result in increased mortality and reproductive success of purple martins if construction would result in the loss of a breeding colony.	6.2-7 *(a) Nest prevention and treatment measures.* *(b) Nest buffer measures.*	LTS	4.3-2: See Above	4.3-2: See Above	4.3-2 *See Above*	N/A
6.2-8: Development of the Specific Plan could result in net reduction of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/ wetlands.	6.2-8 *(a) Mitigate riparian habitat take through restoration, creation, enhancement, or preservation* *(b) signage and fencing measures for sensitive habitat* *(c) Implement Mitigation Measure 6.2-3(b).*	LTS	4.3-7: Development of the proposed projects could result in net reduction of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/ wetlands.	4.3-7: The KP Medical Center and MLS Stadium do not occur within sensitive habitats. Therefore, no impact would result from construction of these project components. Proposed development of the proposed RSPU occurs east of the Sacramento River levee, and does not propose development in sensitive habitats. Therefore, no impact would result from construction of the proposed RSPU. Development of the proposed Stormwater Outfall could result in removal of removal of up to 0.05 acres of valley foothill riparian habitat, and fill of 0.01 acres of tidal perennial stream which would be considered a significant impact.	4.3-7 (SO) *Prepare wetland riparian mitigation plan as part of 404 permit implementation.* Mitigation measures have been adjusted to reflect current understanding of the proposed Stormwater Outfall footprint within the riparian area and removal of discussion of the former oil storage area.	LTS
6.2-9: Development of the Specific Plan could result in the isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory wildlife corridors, or impede the use of native wildlife nursery sites.	6.2-9 *(a) light protection measures* *(b) outdoor lighting requirements* *(c) Shield light fixtures west of I-5.*	LTS	4.3-8: Development of the proposed projects could result in isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.	4.3-8: <u>Terrestrial Species</u> Upland portions of the RSP Area do not serve as a significant wildlife corridors or linkage for special-status terrestrial species. Riparian vegetation in the RSP Area may serve as local migratory corridors to common wildlife species, but would not be expected to serve as a significant regional terrestrial wildlife corridor. The proposed projects have the potential to disrupt the movement of common wildlife species such as raccoon, opossum, and skunk; however, these species are adapted to urban environments and construction and operation of the proposed RSPU would not result in the disturbance to the extent it would substantially interfere with the movement of these locally common terrestrial wildlife species. Construction of the outfall would be temporary and occur in a relatively small area. Therefore, impacts on movement of terrestrial species associated with the proposed projects would be considered less than significant. <u>Aquatic Species</u> Development within the RSP Area associated with the RSPU would result in increases in artificial ambient lighting conditions. Increases in artificial ambient light could interfere with the movement of migratory fish species within the Sacramento River. Therefore, impacts to migratory fish from increases in light spillover onto the Sacramento River from development in the proposed RSPU (RSP Area west of I 5) would be considered potentially significant.	4.3-8 (RSPU, KPMC, SO) *Measures to limit/minimize fugitive light from impacting the Sacramento River habitat.*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.2 Biological Resources (cont.)			4.3 Biological Resources (cont.)			
6.2-10: Development of the Specific Plan could conflict with local policies protecting trees.	6.2-10 *Comply with City's tree ordinance and tree protection measures*	LTS	4.3-9: Development of the proposed projects could conflict with local policies protecting trees.	4.3-9: Loss of protected trees within the RSP Area, including the site of the proposed Stormwater Outfall, and the trees along the northern edge of the RSP Area would result in a significant impact. No protected trees are present within the MLS Stadium and KP Medical Center areas, therefore no impact to protected trees would occur.	4.3-9 (RSPU, KPMC, MLS SO) *Comply with City's tree ordinance and tree protection measures by development and implementation of Tree Protection Zones (TPZs)* This measure is similar to Mitigation Measure 6.2-10 in the 2007 RSP EIR, but has been modified for clarity.	LTS
6.2-11: Development of the Specific Plan would contribute to the cumulative loss of special-status plant and wildlife species or their habitat in the region.	None Required	LTS	4.3-10: Implementation of the proposed projects, in combination with other cumulative development, could/ would contribute to the cumulative loss of foraging habitat for Swainson's hawk.	4.3-10: Because the site has been developed for over 150 years, redevelopment of the RSP Area through implementation of the proposed projects would not result in a considerable contribution to the diminishment of foraging habitat available for Swainson's hawk in Sacramento County. Therefore, the proposed projects would have less-than-significant cumulative impact on the loss of Swainson's hawk foraging habitat in Sacramento County.	None Required	LTS
6.2 – 11: *See Above*	6.2 – 11: *See Above*	LTS	4.3-11: Implementation of the proposed projects, in combination with other cumulative development, could/ would contribute to the cumulative harm to, or loss of nesting habitat, for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.	4.3-11: <u>Swainson's Hawk, Other Raptors, and Nesting Birds</u> The proposed projects could directly affect special-status, and protected bird species, and their habitat which would result in an incremental contribution to the cumulative loss within Sacramento County. <u>Purple Martin</u> If the I Street Bridge Replacement Project is not implemented before development of Lot 35, development could result in a loss of nest material collection sites, loss of perch sites, and an overall decrease in quality of habitat needed to support nesting. Additionally, development of the proposed RSPU could result in an increase in threats to purple martin including, but not limited to, increased exposure to competition from nesting competitors (i.e., starlings, sparrows), increased exposure to predation from feral cats, and/or increased mortality from vehicle collisions. Because the I Street Bridge colony is only one of four breeding colonies recorded in the Sacramento area in 2015, it is especially sensitive to adverse effects. Because of these factors, it has been determined that the proposed RSPU could potentially result in a considerable contribution to the downward population trend of breeding purple martin in the Sacramento area. As a result, this is considered a significant impact.	4.3-11(a) & (b) (RSPU) *Implement Mitigation Measure 4.3-2(a) and 4.3-2(b).*	SU
6.2 – 11: *See Above*	6.2 – 11: *See Above*	LTS	4.3-13: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the Valley Elderberry Longhorn Beetle.	4.3-13: Development of the proposed project would likely result in removal of elderberry shrubs within, and adjacent to, the RSP Area, resulting in further loss of VELB habitat. While none of the elderberry shrubs located onsite are located within the riparian area along the Sacramento River, any loss of VELB or their habitat is considered to be significant; therefore, the development of the proposed RSPU could have a considerable contribution to the cumulative impact of VELB, and their habitat. This would be a potentially significant cumulative impact.	4.3-13 (RSPU) *Implement Mitigation measure 4.3-4.*	LTS
6.2 – 11: *See Above*	6.2 – 11: *See Above*	LTS	4.3-15: Implementation of the proposed projects, in combination with other cumulative development, could/ would contribute to the cumulative loss of habitat, or impacts to for bat species.	4.3-15: As discussed in impact 4.3-6, the proposed projects could reduce available foliage-roosting habitat by removing mature riparian trees along the Sacramento River, and renovating, or removing cavity-roosting habitat within historic train depot buildings associated with the Central Shops Historic District and the Sacramento Valley Station. Construction of the Stormwater Outfall would remove 0.04 acres of valley-foothill riparian habitat. Removal of 0.04 acres of riparian habitat, and renovation and exclusion of bats from the historic train depot would be considered a considerable contribution to the cumulative impact of diminishment of roosting habitat available for bat species in Sacramento County. This is a significant impact.	4.3-15 (RSPU, SO) *Implement Mitigation Measure 4.3-6*	LTS
6.2-12: Development of the Specific Plan would contribute to the cumulative loss of sensitive habitat including wetlands and riparian habitat in the region.	None Required	LTS	4.3-16: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands.	4.3-16: Development of the proposed projects would, in the short term, remove riparian vegetation and potentially impact the Sacramento River considered a water of the U.S. Due to the significant decline in wetland and sensitive riparian habitat, any loss of these sensitive habitat types would have a considerable contribution to the loss of riparian and wetland habitats within the Central Valley. Therefore, this is considered a significant impact.	4.3-16 (SO) *Implement Mitigation Measure 4.3-7.*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.2 Biological Resources (cont.)			4.3 Biological Resources (cont.)			
6.2-13: Development of the Specific Plan could contribute to the cumulative reduction open space or impact riverine habitat, which would interfere substantially with the movement of resident or migratory fish or wildlife, or impede the use of native wildlife nursery sites within the region.	None Required	LTS	4.3-12: Implementation of the proposed projects, in combination with other cumulative development, could/ would contribute to cumulative impacts to special-status fish species and degradation of designated critical habitat.	4.3-12: As discussed under Impact 4.3 3, construction of the Stormwater Outfall could result in increased sedimentation and turbidity, and/or the release and exposure of contaminants, which could adversely affect fish and aquatic habitats. Construction activities including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats, and loss to SRA habitat. Therefore, the proposed projects could result in a considerable contribution to a significant cumulative impact. This would be a potentially significant impact.	4.3-12(a) – (f) (SO) Implement Mitigation Measure 4.3-2(a) – (f)	LTS
6.2-13: *See Above*	6.2-13: *See Above*	LTS	4.3-14: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the western pond turtle.	4.3-14: The RSP Area, including the proposed Stormwater Outfall area, within the RSP Area do not provide suitable nesting habitat for western pond turtle. Although unlikely, turtles could use the bank of the Sacramento River as basking habitat. Similar basking habitat of equal quality is located along the banks of the Sacramento River in the vicinity of the RSP Area, the proposed projects would not contribute to the cumulative loss of habitat for western pond turtle in Sacramento County, or cause a distinct population of western pond turtle to become isolated. As a result, the development of the proposed RSPU would not have a considerable contribution to the cumulative impact on western pond turtle and their habitat. This impact would be less than significant.	None Required	LTS
6.2-13: *See Above*	6.2-13: *See Above*	LTS	4.3-17: Implementation of the proposed projects, in combination with other cumulative development, could/ would contribute to the cumulative isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.	4.3-17: As discussed under impact 4.3-8, the vacant land and fragmented ruderal vegetation that dominates the RSP Area does not serve as a significant regional terrestrial wildlife corridor for migratory wildlife species because it is surrounded by urban development on three sides. Redevelopment through the implementation of the RSP Area through implementation of the proposed projects would not result in a considerable contribution to the diminishment of habitat connectivity, and availability of wildlife movement corridors in Sacramento County. Therefore, the proposed projects would not result in a cumulatively considerable contribution to the loss of terrestrial wildlife movement corridors in Sacramento County. Therefore, there is no impact to the cumulative loss of terrestrial wildlife movement corridors in Sacramento County.	4.3-17 (RSPU, SO) Implement Mitigation Measure 4.3-8.	LTS
N/A	N/A	N/A	4.3-18: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of locally protected trees.	4.3-18: The proposed projects could potentially remove heritage trees at the Outfall site and along the northern edge of the RSP Area. Because only two protected trees are expected to be removed, the projects would not result in a considerable contribution to the cumulative loss of locally protected trees. As a result, this impact is considered less than significant. This impact was not discussed in the 2007 RSP EIR.	None Required	LTS
6.3 Cultural Resources			4.4 Cultural Resources			
6.3-1: The proposed project could cause a substantial adverse change in the significance of an archaeological resource, including human remains.	6.3-1 *(a) Prepare and implement Archaeological Testing Plan (ATP)* *(b) If called for in ATP, prepare Archaeological Mitigation Plan* *(c) Prepare and Implement Construction Monitoring Plan* *(d) Complete Native American consultation prior to ground disturbing activities.*	LTS	4.4-1: The proposed projects could cause a substantial adverse change in the significance of an archaeological resource, including human remains.	4.4-1: The proposed projects and land use variant would include construction involving ground disturbing activities that could disturb or destroy potentially significant buried resources, including human remains, or submerged archaeological sites. Destruction or loss of these resources would potentially result in significant impact. *The magnitude of this impact is similar to the impact described in the 2007 RSP EIR, except that the potential areas where such impacts would occur has been reduced due to the extent of remediation-related excavation.	4.4-1(a) (RSPU ASAs) *(i) Prepare and implement a focused ATP for ground disturbing activity in ASAs* *(ii) Prepare Archaeological Mitigation Plan (AMP) if CRHR- eligible archaeological resources are identified.* *(iii) Prepare and implement Construction Monitoring Plan* *(iv) pre-construction archaeological training for construction crews.* 4.4-1(b) (RSPU, footprint of the northern levee embankment only) *Prepare an AMP for northern levee embankment.*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.3 Cultural Resources (cont.)			4.4 Cultural Resources (cont.)			
6.3-1 (cont.)	*(e) retain and utilize archaeological monitor during ground disturbing activity; follow unanticipated/inadvertent discovery protocols*		4.4-1 (cont.)		4.4-1(c) (RSPU, KPMC, MLS, SO) *Measures and protocols for inadvertent discovery of archaeological resources or human remains.* 4.4-1(d) (SO) The title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the California State Lands Commission (CSLC) (PRC Section 6313[a]). In the case of an inadvertent discovery of a submerged shipwreck or related artifacts, all work must cease in the immediate vicinity of the find and the lead agency's archaeological resource staff will be notified immediately in order to initiate consultation with the CSLC staff within two business days of such discovery. PRC Section 6313 (c) states any submerged historic resource remaining in state waters for more than 50 years will be presumed to be archaeologically or historically significant. If the lead agency's archaeologist, in consultation with the CSLC staff, determines that a historical resource may be present, the lead agency will retain the services of a qualified maritime archeological consultant. The maritime archeological consultant will recommend whether the discovery is an historical/archeological resource that retains sufficient integrity and is of potential historical or scientific significance. The maritime archeological consultant also will recommend as to what action, if any, is warranted. Based on this information, and consultation with the CSLC, implementation of additional measures may be required. Measures shall include preservation in situ of the historical resource, implementation of a data recovery program, or other such action that preserves the cultural value of the resource. The maritime archeological consultant will submit a Final Cultural Resources Technical Report to the lead agency, NCIC, and the CSLC staff. This report will include an evaluation of the historical significance, with a description of the archeological and historical research methods employed in any archeological data recovery program undertaken.	

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.3 Cultural Resources (cont.)			4.4 Cultural Resources (cont.)			
6.3-2: The proposed project could cause a substantial adverse change in to the Southern Pacific Railroad Shops, a historical resource as defined in Section 15064.5 of the State CEQA Guidelines, through the potential alteration and demolition of character-defining features of contributing elements of the Historic District.	6.3-2 *(a) Architectural historian requirements.* *(b) HAER requirements* *(c) Prepare and implement Historic District Plan*	LTS	4.4-2: The proposed projects could cause a substantial adverse change in to the Central Shops Historic District.	4.4-2: The proposed KP Medical Center, MLS Stadium, and Stormwater Outfall would have no impact on the Central Shops Historic District. The RSPU and Land Use Variant would include the rehabilitation and adaptive reuse of the Southern Pacific Railroad Shops. New construction designs that do not recognize and reflect the importance of these features in their construction plans could fail to preserve or highlight the character of the district. Failure to sympathetically incorporate these features into surrounding design plans would result in a significant impact to the historic district. *The magnitude of this impact is less than described in the 2007 RSP EIR due to the completion of a Sacramento Register nomination and HAER documentation, as required by 2007 RSP EIR mitigation measures. With the implementation of Mitigation Measure 4.4-2 listed above, this impact would be reduced to a less-than-significant level by ensuring that the integrity of the Central Shops District is protected. Alterations to these buildings would adhere to the proposed Specific Plan design guidelines, and SOI standards for treatment of historic properties.	4.4-2(a) (RSPU Central Shops District) *Guidelines for preparation and implementation of a Historic District Plan.* 4.4-2(b) (RSPU Central Shops District) *Requirements for preparation and distribution of the Southern Pacific Company Sacramento Shops HAER document.* Mitigation Measure 6.3-2(c), of the 2007 RSP EIR, required preparation of a Historic District Plan for the Central Shops Historic District, and is reiterated in Mitigation Measure 4.4-2.	LTS
6.3-3: The proposed project could cause a substantial adverse change to the Southern Pacific Railyard Historic District by constructing new buildings and structures surrounding the contributing elements of the district.	None Required	LTS	4.4-3: The proposed projects could cause a substantial adverse change to the Central Shops Historic District, or Water Tower, by new construction surrounding and affecting the contributing resources and the significant features and characteristics of the district.	4.4-3: The RSPU and land use variance would include the introduction of new construction within the vicinity of the Central Shops Historic District. Introduction of new buildings to areas immediately adjacent to designated historic buildings would require adherence to the City guidance as well as Secretary of Interior standards for treatment of historic properties, otherwise it would potentially result in significant impact for the RSPU and land use variant only. Therefore, this impact would be potentially significant.	4.4-3 (RSPU Central Shops and Transition Zone) *Design requirements for Central Shops and Transition Zone construction.* Mitigation Measure 4.4-3 is a new measure, because development of Lot 22 was not proposed as a part of 2007 RSP.	LTS
6.3-4: The proposed project could cause a substantial adverse change to contributing elements of the Sacramento Depot that could be caused by construction activities associated with the relocation of the UPRR main line tracks.	None Required	LTS	N/A	**Project element completed prior to the 2016 RSPU.*	N/A	N/A
6.3-5: The proposed project could cause a substantial adverse change to the I Street Bridge.	None Required	LTS	4.4-4: The proposed projects could cause a substantial adverse change to the I Street Bridge.	4.4-4: The proposed projects and land use variant would include the removal of the Jibboom Street Overhead, a noncontributing component of the historic I Street Bridge. As a noncontributing element, demolition of this feature would not impact the historic significance of the bridge. As such, no impact to historical resources is anticipated and no mitigation is required. The magnitude of this impact is the same as described in the 2007 RSP EIR.	None Required	LTS
6.3-6: The proposed project could cause a substantial adverse change in the significance of the remnant portion of the Pioneer/ Sperry Grain Mill, California State Landmark 780 the First Transcontinental Railroad, and the Levees.	6.3-6 *(a) Architectural historian requirement for First Transcontinental Railroad Route* *(b) interpretation requirements* *(c) Implement Mitigation Measure 6.3-1(e).*	LTS	4.4-5: The proposed projects could cause a substantial adverse change in the significance of historic resources outside of the Central Shops, specifically the remnant portion of the Pioneer/Sperry Grain Mill, California State Landmark 780 the First Transcontinental Railroad, and the Sacramento River Levees.	4.4-5: The proposed projects would include the construction that would alter previously recorded historic period structures and buildings within the RSP Area, including the Pioneer/Sperry Grain Mill adjacent to the Sacramento River, the route of the First Transcontinental Railroad, and levees. Evaluations of the levees and the Pioneer/Sperry Grain Mill in 2007 recommended these resources ineligible for listing in the National and California Registers. Soil remediation efforts in the vicinity of the route of the First Transcontinental Railroad have identified and documented no physical remains of the alignment. Because these resources are not eligible for listing, the proposed projects would result in no impact on built historical resources outside of the Central Shops. The magnitude of this impact is the same as described in the 2007 RSP EIR.	None Required Mitigation Measure 6.3-6 from the 2007 RSP EIR is no longer required.	NI
6.3-7: The proposed project could cause a substantial adverse change in the significance of the Alkali Flat Historic District if it would construct development adjacent to the District's west side that would be out of context for the area.	None Required	LTS	4.4-6: The proposed projects could cause a substantial adverse change in the significance of the Alkali Flat West and North Historic Districts.	4.4-6: The proposed projects would include the introduction of new development adjacent to or in close proximity to the Alkali Flat Historic District. Within the immediate proximity of the district, design elements compatible with the district in compliance with the City Historic Preservation Ordinance and proposed design guidelines and policies would ensure the impact would be less than significant. The magnitude of this impact similar to the impact described in the 2007 RSP EIR.	None Required	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

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6.3 Cultural Resources (cont.)			4.4 Cultural Resources (cont.)			
6.3-8: The proposed project could contribute to the cumulative degradation or loss of archaeological resources, including human remains.	6.3-8 *Implement Mitigation Measures 6.3-1(a)-(e).*	LTS	4.4-8: The proposed projects could contribute to the cumulative loss or alteration of archaeological resources, including human remains.	4.4-8: While no known significant archaeological resources are documented within the RSP Area, the proposed projects have the potential to adversely affect significant archaeological resources through excavation or accidental discovery. As unique and non-renewable members of finite classes, the project's incremental contribution to the cumulative effects would itself be potentially cumulatively considerable; therefore, this is a potentially significant cumulative impact.	4.4-8 (RSPU, SO) *Implement Mitigation Measures 4.4-1(a) through 4.4-1(d).*	SU
6.3-9: The proposed project could contribute to the cumulative loss or alteration of historical resources.	None Required	LTS	4.4-9: The proposed projects could contribute to the cumulative loss or alteration of historic built resources, including the Central Shops Historic District (the Southern Pacific Railroad Shops), the Water Tower, the Sacramento Valley Station, or the Alkali Flat Historic Districts.	4.4-9: The proposed projects include the alteration of existing buildings on the RSP Area that could cause a substantial adverse change in the significance of an historical resource. If historic resources were damaged or destroyed during construction of the proposed projects, then the project contribution to cumulative loss of historic resources would be considered significant. The cumulative effects of the project coupled with other development in the City of Sacramento would constitute a potentially significant impact.	4.4-9 *Implement Mitigation Measure 4.4-2 and 4.4-3.*	LTS
N/A	N/A	N/A	4.4-7: Construction of the proposed projects could damage and/or destroy paleontological resources.	4.4-7: Based on a review of known disturbances, 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 and/or and related construction activities. Therefore, this impact would be potentially significant. *Paleontological resources were no analyzed in the 2007 RSP EIR	4.4-7 (RSPU, KPMC, MLS, SO) *Measure for inadvertent discovery of paleontological resources.* Mitigation Measure 4.4-7 is a new measure, because paleontological resources were not analyzed in the 2007 RSP EIR.	LTS
N/A	N/A	N/A	4.4-10: The Proposed projects would contribute to cumulative losses of paleontological resources.	4.4-10: 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 could damage or destroy such resources. This is considered a significant cumulative impact. The Proposed projects could contribute to this impact if paleontological resources are located beneath the RSP Area at depths that are disturbed by project construction. This would be a significant cumulative impact. *Paleontological resources were no analyzed in the 2007 RSP EIR.	4.4-10 *Implement Mitigation Measure 4.4-7*	LTS
6.14 Energy			4.5 Energy			
6.14-1: The proposed project would increase the demand for electricity supply and conveyance.	None Required	LTS	4.5-1: The proposed project would increase demand for energy, specifically electricity and natural gas, the construction of which could cause significant environmental effects.	4.5-1: Energy consumption, including electricity, natural gas, and fuel, for construction and operation of the proposed RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and Stormwater Outfall would be accomplished without the addition of energy infrastructure that could result in adverse environmental effects. In view of the above, impacts related to energy consumption would be **less than significant**. *The magnitude of this impact is the same as described in Impacts 6.14-1 and 6.14-2 in the 2007 RSP EIR.	None Required	LTS
6.14-2: The proposed project would increase the demand for natural gas supply and conveyance facilities.	None Required	LTS	4.5-1: *See Above*	4.5-1: *See Above*	4.5-1: *See Above*	LTS
6.14-3: The proposed project could result in the wasteful or inefficient use of energy.	None Required	LTS	4.5-2: The proposed projects could result in the wasteful, inefficient, or unnecessary use of energy.	4.5-2: The proposed projects would be designed and operated to minimize the use of electrical, natural gas, and transportation fuel energy. The projects would comply with State and local regulations that increase the efficiency of operations. The proposed KP Medical Center and MLS Stadium projects would achieve LEED Gold certification or equivalent. For these reasons, the proposed projects would not result in the wasteful or inefficient use of energy. In view of the above, this impact is considered **less than significant**. *The magnitude of this impact is the same as described in Impacts 6.14-3 in the 2007 RSP EIR.	None Required	LTS
6.14-4: The proposed project would contribute to cumulative increases in energy use.	None Required	LTS	4.5-3: The proposed project would contribute to cumulative increases in demand for energy.	4.5-3: For SMUD service, 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 maintains supply from a geographically diverse combination of producers and suppliers, maintains gas storage and conveyance infrastructure, and maintains an active planning process to address future needs. For the proposed projects and surrounding areas, existing and planned infrastructure is anticipated to be sufficient to maintain service to the proposed project and other cumulative scenario projects. 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**.	None Required	LTS

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TABLE S-4 (Continued)
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6.4 Seismicity, Soils, and Geology			4.6 Geology, Soils and Seismicity			
6.4-1: The proposed project could expose people or structures to rupture of a known earthquake fault.	None Required	NI	N/A	Impact 6.4-1 of the 2007 RSP EIR found that the 2007 RSP would have no impact regarding the exposure of people of structures to rupture of a known earthquake fault as there are no faults that cross or trend towards the RSP Area. The full discussion of this topic can be found on page 6.4 14 of the 2007 RSP EIR. As discussed in Section 4.6.1 Environmental Setting, for the RSP Area the fault-location information is unchanged since certification of the 2007 RSP EIR; therefore, the proposed RSPU would result in no impact regarding the exposure of people of structures to rupture of a known earthquake fault, and this issue is not further addressed.	N/A	N/A
6.4-2: The proposed project could expose people and structures to moderate or strong seismic groundshaking (MMI VI to MMI VII).	None Required	LTS	4.6-1: The proposed projects could expose people and structures to seismic hazards, such as groundshaking and liquefaction.	4.6-1: Compliance with existing regulatory framework that addresses earthquake safety issues and adherence with CBC and design standards and permit conditions, seismically induced groundshaking and liquefaction would not be a substantial hazard for development pursuant to the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall. In view of the above, impacts related to exposure of people or structures to seismic hazards, such as groundshaking and liquefaction, would be less than significant. *The magnitude of this impact is the same as described in Impacts 6.4-2 and 6.4-3 in the 2007 RSP EIR.	None Required	LTS
6.4-3: The proposed project could expose people and structures to seismic-related ground failure, including liquefaction.	None Required	LTS	4.6-1: *See Above*	4.6-1: *See Above*	4.6-1: *See Above*	LTS
6.4-4: The proposed project could result in damage to the historic Central Shops.	6.4-4 *(a) Stabilize or reinforce vulnerable historic buildings prior to ground disturbing activity* *(b) Protect historic structures from damage.* *(c) Measures to reduce or eliminate potential ground settlement near historic structures.*	LTS	4.6-2: The proposed projects could result in damage to the historic Central Shops.	4.6-2: Buildings proposed to be constructed near or adjacent to the existing historic Central Shops buildings pursuant to the RSPU and the RSPU Land Use Variant could result in temporary instability in the soil surrounding the existing historic buildings. As a result, the potential risk of damage to the historic buildings is considered a potentially significant impact. This impact would be the same as Impact 6.4-4 of the 2007 RSP EIR. The proposed KP Medical Center and MLS Stadium would require subsurface construction activities, but are located far enough from the Central Shops that effects on soils stability would be less than significant. The Stormwater Outfall would not result in damage to the historic Central Shops due to distance from the shops and the nature of outfall construction.	4.6-1 (RSPU) *(a) Stabilization and reinforcement of historic structures* *(b) Conduct Pre-excavation surveys for settlement defects.* *(c) Stabilization measures as needed to prevent further damage to historic structures.* The measure is similar to Mitigation Measure 6.4-4 of the 2007 RSP EIR, but has been revised to add specific requirements for preventing damage to the Central Shops. This measure would be required of construction in proximity to the Central Shops (between Camille Avenue and the Central Shops and within the Central Shops district). No mitigation is required for the KP Medical Center, the MLS Stadium or the Stormwater Outfall.	LTS
6.4-5: The proposed project could expose people or structures to landslides.	None Required	NI	N/A	Impact 6.4-5 of the 2007 RSP EIR found that the 2007 RSP would have no impact regarding the exposure of people of or structures to landslides due to the level topography. This impact is not discussed further in the 2016 RSPU EIR.	N/A	N/A
6.4-6: The proposed project could cause erosion or the loss of topsoil during construction or operation.	None Required	LTS	4.6-3: The proposed projects could cause erosion or the loss of topsoil during construction or operation.	4.6-3: Compliance with State and City requirements would reduce impacts related to substantial soil erosion and loss of topsoil to be less than significant for the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall projects. *This impact would be similar to Impact 6.4-6 of the 2007 RSP EIR.	None Required	LTS
6.4-7: The proposed project could cause on- or off-site lateral spreading, subsidence, settlement, or collapse because the Specific Plan Area contains unstable geologic and soil units.	None Required	LTS	4.6-4: The proposed projects could expose people or structures to unstable soil conditions, including expansive soils and subsidence.	4.6-4: Compliance with CBC, City's codes and policies would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. In view of the above, the RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would have a less-than-significant impact regarding exposure people or structures to unstable soil conditions, including expansive soils and subsidence. *This impact would be similar to Impacts 6.4-7 and 6.4-8 of the 2007 RSP EIR.	None Required	LTS

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

TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.4 Seismicity, Soils, and Geology (cont.)			4.6 Geology, Soils and Seismicity (cont.)			
6.4-8: The proposed project could be located on expansive soil, as defined in Table 18-1-A of the California Building Code (2001), as adopted by the City of Sacramento, creating life or property hazards.	None Required	LTS	4.6-4: *See Above*	4.6-4: *See Above*	4.6-4: *See Above*	LTS
6.4-9: The proposed project would contribute to increases in the number of people exposed to seismic and geologic risks.	None Required	LTS	4.6-5: The proposed projects could contribute to cumulative increases in the number of people exposed to seismic and geologic risks.	4.6-5: Buildings and facilities for human occupancy in Sacramento are required to be sited and designed in accordance with appropriate geotechnical and seismic guidelines and recommendations consistent with the CBC, the Sacramento Building Code, and the Alquist Act for hospitals. As a result of adherence to relevant plans, codes, and regulations with respect to project design and construction that require the prescribed levels of safety for the geotechnical and soils conditions at the site, the RSPU, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would not make considerable contributions to cumulative impacts, as defined in the CEQA Guidelines, §15065(a)(3). Consequently, project-related cumulative impacts regarding geologic hazards would be less than significant.	None Required	LTS
6.4-10: The proposed project would contribute to cumulative increases in erosion within the American River watershed.	None Required	LTS	4.6-6: The proposed projects could contribute to cumulative increases in erosion within the Sacramento watershed.	4.6-6: 2035 General Plan policy EC 1.1.2 requires that projects within the City prepare a geotechnical investigation to determine site-specific seismic and soil characteristics and recommend appropriate mitigation measures to mitigate any potential impacts. Further, 2035 General Plan policy ER 1.1.7 requires that necessary erosion control measures are used during site development activities for all projects in the City. The individual contribution of the RSPU to cumulative erosion impacts in the watershed would not be considerable, because the RSPU would also be subject to State and City regulations as described in Impact 4.6-3. Consequently, project-related cumulative impacts regarding erosion and loss of topsoil would be less than significant.	None Required	LTS
Global Climate Change			4.7 Global Climate Change			
N/A	N/A	N/A	4.7-1: Implementation of the proposed projects could conflict with the City of Sacramento's Climate Action Plan.	4.7-1: Each of the proposed projects would be consistent with and conform to all of the applicable criteria to establish consistency with the City's Climate Action Plan (CAP). As established in CEQA Guidelines section 15183.5(b), because the City has determined that these projects are consistent with the City's CAP, the projects' contribution to cumulative GHG emissions and related global climate change is less than considerable, and the impact is considered less than significant. The proposed Stormwater Outfall is not a project to which the City's CAP Consistency Checklist applies, however because of the limited energy use required for operation of the project, and the fact that the energy would come from SMUD which current produces 27 percent of its energy from renewable sources and will expand that portfolio to 33 percent by 2020, the contribution of the proposed Stormwater Outfall is also considered less-than-considerable, and the impact would be considered **less than significant**. *Climate Change as it pertains to Climate Action Plans was not analyzed in the 2007 RSP EIR.	None Required	LTS
6.5 Hazards and Hazardous Materials			4.8 Hazards and Hazardous Materials			
6.5-1: Development of the proposed Specific Plan would occur on property that is known to contain contaminated soil, which could present a hazard to construction workers if not properly managed.	6.5-1 (a) – (e) *Construction requirements for the RSP Area.*	LTS	4.8-1: Construction of the proposed projects could result in the exposure of people to health risk associated with contaminated soils and debris.	4.8-1: The KP Medical Center, MLS Stadium, and a portion of the Stormwater Outfall, and several areas within the RSP Area (as shown in Figure 4.8-4) are located in areas where soil remediation has been certified complete and where the Environmental Restrictions of the 2015 LUC and the Railyards Projects Soil and Groundwater Management Plan are required to be implemented. Therefore, the risk of exposing people to contaminated soil and debris during construction would be less than significant. In those areas that have not been remediated and/or where construction would occur on a property known to contain contaminated soil, potential exposure to contaminated soil and debris would be a significant impact if not properly managed. *This impact is similar to Impacts 6.5-1 and 6.5-9 of the 2007 RSP EIR, but the severity is substantially reduced because extensive remediation has occurred since 2007, reducing the potential risk of exposure.	4.8-1 (RSPU, West Jibboom only, SO) *Measure for the inadvertent discovery of contaminated soil or groundwater evidenced by stained soil.* This measure replaces Mitigation Measures 6.5-1 and 6.5-9, of the 2007 RSP EIR.	LTS
6.5-2: Development of the proposed Specific Plan would occur on property that is known to contain contaminated soil and groundwater, which could present a hazard to people during occupancy of the proposed project if not properly managed.	6.5-2 *Groundwater infiltration preventative measures.*	LTS	4.8-7: Operation of the proposed projects could result in the exposure of people to health risks associated with contaminated soils and groundwater.	4.8-7: The KP Medical Center, MLS Stadium, and a portion of the Stormwater Outfall are located where the Environmental Restrictions of the 2015 LUC and the Railyards Projects Soil and Groundwater Management Plan are required to be implemented. Therefore, operation would not present an unacceptable health risk to future occupants associated with contaminated soils and groundwater. For the areas not covered by the 2015 LUC other existing or future LUC would require compliance with development restrictions. Therefore, risk of exposing future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, porous utility lines associated with all development could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a potential significant impact.	4.8-7 (RSPU, KPMC, MLS, SO) *Groundwater infiltration preventative measures.* This measure is the same as Mitigation Measure 6.5-2 of the 2007 RSP EIR.	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.5 Hazards and Hazardous Materials (cont.)			4.8 Hazards and Hazardous Materials (cont.)			
6.5-3: Soil remediation activities will occur concurrently with development of the proposed Specific Plan, which could expose project occupants or visitors to adverse health effects associated hazardous substances.	6.5-3 (a) – (h) *Measures to prevent exposure to hazardous substances related to remediation sites.*	LTS	N/A	Impact 6.5-3 on pages 6.5-30 and 6.5-31 of the 2007 RSP EIR found that the soil remediation activities would occur concurrently with the development of the 2007 RSP and; therefore, could expose project occupants or visitors to adverse health effects associated hazardous substances. Since the certification of the 2007 RSP EIR, soil remediation and/or certification has been completed for the majority of the RSP Area including the Lagoon, Central Corridor, Car Shop Nine, Central Shops, and the Northern Shops Study Areas. Remediation activities of the remaining contaminated areas would include implementation of measures to protect construction workers that would also ensure the health and safety of the general public. In addition, it is unlikely that the RSPU would be constructed in advance of the remaining soil remediation efforts. As such, no impact would occur and this issue is not further addressed.	N/A	N/A
6.5-4: Construction of site features such as infrastructure and buildings could interfere with remediation efforts.	6.5-4 (a) – (c) *Measures to avoid conflict with remediation efforts.*	LTS	4.8-4: Construction of the proposed projects' infrastructure and buildings could interfere with remediation efforts.	The KP Medical Center, MLS Stadium, and a portion of the Stormwater Outfall, and several other areas within the RSP Area are located in areas where soil remediation has been certified complete and where the Environmental Restrictions of the 2015 LUC and the Railyards Projects Soil and Groundwater Management Plan are required to be implemented. Therefore, risk of damaging or interfering with remediation site or facilities during construction would be less than significant. In those area that that are not covered under the 2015 LUC or the Sacramento Station Covenant development and infrastructure could result in the increased risk of damaging or interfering with remediation site or facilities during construction, resulting in a potentially significant impact.	4.8-4 (RSPU, West Jibboom only, SO) *Implement Mitigation Measure 4.8-1.* Mitigation Measure 4.8-4 replaces Mitigation Measure 6.5-4, pages 6.5-31 and 6.5-32 of the 2007 RSP EIR.	LTS
6.5-5: Throughout the life of the project, currently proposed land uses may be changed and new construction may occur, exposing construction workers and site occupants to unacceptable levels of contaminated soil and/or groundwater in the Specific Plan Area. Cleanup standards affecting soil could also be revised downward in light of new scientific information, indicating that planned cleanup levels may not be as protective of human health as originally assumed.	6.5-5 *Guidelines for hazardous substance review at the development permitting stage and additional remediation.*	LTS	N/A	Impact 6.5-5 of the 2007 RSP EIR determined that throughout the life of the project, proposed land uses may be change and new construction may occur, exposing construction workers and site occupants to unacceptable levels of contaminated soil and/or groundwater in the 2007 RSP Area. Since the certification of the 2007 RSP EIR soil remediation and certification has been completed for the majority of the RSPU Area. Remediation of site soils were conducted in accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. Furthermore, deed restrictions or LUCs have been recorded which restrict land uses for much of the RSP Area. Land uses associated with project phasing would not therefore present an unacceptable risk to present and future human health or safety or the environment and the cleanup standards affecting soil and groundwater have been established in the remediation documentation. Therefore, no impact would occur.	N/A	N/A
6.5-6: Central Shops buildings that will be renovated and/or restored are likely to contain asbestos, lead-based paint, or other hazardous substances, which could be released to the environment if not properly identified, removed, contained, and transported for disposal at approved sites.	6.5-6 *Written documentation requirement for ACM, lead-based paint and any remaining hazardous substances for restorative work in the Central Shops.*	LTS	4.8-2: Renovation of Central Shop buildings could expose people to asbestos-containing materials, lead-based paint and/or other hazardous materials.	4.8-2: The RSPU and RSPU Land Use Variant renovation and/or restoration of the Central Shops buildings could release asbestos, lead-based paint, or other hazardous substances, to the environment if not properly identified, removed, contained, and transported. 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. Therefore, risk of exposing people to asbestos containing materials, lead-based paint or other hazardous materials would be less than significant. The KP Medical Center, MLS Stadium and Stormwater Outfall would not result in the renovation and/or restoration of the Central Shops buildings; therefore no impact would occur.	None Required The RPSU is required to apply with all State and local laws and regulations; therefore Mitigation Measure 6.5-6 from the 2007 RSP EIR is not carried forward for this impact.	LTS
6.5-7: Implementation of the proposed project would increase the use of hazardous substances during construction and occupancy of the proposed project.	None Required	LTS	4.8-5: Occupancy of the proposed projects could increase the use of hazardous substances during occupancy.	4.8-5: Compliance with applicable federal and State laws and regulations would reduce impacts associated with the routine use, storage, and transportation of hazardous substances in the RSPU to a less-than-significant level for the RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and the Stormwater Outfall.	None Required	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.5 Hazards and Hazardous Materials (cont.)			4.8 Hazards and Hazardous Materials (cont.)			
6.5-8: Development of the proposed project would bring new residents in proximity to existing non-project-related hazardous substances transportation routes, such as I-5 and the UPRR rail lines.	None Required	LTS	4.8-6: Development of the proposed projects would bring new occupants or visitors in proximity to hazardous substances transportation routes, such as I-5 and the UPRR rail lines.	4.8-6: The RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium would not substantially increase the risk of exposure to inadvertent or accidental releases of hazardous substances transported on adjacent roadways and rail lines within the RSP Area, as compared to existing conditions. Additionally, as discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Therefore, the impact is considered less than significant and no mitigation is required for the RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium. The Stormwater Outfall would result in no impact as it would not require occupancy during operation.	None Required	LTS
6.5-9: Development of the West Jibboom Street Property in the Riverfront District (APN 002-0010-023) could expose construction workers to hazardous substances that could be present in soil or groundwater.	6.5-9 *Requirement for phase 2 ESA for the West Jibboom Street Property Site to determine need for remediation.*	LTS	4.8-1: *See Above*	4.8-1: *See Above*	4.8-1: *See Above*	LTS
6.5-10: Development of the proposed Specific Plan, in combination with development of other projects in the City of Sacramento that are on property that are known to contain, or could contain contaminated soil or groundwater, could present a hazard to construction workers if not properly managed.	6.5-10 *Implement Mitigation Measures 6.5-1, 6.5-3, 6.5-4, 6.5-5, and 6.5-9*	LTS	4.8-8: The proposed projects in combination with development of other projects in the surrounding area known to contain, or could contain contaminated soil or groundwater, could present a hazard to construction workers if not properly managed.	4.8-8: Construction of RSP Areas not covered by the 2015 LUC, Railyards Projects Soil and Groundwater Management Plan, Sacramento Station Covenant or the 7th Street Corridor Covenant could result in the increased exposure to contaminated soils or groundwater if not properly managed. Although considerable uncertainty exists regarding the construction schedules for the proposed projects as well as other projects in the vicinity, exposure to contaminated soils or groundwater with those projects in combination with the proposed projects would be considered a temporary significant cumulative impact and the contribution of the proposed projects would be cumulatively considerable.	4.8-8 (RSPU. West Jibboom only, SO) *Implement Mitigation Measure 4.8-1.* This measure replaces Mitigation Measure 6.5-4, pages 6.5-31 and 6.5-32 of the 2007 RSP EIR.	LTS
6.5-11: The renovation and/or restoration of Central Shops buildings likely to contain asbestos, lead-based paint, or other hazardous substances, in combination with similar activities at existing buildings in the City of Sacramento, could result in a release of hazardous substances to the environment if not properly identified, removed, contained, and transported for disposal at approved sites.	6.5-11 *Implement Mitigation Measure 6.5-6*	LTS	N/A	Impact 6.5-11 of the 2007 RSP EIR is not discussed further in the 2016 RSPU EIR, as the associated impacts are generally site-specific and would not result in a cumulative impact.	N/A	N/A
6.5-12: Implementation of the proposed project would contribute to cumulative increases in the use of hazardous substances during construction and occupancy of the projects.	None Required	LTS	N/A	Impact 6.5-12 of the 2007 RSP EIR is not discussed further in the 2016 RSPU EIR, as the associated impacts are generally site-specific and would not result in a cumulative impact.	N/A	N/A

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.5 Hazards and Hazardous Materials (cont.)			4.8 Hazards and Hazardous Materials (cont.)			
6.5-13: Implementation of the proposed project would contribute to cumulative increases in the number of people who could be exposed to accidental or intentional release hazardous substances on rail lines and roadways.	None Required	LTS	4.8-10: The proposed projects 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.	4.8-10: Impact 6.5-13 of the 2007 RSP EIR found that the 2007 RSP would have a less than significant impact relating to the cumulative increases in the number of people who could be exposed to accidental or intentional release hazardous substances on rail lines and roadways. The transportation of hazardous materials associated with the RSPU, 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. 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 RSPU's contribution would be less than considerable.	None Required	LTS
N/A	N/A	N/A	4.8-3: Development of the proposed projects could expose people to existing contaminated groundwater during dewatering activities.	4.8-3: Compliance with federal, State and local requirements would minimize the potential impacts associated with the degradation of receiving waters during construction dewatering activities. In areas that are located over a contaminated groundwater plume and do not have an LUC in place, dewatering could result in exposure to contaminated groundwater, which would be considered a significant impact. The potential for the development of the RSPU to expose people to existing groundwater contamination during dewatering activities was not previously discussed in the 2007 RSP EIR.	4.8-3 (RSPU, West Jibboom only, SO) *Implement Mitigation Measure 4.8-1.*	LTS
N/A	N/A	N/A	4.8-9: The proposed projects could contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume and Lagoon Groundwater.	4.8-9: Projects in areas that overlie the existing South Plume and Lagoon 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 north or south and/or closer to the ground surface, resulting in a significant cumulative impact. The potential for the development of the RSPU to expose people to existing groundwater contamination during dewatering activities was not previously discussed in the 2007 RSP EIR.	4.8-9 (RSPU, West Jibboom only, SO) *Implement Mitigation Measure 4.8-1.*	LTS
6.6 Hydrology and Water Quality			4.9 Hydrology and Water Quality			
6.6-1: Construction of the proposed project could degrade the quality of receiving water bodies.	None Required	LTS	4.9-1: The proposed projects could degrade water quality during construction.	4.9-1: Compliance with existing regulatory framework that addresses construction impacts on water quality from the proposed projects would result in **less than significant** impacts. This impact would be the same as 2007 RSP EIR Impact 6.6-1.	None Required	LTS
6.6-2: Operation of the proposed project would generate new sources of polluted runoff that could violate water quality standards or waste discharge requirements for receiving waters.	6.6-2 *Limit discharges to the Sacramento River and ensure proposed cistern meets water quality standards. Incorporate BMPs.*	LTS	4.9-2: Operation of the proposed projects could generate new sources of polluted runoff.	4.9-2: Compliance with existing regulatory framework that addresses operational impacts on water quality from development pursuant to the proposed projects would result in **less than significant** impacts. The magnitude of this impact would similar to Impact 6.6-2 in the 2007 RSP EIR, because a similar area would be disturbed, and compliance with federal, State and local regulations would protect water quality. The impact would be less severe because the cistern is no longer proposed.	None Required Mitigation Measure 6.6-2 from the 2007 RSP EIR is no longer required.	LTS
6.6-3: Implementation of the proposed project could adversely affect groundwater quality, the rate and direction of groundwater flow, or interfere with groundwater recharge.	None Required	LTS	4.9-4: The proposed projects could adversely affect groundwater supplies, groundwater quality and/or interfere with groundwater recharge.	4.9-4: Impacts for the proposed projects would be less than significant as they would be required to implement regulatory measures to prevent degradation of groundwater quality during construction. Further, the proposed projects would not withdraw groundwater for water supply, and would not affect groundwater recharge, so this impact would be **less than significant**. This impact would be the same as 2007 RSP EIR Impact 6.6-3.	None Required	LTS
6.6-4: The proposed project could expose people or structures to an increased risk from flooding.	None Required	LTS	4.9-3: The proposed projects could expose people or property to an increased risk of flood hazards.	4.9-3: While the RSP Area is within an area protected from the 200-year flood, the proposed interim drainage system would not be designed with sufficient capacity to prevent localized flooding to the proposed RSPU, RSPU Land Use Variant, KPMC, and MLS Stadium, so the impacts would be **significant**. The magnitude of this impact is more than that described in Impact 6.6-4 in the 2007 RSP EIR, because of the potential for localized flooding prior to construction of the stormwater outfall.	None Required	LTS
6.6-5: Stormwater and operational runoff from the project would contribute to cumulative increases in discharge of urban pollutants to the Sacramento River, which could affect water quality.	6.6-5 *Implement Mitigation Measure 6.6-2*	LTS	4.9-5: The proposed projects would contribute to the cumulative degradation of water quality.	4.9-5: As discussed under Impact 4.9-1 above, through compliance with applicable regulations and plans, the proposed projects would reduce project generation of water pollutants to the maximum extent practicable consistent with the goal of the SWRCB and CVRWQCB water quality criteria and stormwater regulations through the use of structural and non-structural BMPs. Therefore, the proposed projects' contribution to the significant cumulative impact would be less than considerable, and this impact would be **less than significant**. The impact is changed from the 2007 RSP EIR because the determination for Impact 6.6-5 was based on development of the cistern, which is no longer proposed.	None Required Mitigation Measure 6.6-5 from the 2007 RSP EIR is no longer required.	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.6 Hydrology and Water Quality (cont.)			4.9 Hydrology and Water Quality (cont.)			
6.6-6: The proposed project would contribute to cumulative increases in discharges of groundwater from dewatering during construction or operation to the CSS or separate drainage system, and adversely affect water quality.	None Required	LTS	4.9-7: The proposed projects could contribute to cumulative impact on groundwater supplies, quality, and recharge.	4.9-7: Development within the RSP Area would be required to meet the water quality regulations listed in Impact 4.9-5 to prevent degradation of groundwater quality during construction dewatering, would not withdraw groundwater for supply and would not affect recharge. Therefore, the RSPU would have a less-than-considerable contribution and the impact would be **less than significant**, similar to 2007 RSP EIR	None Required	LTS
6.6-7: The proposed project would contribute to cumulative increases in the number of people and structures that could be exposed to flood hazards.	None Required	LTS	4.9-6: The proposed projects could contribute to cumulative increases in the risk of flooding.	4.9-6: Development projects would not be approved unless flood risk is consistent with plans that are aimed to provide a 200-year flood protection standard for the entire city (Policy EC 2.1.11) and would be consistent with on-going planning associated with the CVFPB. Therefore, the project would have a less-than-considerable contribution and this impact would be **less than significant**.	None Required	
6.8 Noise and Vibration			4.10 Noise and Vibration			
6.8-1: Construction of projects under the proposed Specific Plan could temporarily produce loud noise.	6.8-1 (a) – (e) *Construction noise minimization measures*	SU	4.10-1: Construction of the proposed projects could generate noise that would conflict with City standards.	4.10-1: Construction of the proposed Stormwater Outfall would require the use of an impact pile driver during cofferdam construction. However, the noise generated by the impact pile driver would be infrequent and would not likely be audible at the nearest sensitive receptors due to existing traffic noise in the area from I 5. Mitigation is not recommended for this less-than-significant impact. The construction activities associated with the proposed RSPU, RSPU Land Use Variant, KPMC, and MLS Stadium would likely require the use of impact pile drivers during building construction. Impact pile driving would be temporary and intermittent. Since construction activities could occur outside of the City of Sacramento's construction exempt hours, construction noise levels could result in an annoyance at nearby existing offsite and future onsite sensitive land uses. This would result in a short-term potentially significant impact.	4.10-1 (RSPU, KPMC, MLS) *Construction noise minimization measures* This measure is the same as Mitigation Measure 6.8-1 of the 2007 RSP EIR.	SU
6.8-2: The proposed Specific Plan could permanently expose sensitive receptors to traffic and rail noise levels on an ongoing basis.	None Required	LTS	4.10-2: Operations of the proposed projects could result in a substantial permanent increase in ambient exterior noise levels in the project vicinity.	4.10-2: Future traffic increases associated with the development of the proposed RSPU, RSPU Land Use Variant, and KPMC would result in noise increases along roadway segments in the vicinity of these proposed projects that would expose nearby sensitive receptors to substantial noise increases over baseline conditions. Future development of both the RSPU and RSPU Land Use Variant would place residential units within 190 feet of the UPRR rail line. From this distance, these residential units could be expose exterior noise levels that would exceed the City of Sacramento exterior noise standard. The positions of HVAC units and loading docks with the proposed projects, with the exception of the proposed Stormwater Outfall, would expose future residences to mechanical and truck idling noise levels that would exceed the City of Sacramento stationary noise standards. Lastly, the amplified sound and game noise generated at the proposed MLS Stadium during major events could expose existing and future sensitive receptors in the vicinity of the Stadium to noise levels that would exceed the City of Sacramento day and nighttime exterior noise standard for speech and music. This would result in a significant impact. This impact is increased from the anticipated noise generated by the 2007 RSP, due to addition of high-noise-generating uses such as the KPMC and MLS Stadium.	4.10-2(a) (RSPU, KPMC, MLS) *Noise minimization measures for stationary equipment, and anticipated noise generating uses.* 4.10-2(b) (MLS) *Event-specific noise requirement for MLS Stadium uses and speakers at temporary plaza locations.* Mitigation Measure 4.10-2 is similar to those discussed in Mitigation Measure 6.8-3 of the 2007 RSP EIR. Mitigation Measure 4.10-2(b) is a new mitigation measure, specific to event noise from the proposed MLS Stadium.	SU
6.8-2: *See Above*	6.8-2: *See Above*	LTS	4.10-3: The proposed projects could result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to project operation.	4.10-3: future (new) residential units within the proposed project sites would be required to meet the latest 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. However, there could be older existing residential buildings (e.g., Creamery, Glove Mills and single- and Multi- family residences along D Street) near the MLS Stadium that would be exposed to event noise (i.e., amplified sound, game noise) that could result in interior noise levels exceeding 45 dBA Ldn. This would result in a significant impact.	4.10-3(a) (RSPU) *Guidelines for noise study requirement and preparation.* 4.10-3(b) (MLS) *Implement Mitigation Measure 4.10-3 to minimize noise from outdoor amplified sound systems.*	LTS
6.8-3: The proposed Specific Plan could permanently expose sensitive receptors in the Specific Plan Area to noise produced by onsite stationary sources.	6.8-3 *Development requirement for equipment noise minimization*	LTS	4.10-2: *See Above*	4.10-2: *See Above*	4.10-2: *See Above*	SU

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.8 Noise and Vibration (cont.)			4.10 Noise and Vibration (cont.)			
6.8-4: Construction of the Specific Plan could temporarily increase levels of groundborne vibration.	6.8-4 *Implement Mitigation Measure 6.8-1.*	SU	4.10-4: Construction of the proposed projects could expose existing and/or planned buildings, and persons within, to vibration that could disturb people and damage buildings.	4.10-4: Due to the close proximity of future sensitive land uses associated with the RSPU and RSPU Land Use Variant to the construction activity areas, vibration levels generated during impact pile driving could exceed the applied vibration thresholds for human annoyance and/or building damage at nearby future planned sensitive receptors and existing historic structures. This would result in a short-term potentially significant impact. The magnitude of this impact is the same as described in Impact 6.8-4 in the 2007 RSP EIR.	4.10-4(a) – (b) (RSPU, KPMC, MLS) *Vibration impact minimization measures.* This measure is similar to the measure discussed in Mitigation Measure 6.8-4 of the 2007 RSP EIR.	SU
6.8-5: Development of the Specific Plan could expose new receptors to vibration on an ongoing basis.	6.8-5 (a) – (d) Vibration impact minimization measures for the UPRR track relocation	LTS	4.10-5: The residential, non-residential, and mixed-use buildings constructed pursuant to the RSPU could be exposed to vibration levels due to existing rail operations and/or I 5 traffic.	4.10-5: There are proposed residential units in Blocks 35, 49 and 50 under the RSPU and RSPU Land Use Variant that could be placed within 113 feet of the UPRR rail line centerline. From this distance, these residential receptors could be exposed to vibration levels that would result in an annoyance. In addition, the proposed sensitive commercial buildings in Blocks 29, 27, 28 and 29 under the RSPU and the RSPU Land Use Variant could be exposed to vibration levels from freight train pass-by events along the UPRR rail line that would disrupt daily operations. As a result, the vibration levels at these residential and sensitive commercial buildings would be considered **significant**.	4.10-5 (RSPU) *(a) Stabilization measure for the Central Shops* *(b) Vibration analysis requirements* This measure is similar to Mitigation Measure 6.8-5 of the 2007 RSP EIR. Items (a) and (b) of Mitigation 6.8-5 of the 2007 RSP EIR are not included as they relate to construction vibration mitigation during track relocation, which has already been completed.	LTS
6.8-6: The proposed project would contribute to cumulative increases in traffic and rail noise levels.	None Available	SU	4.10-8: The proposed projects would contribute to cumulative increases in traffic and rail noise levels.	4.10-8: The proposed projects in conjunction with cumulative and cumulative plus project would result in daily Ldn noise exposure that would not exceed the allowable noise incremental increases detailed in Table 4.10-9 at residential uses along any of the roadway segments analyzed. Therefore, the proposed projects would result in **less than significant** contribution to the daily Ldn impacts at existing and planned residential uses.	None Required	LTS
N/A	N/A	N/A	4.10-6: The proposed projects would result in exposure of people to cumulative increases in construction noise levels.	4.10-6: The 2007 RSP EIR considered construction noise as being only temporary and would not contribute to the permanent noise environment. However, since the publication of the 2007 RSP EIR, there have been numerous projects near the proposed project areas that are currently in the design phase, which could be constructed at the same time as the proposed projects. If project-related activities were to coincide with another development, such as the I Street Bridge Replacement project, the combined effect could result in the exposure of on- and off-site noise-sensitive land uses to higher noise levels than what was predicted under the proposed project. Although considerable uncertainty exists regarding the construction schedules for the proposed projects as well as cumulative projects, construction noise associated with those projects in combination with the proposed projects would be considered a temporary **significant** cumulative impact and the contribution of the proposed projects would be cumulatively considerable. This impact is not analyzed in the 2007 RSP EIR.	4.10-6 (RSPU, KPMC, MLS) *Implement Mitigation Measure 4.10-1*	LTS
N/A	N/A	N/A	4.10-7: The proposed projects would contribute to cumulative construction that could expose existing and/or planned buildings, and persons within, to significant vibration.	4.10-7: As previously discussed under Impact 4.10-2, the construction activities within the proposed projects may require the use of impact pile drivers during foundation pile installation. Due to the close proximity of existing and future sensitive receptors to the onsite construction activity areas, vibration levels generated during impact pile driving would exceed the applied vibration threshold for human annoyance and building damage at nearby future planned sensitive receptor's and historic structures. If project-related activities were to coincide with another development in close physical proximity (within approximately 150 feet), the combined effect could result in the exposure of sensitive land uses or historic structures to higher vibration levels than what was predicted for the proposed projects. Although considerable uncertainty exists regarding the construction schedules for the proposed projects as well as cumulative projects, construction vibration associated with cumulative projects in combination with the proposed projects would be considered a temporary **significant** cumulative impact and the proposed project's contribution would be cumulatively considerable. This impact is not analyzed in the 2007 RSP EIR.	4.10-7 (RSPU, KPMC, MLS) *Implement Mitigation Measure 4.10-4*	SU
N/A	N/A	N/A	4.10-9: Implementation of the proposed projects would contribute to cumulative increases in residential interior noise levels of 45 dBA Ldn or greater.	4.10-9: Exterior amplified sound systems at the MLS Stadium could result in **potentially significant** noise at future residences. Existing residential receptors in the Alkali Flat neighborhood, the Mansion Flats neighborhood, the Cannery Place Apartments in the Township 9 development, the Dos Rios public housing project, the Quinn Cottages, and numerous social service shelters in the River District would be exposed to interior noise levels less than 45 Ldn (assuming 20 dBA exterior-to-interior attenuation by the building structure). This impact is not analyzed in the 2007 RSP EIR.	4.10-9 (RSPU) *Implement Mitigation Measure 4.10-3(a).* 4.10-10 (RSPU, MLS) *Implement Mitigation Measure 4.10-3(b).*	LTS
6.10-1: The proposed project would increase demand for law enforcement services.	None Required	LTS	4.11-1: The proposed projects would increase demand for police protection services within the City of Sacramento.	4.11-1: The RSPU and land use variant would generate demand for additional police protection services due to the increases in population resulting from RSPU housing development. Compared to the 2007 RSP, Sacramento PD would need to add only 50 to 80 percent as many additional staff to serve the RSPU or land use variant. Since the 2007 RSP EIR was certified, the Richards Police Facility has been built 0.5 miles to the north of the RSP Area, and could provide services to proposed projects. Thus, no new police facilities would need to be built. Nonetheless, the RSPU provides for a policy substation within the RSP Area, further improving the availability of police services. The KP Medical Center and MLS Stadium would also require police services, but would provide additional security staff and facilities. In addition, the proposed projects' residences and businesses, including the KP Medical Center and MLS Stadium, would pay the appropriate taxes and fees to finance the City's General Fund and thereby fund Sacramento PD. For these reasons, this impact would be less than significant, similar to the 2007 RSP.	None Required	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.9 Parks and Open Space & 6.10 Public Services			4.11 Public Services			
6.10-2: The proposed project would contribute to the cumulative increased demand for police protection services within the Central City.	None Required	LTS	4.11-2: The proposed projects would contribute to the cumulative increased demand for police protection services within the Central City.	4.11-2: All new facilities and staff would be part of the City-wide Master Plan and would be funded through the City's General Fund. The RSPU provides for a substation, and the proposed projects would pay applicable taxes and fees. Therefore, the proposed projects would offset their demand for additional police and facilities. Consequently, the proposed projects' contribution to cumulative demand for police services would not considerable, and this would be a less-than-significant cumulative impact.	None Required	LTS
6.10-3: The proposed project would increase demand for fire protection services.	None Required	LTS	4.11-3: The proposed projects would increase the demand for fire protection services.	4.11-3: The proposed projects would yield approximately 12,600 to 21,000 residents, along with non-residential uses, and therefore increase demand for fire protection services. As a result, an increase in fire staff, equipment, and vehicles would be required to service the RSP Area in both scenarios. While the 2007 RSP EIR stated that fire protection impacts would be resolved through the addition of a new onsite station, the 2007 RSP EIR used the assumption of 1 station per 20,000 residents. The RSPU also provides for a new fire station in the RSP Area. This SEIR bases its analysis of the ability of the SFD to provide fire protection services to the proposed project on the number of calls received by each station. Although Station 2 currently receives a call volume of 3,809 calls, 309 calls above its capacity, Stations 14, 2, 1, and 5 could collectively accommodate a total of 2,461 additional calls. The new fire station would also provide additional capacity to respond to calls. Therefore, as with the 2007 RSP, this impact would be less than significant.	None Required	LTS
6.10-4: Development of the proposed project could contribute to cumulative increases in demand for fire protection services within the Central City.	None Required	LTS	4.11-4: The proposed projects would contribute to cumulative increases in demand for fire protection services within the Central City.	4.11-4: Because the RSPU provides for an additional fire station, and project-related development would pay taxes and fees that could be used to provide fire protection and emergency services, the proposed projects' contribution to the cumulative impact would not considerable and the cumulative impact would be less than significant.	None Required	LTS
6.10-5: The proposed project would generate solid waste, which could result in the need for new landfills or the expansion of existing facilities.	None Required	LTS	4.13-9: The proposed projects would generate additional solid waste.	4.13-9: The proposed projects would generate more solid waste than estimated for the 2007 RSP EIR. However, since 2007, recycling requirements are more stringent, and two of the proposed projects the KP Medical Center and the MLS Stadium, would comply with LEED standards, further reducing the amount of waste needing to be landfilled. The existing landfills have capacity to accept the waste generated by the proposed projects, so this impact would be less than significant. The impact would be more severe than the 2007 RSP because more waste would be generated.	None Required	LTS
6.10-6: The proposed project would contribute to cumulative increases in solid waste, which could result in the construction of new landfills or the expansion of existing facilities.	None Required	LTS	4.13-10: The proposed projects would contribute to cumulative increases in solid waste.	4.13-10: The 2035 General Plan Master EIR concludes that existing landfills will be able to accommodate the increase in waste, so this cumulative impact is less than significant. The 2035 General Plan assumed development of the Railyards, so this figure would include most of the waste generated by the proposed projects. Available landfill capacity would be sufficient to accommodate these increases, including the additional waste from the proposed project. Therefore the project contribution would not be considerable, and the cumulative impact would be less than significant.	None Required	LTS
6.10-7: The proposed project would generate additional elementary school students in the Sacramento City Unified School District.	None Required	LTS	4.11-5: The proposed projects would generate additional students in Sacramento City Unified School District and Twin Rivers Unified School District.	4.11-5: The RSPU and land use variant would yield between approximately 1,875 and 2,600 students, which would need to be accommodated at SCUSD schools, and, in the case of the land use variant, TRUSD schools. Existing elementary schools could not accommodate all of the new students under existing conditions, even if a school is built within the RSP Area. As a result, additional school facilities and equipment would be required to serve both scenarios. Pursuant to SB 50, project developers would be required to pay applicable school impact fees. SCUSD and TRUSD have the ability to incorporate additional capacity at existing schools (through, for example, portables) and to build new schools over time, if needed to serve increased enrollment. Further, an elementary school could be constructed within the RSP Area. All environmental impacts associated with the construction and operation of this new school are addressed in this SEIR. The State legislature has deemed impacts on schools less than significant with payment of school developer fees. Therefore, the impact on schools would be less than significant for both the RSPU and the land use variant. The 2007 RSP EIR identified a similar impact, although the 2007 RSP would generate more students if current generation rates are used.	None Required	LTS
6.10-8: The proposed project would generate additional middle school students in the Sacramento City Unified School District.	None Required	LTS	4.11-5: *See Above*	4.11-5: *See Above*	4.11-5: *See Above*	LTS
6.10-9: The proposed project would generate additional high school students in the Sacramento City Unified School District.	None Required	LTS	4.11-5: *See Above*	4.11-5: *See Above*	4.11-5: *See Above*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.9 Parks and Open Space & 6.10 Public Services (cont.)			4.11 Public Services (cont.)			
6.10-10: The proposed project could result in a school within 1,500 feet of a railroad track.	6.10-10 *Safety study requirements for Sacramento Unified School District*	LTS	4.11-6: The proposed projects could result in a school located in proximity to existing hazards, specifically railroad tracks.	4.11-6: The RSPU and land use variant would have the same impacts related to the location of schools near railroad tracks and/or a natural gas line as the 2007 RSP, because these features were present in 2007 and the potential school site was the same, although the 2007 RSP EIR did not disclose the presence of the gas line. The impact would be reduced to a less-than-significant level with implementation of Mitigation Measure 4.11-6 for both the RSPU and the land use variant. The KP Medical Center, MLS Stadium and Stormwater Outfall would have no impact related to school location because these projects would not include a school, nor generate new students.	4.11-6 (RSPU) *Safety study requirements for Sacramento Unified School District* This measure is identical to Mitigation Measure 6.10-10 of the 2007 RSP EIR.	LTS
6.10-11: The proposed project would contribute to cumulative increases in the number of students in the Sacramento City Unified School District.	None Required	LTS	4.11-7: The proposed projects would contribute to the cumulative increases in student enrollment in the Sacramento City Unified School District and the Twin Rivers Unified School District.	4.11-7: In accordance with SB 50, project applicants across both school districts, including the developers of the RSPU, must pay school impact fees established to offset potential impacts on school facilities. The payment of these fees is recognized by the State as full and complete mitigation for impacts on schools. All new development within the RSP Area would be required to pay these fees. Therefore, the cumulative impact is considered less than significant.	None Required	LTS
6.10-12: The proposed project would contribute to cumulative increases in the number of middle school students in the Sacramento City Unified School District.	None Required	LTS	4.11-7: *See Above*	4.11-7: *See Above*	4.11-7: *See Above*	LTS
6.10-13: The proposed project would contribute to cumulative increases in combination with other projects in the Central City would in the number of high school students in the Sacramento City Unified School District.	None Required	LTS	4.11-7: *See Above*	4.11-7: *See Above*	4.11-7: *See Above*	LTS
6.10-14: The proposed project would result in an increased demand for library services.	None Required	LTS	4.11-10: The proposed projects could result in an increased demand for library services.	4.11-10: The RSPU and land use variant would yield approximately 12,600 to 14,000 residents, which would increase demand for library services. This population was anticipated in the 2007 SPL FMP, so no new libraries would need to be built. The impact on libraries would be less than the impact evaluated in the 2007 RSP EIR because the population would be lower. In addition, for both scenarios, development would pay the appropriate taxes and fees to finance the existing library system and support any additional service needs. Therefore, this impact would be less than significant. Because they would not generate a residential population, the KP Medical Center, MLS Stadium and Stormwater Outfall would have no impact on library services.	None Required	LTS
6.10-15: The proposed project would contribute to cumulative increases for library services.	None Required	LTS	4.11-11: The proposed projects would contribute to the cumulative increase in demand for library services in the City of Sacramento.	4.11-11: As discussed in Impact 4.11-10, the City has a FMP that identifies library facility improvements needed through 2025. In 2013, the FMP was updated to reflect changes since it had been adopted. Growth in the City would increase demand for library services, which would be addressed through updates to the FMP. The FMP anticipates a variety of service ratios for the numerous libraries in Sacramento by 2025, with a total 2025 service ratio for the City of 0.69 sf per capita, which, as a whole, is greater than the prime level of 0.60. The proposed projects would generate fewer residents than anticipated in the FMP, and would pay City taxes and fees that could be used for libraries, so the project contribution would not reduce this ratio. Therefore, this cumulative impact would be less than significant.	None Required	LTS
6.9-1: The proposed Specific Plan would increase demand for parks and recreation facilities.	6.9-1 *Parkland Dedication Requirements*	LTS	4.11-8: The proposed projects would increase the demand for parks and recreational facilities.	4.11-8: The RSPU and land use variant would provide approximately 30 acres of parks and open space but this would not meet demand for parks using City standards. This would be a **significant** impact. The KP Medical Center, MLS Stadium and Stormwater Outfall would have no impact on parks, because they would not have resident populations. The impact of the RSPU and land use variant would be similar to, but slightly more severe, than the 2007 RSP, which provided for 41 acres of parks and open space.	4.11-8 (RSPU) *Parkland Dedication Requirements*	LTS
6.9-2: The proposed Specific Plan would increase demand for and use of the bicycle path network.	6.9-2 *Maintain access to bicycle trail at the western boundary of the RSP Area during construction*	LTS	4.12-5: The proposed projects could adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.	4.12-5: The proposed RSPU, RSPU Land Use Variant, and KP Medical Center would not cause any adverse impacts to existing bicycle facilities and would not fail to provide access by bicycle. The MLS Stadium would attract a large number of bicyclists for MLS soccer matches. Since accommodation of those travelers is not shown on the site plan or defined in the project description, this is considered a **significant** impact.	4.12-5 (MLS Stadium) *Provide short-term bicycle parking spaces that meet project demand.*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.9 Parks and Open Space & 6.10 Public Services (cont.)			4.11 Public Services (cont.)			
6.9-3: The proposed Specific Plan would contribute to cumulative increases in the demand for additional parkland in the Central City.	6.9-3 *Implement Mitigation Measure 6.9-1*	LTS	4.11-9: The proposed projects would contribute to cumulative increases in demand on City parks and recreational facilities.	4.11-9: As proposed, the RSPU does not provide parks and recreational facilities adequate to meet City standards. This shortfall could make it more difficult for the City to meet its goals and policies regarding parks and recreation. Therefore, the project contribution to cumulative increases in parks demand is considerable, and the cumulative impact is **significant**.	4.11-9 (RSPU) *Implement Mitigation Measure 4.11-8.*	LTS
6.12 Transportation			4.12 Transportation			
6.12-1: The Initial Phase would increase traffic volumes at study area intersections and cause the level of service to deteriorate.	6.12-1(a) – (r) Impact minimization measures and fee requirements.	SU	4.12-1: The proposed projects could worsen conditions at intersections in the City of Sacramento.	4.12-1: The proposed KP Medical Center and MLS Stadium would construct only site frontage improvements. Their land uses and travel characteristics would result in extensive queuing and deteriorated intersection operations within the RSP Area. These impacts are considered significant. Through payment of the I-5 SCMP, the KP Medical Center would mitigate impacts to the state highway system. Other mitigation options for the KP Medical Center include roadway system upgrades within the RSP Area that would substantially improve otherwise highly congested travel corridors. Further, mitigation calls for the project to develop and implement a TDM program. Therefore, with implementation of required mitigation measures, this impact is less than significant after mitigation. The Event TMP describes recommended vehicle routing, traffic management, pedestrian linkages, transit accommodation, and parking necessary to accommodate a sold-out 25,000-person MLS soccer match. As the data in Table 4.12-60 shows, implementation of the Event TMP would improve operations from LOS E or F at several intersections surrounding the stadium to LOS D or better. Other mitigations for the MLS Stadium include roadway extensions, intersection widenings, and enhancements to bicycle and pedestrian facilities (as is described later). Therefore, with implementation of required mitigation measures, this impact is less than significant after mitigation.	4.12-1(a) (RSPU) *i. Measure requiring the preparation and implementation of an Event Transportation Management Plan (TMP).* *ii. I-5 Subregional Corridor Mitigation Program fee requirement.* *iii. Convert existing Dos Rios St. leg at 12th St./N. B St. intersection to a right-turn only intersection that does not operate as part of the signal.* 4.12-1(b) (KPMC) *i. Implement Mitigation Measure 4.12-1(a)(ii)* *ii. Implement TDM Program* *iii – v. Implement proposed roadway improvements.* 4.12-1(c) (MLS) *i. Implement Mitigation measure 4.12-1(a) (i)* *ii Implement Mitigation Measure 4.12-1(a) (iii)* *iii. Implement TDM.* *iv. Implement proposed roadway improvements.* *Mitigation 6.12-1(a through h, l through o, q, and r) are no longer necessary or no longer applicable. Mitigation 6.12-1(i, j, and k) are no longer feasible; and Mitigation 6.12-1(p) was found to no longer provide an improvement.*	LTS
6.12-2: The Initial Phase would add traffic to the study roadway segments that result in substandard levels of service.	None Available	SU	4.12-1: See Above	4.12-1: See Above	4.12-1: See Above	LTS
6.12-3: The Initial Phase would add traffic to the study freeway mainline segments and cause the level of service to degrade below LOS E.	None Available	SU	4.12-2: The proposed projects could worsen conditions on freeway facilities maintained by Caltrans.	4.12-2: Similar to the 2007 RSP EIR, the proposed RSPU would cause some freeway facilities maintained by Caltrans to have degraded operating conditions. Through payment of the I-5 SCMP, the RSPU, Land Use Variant, and KP Medical Center would fully mitigate their impacts to the state highway system. Therefore, this impact is less than significant after mitigation.	4.12-2 (RSPU, KPMC) *Implement Mitigation Measure 4.12-1(a) (ii).*	LTS
6.12-4: The Initial Phase would add traffic to the study freeway interchanges and cause the level of service to degrade below those of the freeway mainline.	None Available	SU	4.12-2: See Above	4.12-2: See Above Impact 6.12-4 of the 2007 RSP EIR identified additional significant impacts of the initial phase of the 2007 RSP on freeway facilities. However, the analysis of freeway facilities has evolved since that time such that the methodology utilized in Impact 6.12-4 is no longer applicable.	4.12-2: See Above	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.12 Transportation (cont.)			4.12 Transportation (cont.)			
6.12-5: The Initial Phase would add traffic to the study freeway off-ramps and cause freeway off-ramp queues to exceed the available storage capacity.	None Available	SU	4.12-3: The proposed projects could worsen vehicle queuing at off-ramps on I-5.	4.12-3: Impact 6.12-5 of the 2007 RSP EIR found that the initial phase of the 2007 RSP could result in vehicle queue spillbacks at the northbound I-5 off-ramp at J Street that extend onto the mainline. Similar to the 2007 RSP EIR, the proposed RSPU would cause vehicular queues at off-ramps along I-5 to queue back onto the freeway mainline. These queuing impacts are considered significant. The KP Medical Center would cause significant queue spillback on the I-5 freeway off-ramps at Richards Blvd, which would be considered significant. The MLS Stadium would cause additional queuing at various off-ramps on I-5 during the Pre-event peak hour. However, queues would not extend back onto the freeway mainline. Therefore, impacts associated with freeway off-ramp queuing during an MLS Stadium event would be considered less than significant as a project-specific impact, but would be considered cumulatively significant. Payment of I-5 SCMP would mitigate impacts to I-5/Richards Blvd. for all projects, to the short term impact would be significant and unavoidable and the impact after interchange reconstruction would be less than significant. Impacts to the I-5 NB off-ramp at J Street cannot be reduced to a less than significant level by the I-5 SCMP and would therefore be significant and unavoidable.	4.12-3 (RSPU, KPMC, MLS) *Implement Mitigation Measure 4.12-1(a) (ii)*	SU
6.12-6: The Initial Phase would increase demand on the public transit system.	6.12-6 *Public transit funding and coordination requirements*	LTS	4.12-4: The proposed projects could adversely affect public transit operations or fail to adequately provide access to transit.	4.12-4: Impact 6.12-6 of the 2007 RSP EIR found that the initial phase of the 2007 RSP could result in a demand for public transit that exceeds the available supply. The proposed RSPU, KP Medical Center, and MLS Stadium would not cause any substantial adverse impacts to transit operations or access to transit. Mitigation Measure 6.12-6 of the 2007 RSP EIR called for the 2007 RSP to pay a fair share toward transit construction and operating expenses, and dedicate right-of-way within the RSP Area to enable RT to ultimately construct the light rail extension to Sacramento International Airport. Due to changes in how transit impacts are judged (and given Regional Transit's acknowledgement that they would work with the various RSPU components to ensure that transit service is provided when needed), impacts on transit ridership (i.e., enough space on trains to accommodate passengers) are not considered significant effects. However, effects on transit operations and access to transit (i.e., platform size, ability to walk to station, etc.) are considered effects that could be potentially significant.	None required	LTS
6.12-7: The Initial Phase may interfere with the implementation of proposed bikeways.	6.12-7 *Measures for the inclusion of bicycle facilities in design and entitlements.*	LTS	4.12-5: The proposed projects could adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle.	4.12-5: Impact 6.12-7 of the 2007 RSP EIR found that the initial phase of the 2007 RSP could result in a significant impact on bicycle facilities because it was not consistent with the City's Bikeway Master Plan and design standards. Mitigation Measure 6.12-7 of the 2007 RSP EIR called for the 2007 RSP to ensure that bicycle facilities connect to the existing/planned City network and that the on-site bicycle facilities meet the intent of the City's Bikeway Master Plan and design standards. The proposed RSPU, KP Medical Center, and MLS Stadium would not cause any adverse impacts to existing bicycle facilities and would not fail to provide access by bicycle. The RSPU would provide a series of Class I, II, III, and IV facilities throughout the RSP Area that would connect with existing/planned bicycle facilities to the west, east, north, and south. This impact is considered less than significant.	None required	LTS
6.12-8: The Initial Phase would increase the number of pedestrians on the roadway system and some proposed project design elements could result in unsafe conditions for pedestrians.	6.12-8 *Frontage improvement requirements*	LTS	4.12-6: The proposed projects could adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians.	4.12-6: Impact 6.12-8 of the 2007 RSP EIR found that the initial phase of the 2007 RSP could result in unsafe conditions for pedestrians due to the lack of detail with regard to provision of pedestrian facilities. The proposed RSPU and KP Medical Center would not cause any adverse impacts to existing pedestrian facilities and would not fail to provide access for pedestrians. Soccer matches at the MLS Stadium would result in many of the roadways within the RSP Area experiencing substantial levels of pedestrian activity prior to and after MLS matches. Therefore, the MLS stadium could adversely affect existing pedestrian facilities and fail to provide adequate access to the stadium for pedestrians. This is considered a significant impact. The implementation of the Event Transportation Management Plan to the satisfaction of the City Police Department and the City Traffic Engineer, would result in use of a variety of pedestrian management tools, that could include providing additional parking spaces within the RSPU to reduce pedestrian flows from the area north of North B Street, wider sidewalks, shuttles, special-event light rail trains, reduced parking supplies, and extended pedestrian walk phases would be improved pedestrian LOS at these facilities.	4.12-6 (MLS) *Implement Mitigation Measure 4.12-1(a) (i).*	LTS
6.12-9: The Initial Phase of the Railyards Specific Plan could result in inadequate vehicle parking and bicycle parking capacity.	6.12-9 *Measures for parking requirements and improvements.*	LTS	4.12-5: See Above	4.12-5: See Above	4.12-5: See Above	LTS
6.12-10: The Initial Phase would increase traffic volumes at study area intersections and cause the level of service to deteriorate.	6.12-10 (a) – (v) *Mitigation measures to minimize queuing impacts at study intersections.*	SU	4.12-1: See Above	4.12-1: See Above	4.12-1: See Above	LTS
6.12-11: The Initial Phase would add traffic to the study roadway segments that result in substandard levels of service.	None Available	SU	4.12-1: See Above	4.12-1: See Above	4.12-1: See Above	LTS

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

TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.12 Transportation (cont.)			4.12 Transportation (cont.)			
6.12-12: The Initial Phase would add traffic to the study freeway mainline segments and cause the level of service to degrade below LOS E.	None Required	SU	4.12-2: See Above	4.12-2: See Above	4.12-2: See Above	LTS
6.12-13: The Initial Phase would add traffic to the study freeway interchanges and cause the level of service to degrade below those of the freeway mainline.	None Required	SU	4.12-2: See Above	4.12-2: See Above	4.12-2: See Above	LTS
6.12-14: The Initial Phase would add traffic to the study freeway off-ramps and cause freeway off-ramp queues to exceed the available storage capacity.	None Required	SU	4.12-3: See Above	4.12-3: See Above	4.12-3: See Above	SU
6.12-15: The Initial Phase would increase demand on the public transit system.	6.12-15 *Implement Mitigation Measure 6.12-6*	LTS	4.12-4: See Above	4.12-4: See Above	4.12-4: See Above	LTS
6.12-16: The Initial Phase would increase traffic volumes at study area intersections and cause the level of service to deteriorate.	6.12-16 (a) – (cc) *Impact minimization measures and fee requirements for study intersections.*	SU	4.12-1: See Above	4.12-1: See Above	4.12-1: See Above	LTS
6.12-17: The Initial Phase would add traffic to the study roadway segments that result in substandard levels of service.	None Available	SU	4.12-1: See Above	4.12-1: See Above	4.12-1: See Above	LTS
6.12-18: The Initial Phase would add traffic to the study freeway mainline segments and cause the level of service to degrade below LOS E.	None Required	SU	4.12-2: See Above	4.12-2: See Above	4.12-2: See Above	LTS
6.12-19: The Initial Phase would add traffic to the study freeway interchanges and cause the level of service to degrade below those of the freeway mainline.	None Required	SU	4.12-2: See Above	4.12-2: See Above	4.12-2: See Above	LTS
6.12-20: The Initial Phase would add traffic to the study freeway off-ramps and cause freeway off-ramp queues to exceed the available storage capacity.	None Required	SU	4.12-3: See Above	4.12-3: See Above	4.12-3: See Above	SU
6.12-21: The Initial Phase would increase demand on the public transit system.	6.12-21 *Implement Mitigation measure 6.12-6*	LTS	4.12-4: See Above	4.12-4: See Above	4.12-4: See Above	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.12 Transportation (cont.)			4.12 Transportation (cont.)			
6.12-22: The Full Project would increase traffic volumes at study area intersections and cause the level of service to deteriorate.	6.12-22 (a) – (ff) *Impact minimization measures and fee requirements for study intersections.*	SU	4.12-8: The proposed projects could contribute to cumulatively unacceptable intersection operations in the City of Sacramento.	4.12-8: Although the roadway system within the RSP Area has been designed to function adequately under Baseline plus RSPU conditions, the combined effects of two new bridges and reducing a travel lane on 12th Street between Richards Boulevard and downtown would be a substantial increase in traffic on RSP Area roadways. The effect of this added traffic is greater congestion, queuing, and delays. The KP Medical Center and MLS Stadium contribute to those conditions.	4.12-8(a) (RSPU) *Implement Mitigation Measure 4.12-1(a)(i)* *Implement Mitigation Measure 4.12-1(a)(ii).* 4.12-8(b) *Implement Mitigation Measure 4.12-1(a)(ii)* *Implement Mitigation Measure 4.12-1(b)(ii).* 4.12-8(c) (MLS) *Implement Mitigation Measure 4.12-1(a)(i).* *Implement Mitigation Measure 4.12-1(c)(iii).*	LTS
6.12-23: The Full Project would add traffic to the study roadway segments that result in substandard levels of service.	None Available	SU	4.12-8: See Above			
6.12-24: The Full Project would add traffic to the study freeway mainline segments and cause the level of service to degrade below LOS E.	None Available	SU	4.12-9: The proposed projects could worsen cumulative conditions on freeway facilities maintained by Caltrans.	4.12-9: The proposed RSPU and Land Use Variant would each cause significant impacts at five study freeway facilities. Impacts associated with the Land Use Variant would be more severe during the PM peak hour based on its greater trip generation. The KP Medical Center would contribute to those impacts as well. These impacts are considered significant. Although the MLS Stadium would worsen freeway operations during the Pre-event peak hour, operations would remain acceptable. Therefore, the MLS Stadium would not cause any significant freeway impacts. This impact is considered less than significant.	4.12-9 (RSPU, KPMC) *Implement Mitigation Measure 4.12-1(a)(ii).*	LTS
6.12-25: The Full Project would add traffic to the study freeway interchanges and cause the level of service to degrade below those of the freeway mainline.	None Available	SU	4.12-9: See Above			
6.12-26: The Full Project would add traffic to the study freeway off-ramps and cause freeway off-ramp queues to exceed the available storage capacity.	None Available	SU	4.12-10: The proposed projects could worsen vehicle queuing at off-ramps on I-5 under cumulative conditions.	4.12-10: The proposed RSPU and Land Use Variant would cause cumulatively significant queuing impacts at three freeway off-ramps on I-5. The KP Medical Center would also contribute to those queuing impacts. The MLS Stadium would cause additional queuing at the I-5 northbound off-ramp at J Street during the Pre-event peak hour that would exceed the available storage. These impacts are considered cumulatively significant. Impacts associated with queuing at the I-5/Richards Boulevard interchange off-ramp are considered less than significant after interchange reconstruction. None of the identified improvements within the I-5 SCMP would directly reduce queuing on the I-5 NB off-ramp at J Street. Since this impact occurs during AM and Pre-event peak hours, each of the proposed projects contributes to the creation of the impact. This impact is considered significant and unavoidable.	4.12-10 (RSPU, KPMC, MLS) *Implement Mitigation Measure 4.12-1(a)(ii).*	SU
6.12-27: The Full Project would increase demand on the public transit system.	6.12-27 *Implement Mitigation Measure 6.12-6*	LTS	4.12-11: The proposed projects could adversely affect public transit operations or fail to adequately provide access to transit under cumulative conditions.	4.12-11: The proposed RSPU, Land Use Variant, KP Medical Center, and MLS Stadium would not cause any adverse impacts to transit operations or access to transit.	None Required	LTS
6.12-28: The Full Project may interfere with the implementation of proposed bikeways.	6.12-28 *Implement Mitigation Measure 6.12-7*	LTS	4.12-12: The proposed projects could adversely affect existing or planned bicycle facilities or fail to provide for access by bicycle under cumulative conditions.	4.12-12: The proposed RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium would not cause any adverse impacts to existing/planned bicycle facilities and would not fail to provide access by bicycle. The RSPU would provide a series of Class I, II, III, and IV facilities throughout the RSP Area that would connect with existing/planned bicycle facilities to the west, east, north, and south. This impact is considered less than significant.	None Required	LTS
6.12-29: The Full Project would increase the number of pedestrians on the roadway system and some proposed project design elements could result in unsafe conditions for pedestrians.	6.12-29 *Frontage improvement conditions*	LTS	4.12-13: The proposed projects could adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians under cumulative conditions.	4.12-13: The proposed RSPU, RSPU Land Use Variant, and KP Medical Center would not cause any adverse impacts to existing pedestrian facilities and would not fail to provide access for pedestrians. Soccer matches at the MLS Stadium would result in many of the roadways within the RSP Area experiencing substantial levels of pedestrian activity prior to and after MLS matches. In many instances, sidewalk and crosswalk widths would be inadequate to accommodate these pedestrian flows, without mitigation place. Therefore, the MLS stadium could adversely affect existing pedestrian facilities and fail to provide adequate access to the stadium for pedestrians. This impact is considered **significant**. With the implementation of the TMP, pedestrian facility impacts on streets between the proposed Stadium and identified parking resources, including 7th Street from North B Street to Railyards Boulevard would be mitigated to less than significant.	4.12-13 (MLS) *Implement Mitigation measure 4.12-1(a)(i).*	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.12 Transportation (cont.)			4.12 Transportation (cont.)			
6.12-30: Buildout of the Full Project could result in inadequate vehicle parking and bicycle parking capacity.	6.12-30 *The full project shall provide enough parking spaces to comply with City code requirements unless otherwise approved by the City*	LTS	4.12-13: The proposed projects could adversely affect existing or planned pedestrian facilities or fail to provide for access for pedestrians under cumulative conditions.	4.12-13: The proposed RSPU, RSPU Land Use Variant, and KP Medical Center would not cause any adverse impacts to existing pedestrian facilities and would not fail to provide access for pedestrians. Soccer matches at the MLS Stadium would result in many of the roadways within the RSP Area experiencing substantial levels of pedestrian activity prior to and after MLS matches. In many instances, sidewalk and crosswalk widths would be inadequate to accommodate these pedestrian flows, without mitigation place. Therefore, the MLS stadium could adversely affect existing pedestrian facilities and fail to provide adequate access to the stadium for pedestrians. This impact is considered **significant**. With the implementation of the TMP, pedestrian facility impacts on streets between the proposed Stadium and identified parking resources, including 7th Street from North B Street to Railyards Boulevard would be mitigated to less than significant.	4.12-13 (MLS) *Implement Mitigation measure 4.12-1(a)(i).*	LTS
N/A The 2007 RSP EIR did not include a discussion of construction-related traffic impacts.	N/A		4.12-7: The proposed projects could cause construction-related traffic impacts.	The 2007 RSP EIR did not include a discussion of construction-related traffic impacts. With implementation of MM 4.12-7, construction related traffic impacts would be less than significant.	4.12-7 (RSPU, KPMC, MLS) *Requirement for Construction Traffic Management Plan*	LTS
N/A The 2007 RSP EIR did not include a discussion of construction-related traffic impacts.	N/A		4.12-14: The proposed projects could cause construction-related traffic impacts under cumulative conditions.	4.12-14: The proposed RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium would each cause potentially significant cumulative construction impacts due to the potential for overlap with other construction activities and the need for potential for lane closures, damage to roadbeds, and traffic hazards to bikes/pedestrians/transit during construction. These impacts are considered **significant**. The implementation of the above mitigation measure would reduce this impact to **less than significant**.	4.12-14 (RSPU, KPMC, MLS)	LTS
6.11 Public Utilities			4.13 Utilities			
6.11-1: The proposed project would increase wastewater and stormwater flows requiring treatment.	6.11-1 *Timed development prior to development of the cistern*	LTS	4.13-1: The proposed projects would increase demand for wastewater treatment.	4.13-1: The proposed RSPU, the RSPU Land Use Variant, KP Medical Center, and MLS Stadium would generate additional wastewater, but within the existing capacity of the SRWWTP, so the impact would be less than significant. The Stormwater Outfall would have no impact. The significance of this impact is the same as that described in Impact 6.6-1 in the 2007 RSP EIR.	None Required	LTS
6.11-2: The proposed project would increase stormwater and wastewater flows over pre-development conditions through the CSS conveyance system.	6.11-2 *Timed development to not overwhelm the wastewater system prior to planned improvements*	LTS	4.13-2: The proposed projects would increase flows to the City's combined sewer system.	4.13-2: The proposed RSPU, Land Use Variant, KP Medical Center, and MLS Stadium would generate additional wastewater discharges to the CSS. The proposed projects would comply with the City design requirements and flow limitations within the CSS. In addition, all future stormwater runoff would be discharge through the Stormwater Outfall into the Sacramento River, not into the CSS. However, if development precedes completion of the Stormwater Outfall, impacts from capacity limitations of interim stormwater retention basins would be significant. This impact would be similar to Impact 6.6-1 in the 2007 RSP EIR because mitigation would be required to address interim conditions.	None Required	LTS
6.11-3: The proposed project would contribute to cumulative increases in flows to be treated and discharged at the SRWTP.	None Required	LTS	4.13-4: The proposed projects would contribute to cumulative increases in wastewater requiring treatment at the SRWWTP.	4.13-4: The SRWWTP currently has an excess capacity of 76 mgd, which would be available for a substantial portion of growth in the region. The Regional San'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 Regional San 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 approximately two percent of the total capacity. The RSPU would increase wastewater requiring treatment by 3.65 mgd (ADWF) and the RSPU 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.	None Required	LTS
6.11-4: The proposed project would contribute to cumulative increases in stormwater runoff and wastewater through the CSS.	None Required	LTS	4.13-3: The proposed projects would contribute to cumulative increases in flows within the CSS.	4.13-3: 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 RSP Area. Increasing demand for conveyance and treatment capacity from development within the City could put additional demands on the existing interceptor pipeline resulting in a cumulative impact. As stated previously in this section, the proposed RSPU would connect to a new 3rd Street relief sewer line designed by the City to convey flows from the RSP Area and the River District directly to the T Street interceptor for conveyance south to the SRWTP. This new relief sewer will not contribute significantly to the conveyance capacity that currently serves the downtown area of the City in the CSS. Further, the proposed RSPU would not discharge stormwater runoff into the CSS, and the impact would be less than significant on conveyance capacity within the CSS. For these reasons, the cumulative impact on conveyance and treatment capacities is considered less than significant.	None Required	LTS

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TABLE S-4 (Continued)
COMPARISON TO 2007 RAILYARDS SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

2007 RSP EIR Impact	2007 RSP EIR Mitigation Summary	Significance After 2007 RSP EIR Mitigation	2016 RSPU SEIR Impact	2016 RSPU SEIR Conclusions	2016 RSPU SEIR Mitigation Number	Significance After 2016 RSPU SEIR Mitigation
6.11 Public Utilities (cont.)			4.13 Utilities (cont.)			
6.11-5: The proposed project would increase demand for potable water.	None Required	LTS	4.13-5: The proposed projects could increase demand for potable water.	4.13-5: The proposed projects would generate demand for City water supply. This demand can be met by the City's current water supplies, so the impact would be less than significant. Because the demand for water would be reduced relative to the 2007 RSP, the impact would be less severe.	None Required	LTS
6.11-6: The proposed project would increase demand for treated water and water distribution systems.	None Required	LTS	4.13-6: The proposed projects could increase demand for treated water and water distribution systems.	4.13-6: The proposed projects would generate demand for water treatment and conveyance. This demand can be met by the City's current water supplies, so the impact would be less than significant. Because the demand for water would be reduced relative to the 2007 RSP, the impact would be less severe.	None Required	LTS
6.11-7 The proposed project would contribute to cumulative increases in water demand throughout the City.	None Required	LTS	4.13-8: The proposed projects would contribute to cumulative increases in demand for water conveyance.	4.13-8: As discussed in the setting, the City has a network of water transmission lines in the vicinity of the RSP Area, a number of which have been upsized recently. The size of these pipelines assumed additional development in the Central City, including the 2007 RSP, which had greater daily water demands than the proposed projects. Therefore, the offsite transmission lines would be adequate to serve cumulative development with the addition of the proposed projects, and this impact would be less than significant.	None Required	LTS
6.11-8: The proposed project would contribute to cumulative increases in the need for water supply treatment and/or distribution facilities.	6.11-8 (a) – (d) *Cumulative water supply development and conservation measures*	LTS	4.13-7: The Proposed projects would contribute to cumulative increases in demand for water supply and treatment.	4.13-7: The proposed project contribution, although smaller than estimated in the 2007 RSP EIR, would contribute considerably to the cumulative demand for water. Therefore, This impact is considered potentially significant. The 2015 UWMP is likely to reflect more recent data, such as the maximum daily demand of 120 mgd experienced in 2015, which is approximately half the demand anticipated by the 2010 UWMP. The reduced demand is due in part to permanent changes in City service, such as the ongoing installation of water meters, and in part due to additional drought restrictions. However, the effect of the reduced demand on future years will not be known until the 2015 UWMP is released.	4.11-7 (RSPU) *(a) Water Conservation measures.* *(b) Implement new water diversion and/or treatment infrastructure.* *(c) Implement additional groundwater pumping.*	SU
6.10-5: The proposed project would generate solid waste, which could result in the need for new landfills or the expansion of existing facilities.	None Required	LTS	4.13-9: The proposed projects would generate additional solid waste.	4.13-9: The proposed projects would generate more solid waste than estimated for the 2007 RSP EIR. However, since 2007, recycling requirements are more stringent, and two of the proposed projects the KP Medical Center and the MLS Stadium, would comply with LEED standards, further reducing the amount of waste needing to be landfilled. The existing landfills have capacity to accept the waste generated by the proposed projects, so this impact would be less than significant. The impact would be more severe than the 2007 RSP because more waste would be generated.	None Required	LTS
6.10-6: The proposed project would contribute to cumulative increases in solid waste, which could result in the construction of new landfills or the expansion of existing facilities.	None Required	LTS	4.13-10: The proposed project would contribute to cumulative increases in solid waste.	4.13-10: The 2035 General Plan Master EIR concludes that existing landfills will be able to accommodate the increase in waste, so this cumulative impact is less than significant. The 2035 General Plan assumed development of the Railyards, so this figure would include most of the waste generated by the proposed projects. Available landfill capacity would be sufficient to accommodate these increases, including the additional waste from the proposed project. Therefore the project contribution would not be considerable, and the cumulative impact would be less than significant.	None Required	LTS

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CHAPTER 1
Introduction

The project applicants propose entitlement, construction and operation of: (a) the proposed Sacramento Railyards Specific Plan Update (RSPU), an approximately 244-acre mixed-use urban development comprised of an integrated mix of residential, non-residential, and public uses, along with infrastructure and utility systems that would serve and support the uses developed pursuant to the RSPU; (b) a new regional medical center built and operated by Kaiser Permanente (KP Medical Center); (c) a sports and entertainment stadium that could accommodate a Major League Soccer team (MLS Stadium); and (d) a stormwater outfall on the Sacramento River (Stormwater Outfall). These activities are referred to collectively as the proposed projects.

This Subsequent Environmental Impact Report (SEIR) has been prepared pursuant to the California Environmental Quality Act (Public Resources Code sections 21000 *et seq.*), CEQA Guidelines (Title 14, section 15000 *et seq.* of the California Code of Regulations) (CEQA Guidelines) and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento in order to disclose the potential environmental consequences of implementing the proposed projects. The City of Sacramento, Community Development Department, Environmental Planning Services Division, as lead agency responsible for administering the environmental review for projects in City of Sacramento, has determined that under CEQA, an environmental impact report (EIR) is required for the proposed projects. In its preliminary review of the applications for the proposed projects, the City determined that an SEIR, pursuant to CEQA Guidelines section 15162, is the appropriate environmental document.

Pursuant to CEQA, this SEIR addresses the changes to the adopted 2007 Railyards Specific Plan (2007 RSP) proposed under the RSPU and evaluates whether those changes would result in new or substantially more severe significant impacts. The 2007 RSP and 2007 Railyards Specific Plan EIR (2007 RSP EIR) may be viewed on the City's website at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports. As required under CEQA, the SEIR 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 projects.

1.1 Background

The Railyards Specific Plan Area (RSP Area) was originally low-lying, swampy land located at the confluence of the American and Sacramento Rivers and was part of a larger area occupied by

Native American people. The alignment of the American River, and the location of its confluence with the Sacramento River, was moved to the north in 1862. Subsequently, the RSP Area was developed as the western terminus of, and produced much of the rail equipment for, the Transcontinental Railroad in the early 1860s. The Central Pacific and Southern Pacific railroads used the RSP Area for railroad uses for almost 150 years, with the last railroad workers leaving the maintenance and locomotive works in 1995. During its peak, the RSP Area housed the largest railroad facility of its kind west of the Mississippi River. The RSP Area's use as a production and maintenance facility for the railroads continued for most of its modern history. In the late 1990s, after the closure of the locomotive maintenance works at the site, Union Pacific Railroad (UPRR) purchased the Southern Pacific Railroad and acquired the property comprising the RSP Area. Currently, most of the RSP Area is owned by Downtown Railyard Venture, LLC (DRV), while approximately 32 acres are owned by the City and a small portion of the site along the Sacramento River is owned by the State of California.

Today, the RSP Area continues to be used for passenger rail service through the existing historic Depot building constructed in 1926 and used as the primary depot for passenger rail service in the Sacramento Valley. The RSP Area includes the UPRR main lines that are used by freight and passenger trains, the passenger Depot for Amtrak and Capitol Corridor trains, and certain other rail lines. The Central Shops, located to the north of the historic Depot, were previously used as the location of rail equipment production and maintenance, and have been mostly vacant for some years. The California State Railroad Museum leases two of these buildings to repair and maintain its historic train stock. Sims Metal Management operates on approximately five acres immediately north of the RSP Area. The RSP Area has been undergoing environmental remediation for many years, and remediation activities are ongoing on certain portions of the RSP Area today. Portions of the RSP Area are served by major utilities, including water, sewer, storm drainage, solid waste, natural gas and electrical service; however, most of the site currently lacks these utilities.

The Sacramento City Council first certified an EIR for the Railyards Specific Plan in December 1993. At that time the City Council approved amendments to the City's General Plan and Central City Community Plan that provided for land uses that would redevelop the RSP Area as a northerly extension of downtown. The City Council certified a Supplemental EIR for the existing Railyards Specific Plan in late 1994, and approved the 1994 Railyards Specific Plan in December 1994. Development in the Specific Plan that has occurred to date includes the restoration and re-use of the Railway Express Agency (REA) Building, construction of the Federal Courthouse, the extension of 7th Street to North B Street and the extension of light rail.

In December 2006, the majority of the RSP Area was sold by UPRR to a private developer (Thomas Enterprises), and a parcel around the historic Depot was sold to the City. Based on plans of the new owner, in 2007 the City certified the 2007 RSP EIR and approved the 2007 RSP. In the intervening years certain elements of the 2007 RSP have been implemented including

realignment of the UPRR tracks, construction of extensions of 5th and 6th streets, as well as construction of Railyards Boulevard from 7th Street to the Bercut Drive alignment.

While remediation activities have continued in the RSP Area, as a result of economic conditions during the Great Recession, the privately-owned majority of the RSP Area again changed hands, finally being purchased by DRV in September 2015. DRV, as the project applicant, has proposed the RSPU that is the subject of this SEIR.

1.2 Purpose and Use of this SEIR

CEQA requires the preparation of an EIR when a proposed project could result in significant, adverse effects on the physical environment. This SEIR has been prepared by the City of Sacramento, Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811. It is an informational document for use by governmental agencies and the public to assist in the planning and decision-making process by disclosing the physical environmental effects of the project and identifying possible ways of reducing or avoiding its potentially significant impacts.

CEQA requires that before a decision can be made to approve a project that would pose potential adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document that identifies and evaluates potential environmental impacts of a project, recommends mitigation measures to lessen or eliminate significant adverse impacts, and examines feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the City and by any responsible agencies (as defined in CEQA) prior to a decision to approve, disapprove, or modify the proposed projects.

1.3 CEQA Environmental Review

The CEQA Guidelines define the role and standards of adequacy of an EIR as follows:

- **Informational Document.** An EIR is an informational document that will inform public agency decision-makers and the public of the significant environmental effect(s) of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information that may be presented to the agency (section 15121[a]).

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

> disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (section 15151).

CEQA Guidelines section 15382 defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" Therefore, in identifying the significant impacts of the project, this SEIR describes the potential for the project to result in substantial physical effects within the area affected by the project and identifies mitigation measures that would avoid, reduce, or otherwise alleviate those effects. See Chapter 4, Section 4.0, Introduction to the Analysis, for further description of the approach to analyzing environmental impacts and identifying mitigation measures presented in this SEIR.

CEQA Guidelines section 15160 provides for variations in EIRs so that environmental documentation can be tailored to different situations and intended uses. This EIR is a Subsequent EIR (SEIR) to the 2007 RSP EIR pursuant to CEQA Guidelines section 15162, which states that an SEIR is required if the lead agency determines that the proposed project could result in any of the following conditions:

- Substantial changes are proposed in the project that will require major revisions of the previous EIR,
- Substantial changes have occurred with respect to the circumstances under which the project is undertaken, or
- New information of substantial importance, which was not known and could not have been known at the time of certification of the previous EIR, shows that the project could have one or more significant effects not discussed in the previous EIR, significant effects previously examined will be substantially more severe than shown in the previous EIR, mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects, or mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects.

The City of Sacramento has determined that one or more of these conditions have been met for the proposed project, and that an SEIR is therefore warranted. For instance, the proposed projects represent substantial changes to the project that was considered in the 2007 RSP EIR. In addition, there have been substantial changes in the circumstances under which the proposed projects would be undertaken compared to the circumstances described in the 2007 RSP EIR, including adoption of the City's 2035 General Plan.

This SEIR has characteristics of both a Program EIR, as described in CEQA Guidelines section 15168, and a Project EIR, as described in CEQA Guidelines section 15161, because it examines the environmental impacts of the overall RSPU, as well as specific development proposals including the KP Medical Center, MLS Stadium, and Stormwater Outfall.

The California Court of Appeal has recently addressed the question of how to properly identify the "type" of EIR that should be prepared for a project. In noting that there are many different names for EIRs, the court stated that "courts strive to avoid attaching too much significance to titles in ascertaining whether a legally adequate EIR has been prepared for a particular project" (*Citizens for a Sustainable Treasure Island v. City and County of San Francisco* (2014) 227 Cal. App. 4th 1036). In *Treasure Island*, the Court restated its findings in *California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App.4th 227, 271) that the "fact that this EIR is labeled a 'project' rather than a 'program' EIR matters little for purposes of its sufficiency as an informative document. 'The level of specificity of an EIR is determined by the nature of the project and the "rule of reason" [citation], rather than any semantic label accorded to the EIR.'"

The level of detail of the analyses of the proposed projects considered in this SEIR varies in response to the level of detail of the description of each of the projects, which is, in turn, largely determined by the City's application submittal requirements for the specific entitlement or approval being sought (see Chapter 2, Project Description, page 2-71 for a full description of City approvals sought by the proposed projects).

For example, by its nature, the level of detail of the description of the proposed RSPU is least specific because, as a specific plan, the proposed RSPU establishes the regulatory and policy framework for future development in the RSP Area, and does not identify and/or describe specific projects. This level of detail is commensurate with the requested approvals that include the RSPU, updated Railyards Special Planning District (SPD), updated Railyards Design Guidelines, new development agreement, updated Mitigation Monitoring Plan (MMP), and new vesting tentative subdivision map.

In addition to the approvals and entitlements granted through the approval of the RSPU, the KP Medical Center is seeking approval of a conditional use permit and master level entitlement for operation of a helistop, and long term vested rights coverage through a development agreement. The description of the proposed KP Medical Center has more specific details than the RSPU, and includes a conceptual site plan, building envelopes, and land uses and intensities, including such features as a Central Utility Plant and a helistop. However, acknowledging the conceptual nature of the project plans and lack of precise design detail, consistent with the basic entitlements sought and intent to request Site Plan and Design Review at a future date, the analysis is in greater detail as it relates to land use intensities and related activities, and less detailed as it pertains to the physical and design characteristics of the future buildings.

At the greatest level of detail, the descriptions of the proposed MLS Stadium and Stormwater Outfall projects are sufficient to support requests for City Site Plan and Design Review permits, and the analyses of those projects correspond to the greater level of detail regarding physical site plans, building design, and the like.

Thus, because the requested approvals and corresponding levels of detail of the descriptions of the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall projects vary in level of detail, the level of detail of the analyses of these projects varies in the SEIR.

1.4 Environmental Review

1.4.1 Preliminary Project Evaluation

Having determined an SEIR would be required to evaluate changes in the environment that would result from construction and operation of the proposed projects, the City elected not to prepare an Initial Study Checklist, as permitted by section 15060(d) of the CEQA Guidelines.

1.4.2 SEIR Scoping

On June 26, 2015, the City issued a Notice of Preparation (NOP) of the SEIR to governmental agencies and organizations and persons interested in the project (the NOP is included in Appendix A). The NOP review period ended on July 30, 2015. The City sent the NOP to agencies with statutory responsibilities in connection with the proposed projects with the request for those agencies' input on the scope and content of the environmental information that should be addressed in the SEIR. The City Community Development Department's Environmental Services Division held a Scoping Meeting on July 15, 2015 to take comments regarding the scope of the SEIR in response to the NOP.

The City of Sacramento received twelve (12) written comment letters regarding the NOP (see Appendix B of this Draft SEIR). Although specific comments were mentioned in the NOP comment letters, the comments generally tended toward larger themes such as:

- The planned mix of uses in the RSPU, and the related effects on trip making and travel modes;
- Effects on roads and bridges in West Sacramento, including the proposed Streetcar system;
- Effects on the regional highways and interchanges;
- Circulation planning and modes of travel for attendees at events at the MLS Stadium;
- Adequacy of bicycle access to and from the RSP Area, as well as bicycle access and parking for the proposed KP Medical Center and MLS Stadium projects;
- Construction and operational emissions of criteria pollutants, as well as greenhouse gas emissions;
- The provisions in the proposed RSPU for preservation of the historic Central Shops;
- Light, glare, and noise potentially emanating from the proposed MLS Stadium;

- Energy efficiency and effects on the local electricity system; and
- The status of remediation activities in the RSP Area, and potential effects of the proposed RSPU on those activities.

The scope of this SEIR includes environmental issues that have the potential to be significant impacts, as determined through preparation of the NOP, responses to the NOP, scoping meeting, and discussions among the public, consulting staff, other agencies, and the City of Sacramento. This process identified potentially significant impacts associated with the construction and/or operation of the proposed projects in the following issue areas:

- Aesthetics, Light and Glare;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Energy Demand and Conservation;
- Geology Seismicity, and Soils;
- Global Climate Change;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use;
- Noise and Vibration;
- Public Services (Police, Fire, Schools, Parks, and Libraries);
- Transportation and Circulation; and
- Utilities and Service Systems (Water Supply, Wastewater, Storm Drainage, and Solid Waste).

This SEIR evaluates the direct, indirect, and cumulative impacts that could result from construction and operation of the proposed projects in these issue areas in accordance with CEQA.

In a change since the certification of the 2007 RSP EIR, the California Supreme Court recently found that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents." In *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369, the Supreme Court explained that an agency is only required to analyze the potential impact of such hazards on future residents if the project would exacerbate those existing environmental hazards or conditions. CEQA analysis is therefore typically concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents.

Thus, with respect to such issues as geologic and seismic hazards, exposure to existing levels of air pollution and noise, exposure to existing hazardous materials, and the like, the City is not required to consider the effects of bringing a new population into an area where such hazards exist, because the project itself would not increase or otherwise affect the geologic conditions that create those risks. Nonetheless, in order to provide a complete picture of how the effects of the proposed RSPU compare to the effects that were disclosed in the 2007 RSP EIR, the impacts of the environment on the future population and buildings that were addressed in the 2007 RSP EIR are addressed in the relevant sections of this Draft SEIR.

1.4.3 Public Review

The Draft SEIR is available for public review and comment beginning June 10, 2016 and concluding at 5:00 p.m. on July 27, 2016 as set forth in the Notice of Availability prepared and circulated by the City of Sacramento. During the review and comment period written comments (including email) regarding the Draft SEIR 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 Draft SEIR, Notice of Availability and other supporting documents, such as technical prepared by the City as part of the SEIR process, are available for public review at the offices of the Community Development Department at 300 Richards Boulevard, Third Floor, Sacramento, California 95811, and on the City's web site at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.

1.4.4 Final SEIR and SEIR Certification

Following the public review and comment period for the Draft SEIR, the City will prepare responses that address all substantive written and oral comments on the Draft SEIR's environmental analyses received within the specified review period. The responses and any other revisions to the Draft SEIR initiated by City staff will be prepared as a Final SEIR document. The Draft SEIR and its Appendices, together with the Final SEIR, will constitute the SEIR for the proposed projects.

1.4.5 Mitigation Monitoring Plan

Throughout this SEIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of an MMP. As required under CEQA, a MMP will be

prepared and presented to the City Council at the time of certification of the Final SEIR for the proposed projects and will identify the specific timing and roles and responsibilities for implementation of adopted mitigation measures.

1.5 Subsequent Project Approvals

This SEIR discloses the environmental effects of construction and operation of the proposed projects pursuant to the requirements of the State CEQA Guidelines, as described in Chapter 2, Project Description. As described in Chapter 2, the proposed projects includes approval of the RSPU, the updated Railyards Design Guidelines, the updated SPD, one or more development agreements, a new vesting tentative map, and other project approvals pursuant to City codes, and other local, state, and federal regulations.

Subsequent development activities within the RSP Area must be consistent with the requirements of these approvals, as well as the adopted MMP, as applicable. Subsequent actions related to the proposed RSPU will include Site Plan and Design Review for specific development and infrastructure project consistent with the RSPU, SPD and Railyards Design Guidelines. For the KP Medical Center, subsequent actions would include Site Plan and Design Review for one or more phases of development, and then later ministerial actions, including grading and/or building permits. Subsequent actions for the proposed MLS Stadium and Stormwater Outfall projects would include ministerial actions, such as the issuance of grading and/or building permits.

Use of this SEIR to cover later project activities is addressed in Public Resources Code (PRC) section 21166 and State CEQA Guidelines section 15162(a). Under those sections, if the proposed future activities are consistent with the proposed projects as analyzed in this SEIR, and would not create new significant or substantially more severe significant impacts that were not examined in this SEIR, the later activities are considered to be within the scope of the SEIR 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.

CEQA Guidelines section 15182 provides that any residential projects undertaken in the furtherance of a specific plan that have previously been considered in an EIR, and that conform to the provisions of the specific plan, are exempt from preparation of a later EIR, Mitigated Negative Declaration, or Negative Declaration, unless one of the conditions identified in Guidelines section 15162(a), described above, is present.

Thus, to the extent appropriate and consistent with the requirements of CEQA and the CEQA Guidelines, the City would rely on this SEIR in conjunction with its consideration of subsequent projects undertaken pursuant to the RSPU.

1.6 Document Organization

This Draft SEIR document is organized as follows:

Executive Summary – This section summarizes the proposed projects and the conclusions of the Draft SEIR. 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 Executive Summary also identifies areas of controversy regarding the proposed projects that are known to the City at the time of circulation of this Draft SEIR.

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

Chapter 2, Project Description – This chapter describes the proposed projects. The description includes, with text and graphics, the location and boundaries of the proposed projects, statements of objectives from the project applicants, a description of the proposed projects' components and characteristics, and a list of project approvals and entitlements that would be required to implement the proposed projects.

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

Chapter 4, Environmental Setting, Impacts, and Mitigation Measures – For each environmental issue evaluated in the Draft SEIR, 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 the Draft SEIR, including effects found not 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 projects to induce urban growth and development.

Chapter 6, Alternatives – This chapter describes potentially feasible alternatives to the proposed projects that could 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 Draft SEIR, and agencies or individuals consulted during preparation of the Draft SEIR.

Chapter 8, Acronyms and Abbreviations – This chapter lists the acronyms used in this Draft SEIR in alphabetical order.

Chapter 9, References – This chapter lists all citations used throughout the Draft SEIR.

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

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CHAPTER 2
Project Description

2.1 Introduction

This chapter presents information regarding the components and characteristics of the proposed projects and the discretionary approvals anticipated to implement them. A concise outline of the project elements is provided in the Executive Summary.

The projects analyzed in this Draft SEIR include the Railyards Specific Plan Update (RSPU), which is available from the City of Sacramento, Community Development Department service counter.[1] Pertaining to the RSPU, this project description identifies the location of the project, an overview of the adopted 2007 RSP, the land uses allowed under the proposed RSPU, a description of the scenario analyzed in this SEIR based on allowed land uses, the off-site infrastructure that would be required to support the RSPU, other components of project implementation that are covered by this SEIR (e.g., design guidelines, Special Planning District ordinance, Historic District ordinance, development agreements), and those discretionary approvals that are required to implement the RSPU.

This Draft SEIR also includes consideration of three projects that are currently proposed in the Railyards: the Kaiser Permanente (KP Medical Center), the Major League Soccer Stadium (MLS Stadium, or Stadium), and a new Stormwater Outfall on the Sacramento River. Each of these projects is described herein, including the project site; physical characteristics; operational characteristics including hours of operation, employment, attendance, and such factors; construction characteristics; and anticipated discretionary approvals by the City and other agencies.

2.2 Project Location

The project site, referred to as the Railyards Specific Plan Area (RSP Area) in this SEIR, 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

[1] Where applicable, this SEIR incorporates by reference technical analyses or reports prepared by the City or its consultants in connection with the Railyards Specific Plan Update. All of these documents are available for review at the City of Sacramento's Community Development Department, 300 Richards Blvd, 3rd Floor, Sacramento, California, 95811, and on the City's web site at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.

transportation routes that connect Sacramento to the San Francisco Bay area to the west, the Sierra Nevada mountain range 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) which 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 Railroad (UPRR) also transects Sacramento. Daily Amtrak service is provided from the Sacramento Valley Station at the southern end 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,** Regional Location shows the location of the project site in the Sacramento region.

The RSP Area is located within the City of Sacramento's Central City community, between the downtown Central Business District and the River District, near the confluence of the American and Sacramento rivers, as depicted in **Figure 2-2,** Project Vicinity. The approximately 244-acre RSP Area[2] is immediately north of the Central Business District; north and west of the Alkali Flat neighborhood; northeast of Old Sacramento; east of the Sacramento River and I-5; south of the Sacramento River Water Treatment Plant, North B Street and its adjacent commercial and industrial uses, as depicted in **Figure 2-3,** Project Site.

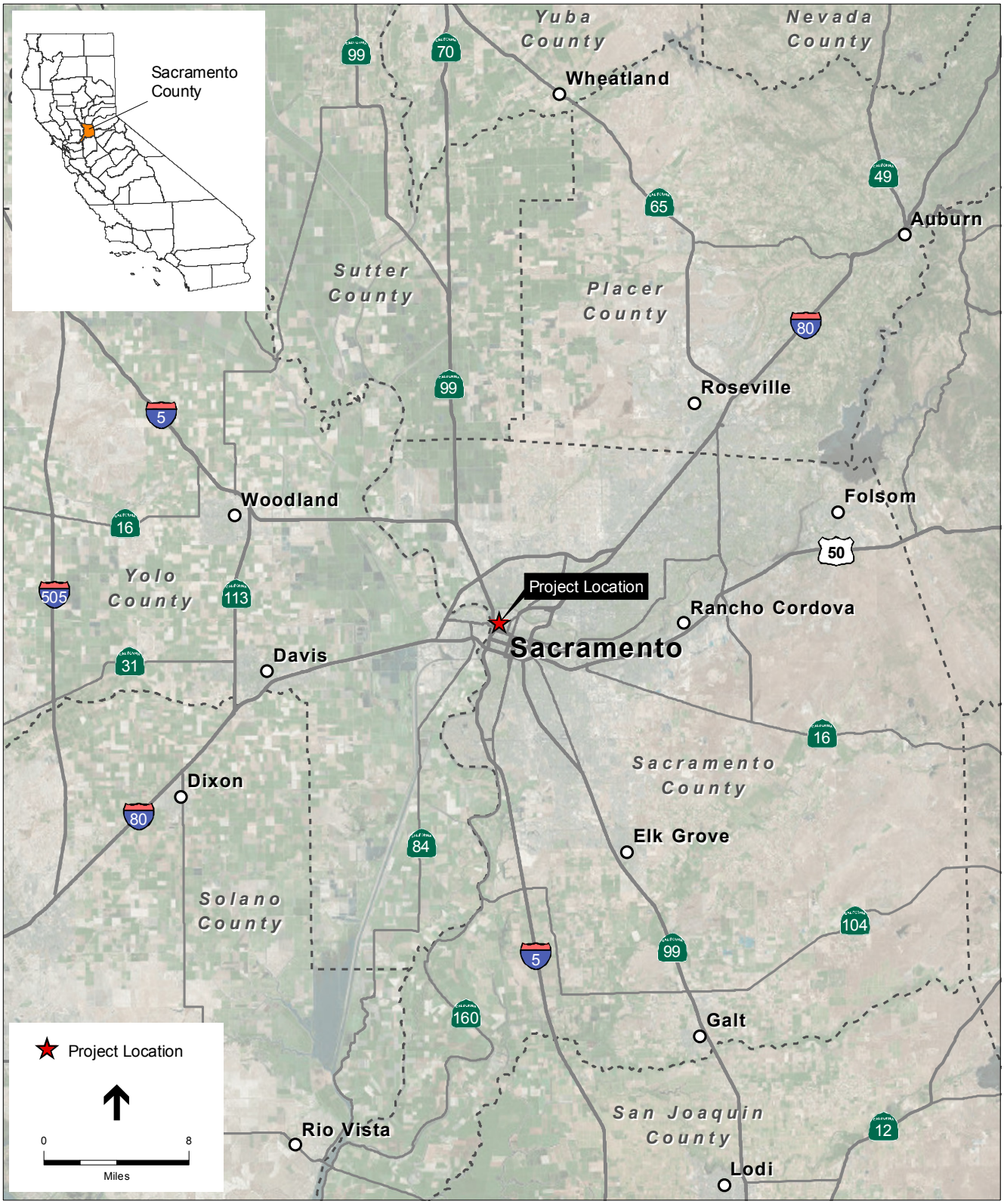
The RSP Area is located in the Central City Community Plan (CCCP) area and Downtown area of the City of Sacramento. The CCCP includes the area bounded by the American River on the north, Broadway on the south, the Sacramento River on the west, and Alhambra Boulevard on the east. I-5, which runs north-south through the RSP Area, near the western edge of the of the RSP Area near the Sacramento River, is elevated above the existing Union Pacific railroad line and vacant lands of the RSP Area. The RSP Area is comprised of nine Assessor's Parcel Numbers, including 002-0010-023, -044, -049, -052, -054, -056, -060, -062, and -063.

2.3 Project Objectives

CEQA Guidelines §15124(b) requires that the Project Description include a statement of the objectives intended to be achieved by the project. The objectives should describe the purpose of the project, and are intended to assist the lead agency in developing a reasonable range of alternatives for consideration in the EIR, as well as assisting the decision makers in assessing the feasibility of mitigation measures and alternatives.

The 2007 RSP EIR presented a set of project objectives. Those objectives are updated as appropriate for the proposed RSPU below. In addition, specific objectives for the KP Medical Center, MLS Stadium, and Stormwater Outfall projects are presented.

[2] The boundaries of the RSP Area are identical to the boundaries of the Railyards Specific Plan adopted in 2007.



SOURCE: ESRI, 2012; ESA, 2016

Sacramento Railyards Specific Plan Update . 150286

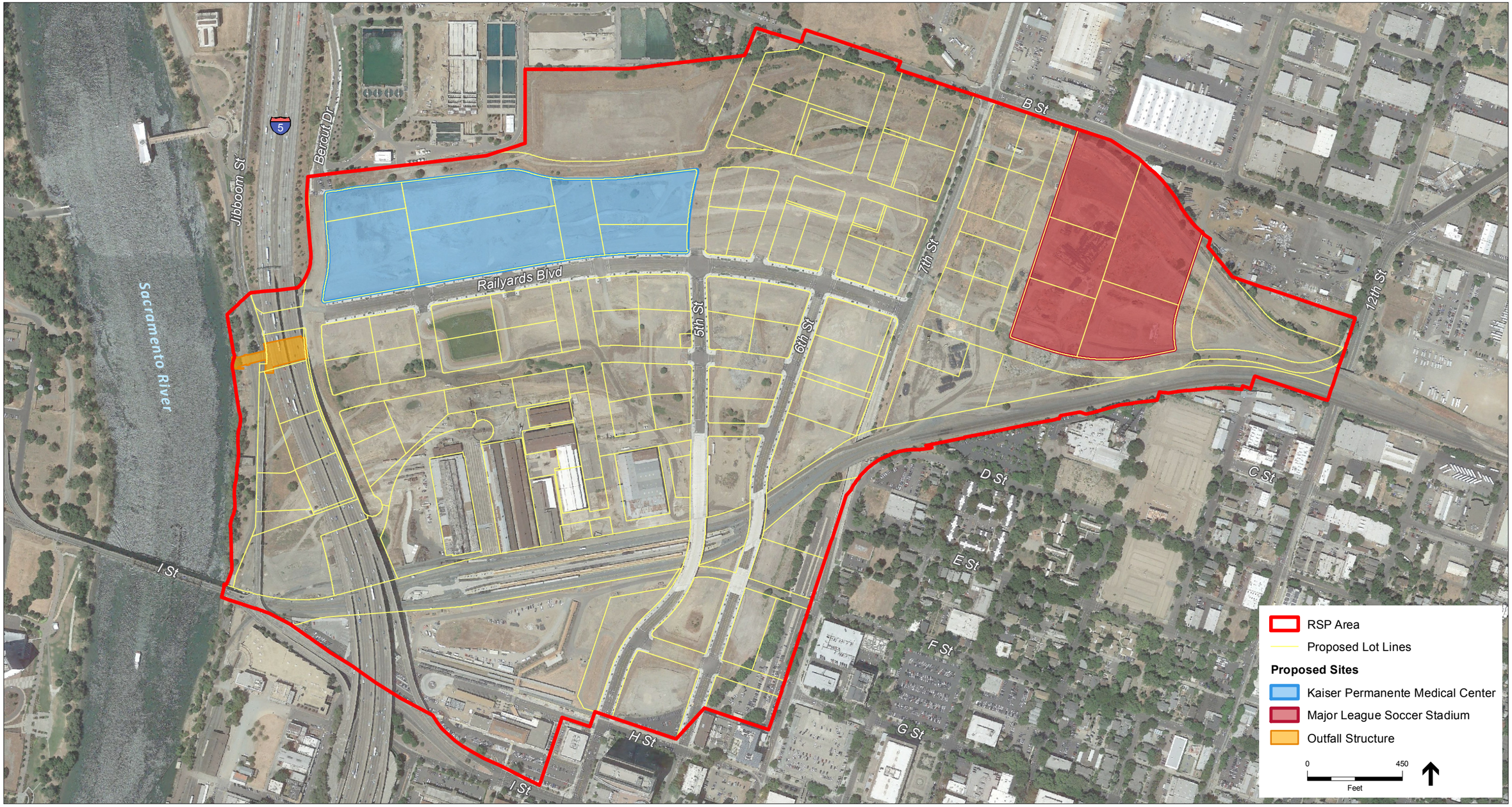
Figure 2-1

Regional Location

SOURCE: ESRI, 2012; City of Sacramento, 2015; Kimley-Horn, 2016; ESA, 2016

Sacramento Railyards Specific Plan Update . 150286

Figure 2-2
Project Vicinity



SOURCE: Kimley-Horn, 2016; AECOM, 2016; ESA, 2016

Sacramento Railyards Specific Plan Update . 150286

Figure 2-3
Project Site

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2.3.1 Railyards Specific Plan Update

The overall goal of the RSPU is the orderly and systematic development of an integrated mixed-use component of the downtown community that is compatible with site characteristics and consistent with the City's goals and policies. More specifically, the objectives of the proposed RSPU are:

1. Transform the Railyards area from an underutilized industrial site into a transit-oriented, attractive, and vibrant mixed-use contribution to development, enhancement, and preservation of the City fabric;

2. Promote a dynamic 24-hour mixed-use urban village that provides a range of complementary uses—including cultural, office, hospitality, healthcare, entertainment, retail, residential, educational and open space—and a mixture of housing types, including affordable housing;

3. Integrate the Railyards area into the fabric of the existing Central City. The Railyards have historically been isolated from the Central City and the opportunity exists to seamlessly connect the area in all directions with the rest of the City;

4. Provide a land use regulatory framework that promotes density, facilitates vertical and horizontal mixed-use, and is flexible to allow development to respond to changing market conditions;

5. Connect the Railyards with Sacramento's downtown office, retail, and government center, as well as Old Sacramento, the River District, and the Alkali Flat neighborhood, using pedestrian and bicycle facilities, roadways, and public transportation;

6. Connect the Railyards to the Sacramento River waterfront, and allow for hotel, public open space, retail, waterfront residential and recreational uses consistent with the Riverfront Master Plan, resulting in a vibrant waterfront amenity, serving the City and the region;

7. Utilize the historic Central Shops buildings as a community resource and heritage tourism draw, as well as inspiration for a mix of uses that will help to create a culturally vibrant urban City core;

8. Promote downtown development that is a regional draw for the City of Sacramento due to its geographic location near the Sacramento River waterfront and its unique mix of community amenities including transportation options, cultural experiences and entertainment opportunities, and residential, office, hospitality, retail, a regional medical center, a sports and entertainment stadium, open space, and other desirable uses consistent with the City's plans and policies;

9. Provide sufficient land, entitlements, and regulatory provisions to support the development of a Kaiser Permanente regional medical center and a multi-purpose stadium that could accommodate a Major League Soccer franchise, including conveniently located parking;

10. Provide a mix of uses that complement and support the Sacramento Valley Station and the City's planned Sacramento Intermodal Transit Facility (SITF), connecting the Central City to the region, the state, and beyond;

11. Promote environmental sustainability through use of green building technology, water conservation, renewable energy resources, or other community innovations as appropriate;

12. Contribute to the successful implementation of the City's 2035 General Plan and SACOG's Metropolitan Transportation Plan/Sustainable Communities Strategy; and

13. Promote a transportation corridor that accommodates the needs of regional and local passenger rail, freight rail, bus service, and other alternative modes of transportation.

2.3.2 KP Medical Center

The overall goal of the KP Medical Center is to construct and operate a new, state-of-the-art, approximately 1.3 million square foot (sf) flagship medical center campus located on the western end of the RSP Area that would provide high-quality, affordable health care services to KP members in the City of Sacramento and surrounding communities. More specifically, the objectives of the proposed KP Medical Center are to:

1. Design a new medical campus in a manner which allows the flexibility to respond to the varied and evolving health care demands of KP members living in Sacramento and surrounding areas, and within the framework of a rapidly changing health care industry and KP's obligation to serve as a responsible steward of its members' dues;

2. Supplement and support KP's existing regional clinics and medical facilities, completely relocate capacity and medical uses from KP's existing older facility located at Morse Avenue in Sacramento to a new seismically-safe medical center, and provide desirable advanced medical facilities to the community;

3. Relying on Kaiser Permanente's extensive experience with building major medical centers throughout the nation, construct a medical center of approximately 1.3 million sf of hospital and medical uses, under local and state regulatory oversight and with maximum operational and cost efficiencies, on a sizeable, approximately 17.8-acre portion of the RSP Area with long range development capacity, which will accommodate expected future growth of KP members requiring health care services;

4. Contribute to the transformation of Downtown Sacramento into a commercial and community hub, thereby advancing the goals, policies, and objectives of the RSP;

5. Create a comprehensively planned, advanced care medical center within the RSP Area which provides community vitality, economic growth and a wide range of employment opportunities in Sacramento and surrounding regions;

6. Construct a new medical campus within a revitalized Downtown Sacramento area at a site with convenient freeway access, close proximity to existing public transportation, and infrastructure, along with helistop capabilities;

7. Provide quality public open space on the Medical Center campus for informal community gathering spaces, to enhance opportunities for pedestrian and bicycle mobility and connectivity within the Medical Center campus and from Railyards Boulevard to Vista Park, and to provide convenient and desirable access to physical activity as part of achieving Kaiser's Thrive© mission; and

8. Augment the sustainable community practices employed within the RSP Area by constructing a medical center campus utilizing green building technology, water conservation features and energy-efficient infrastructure.

2.3.3 MLS Stadium

The overall goal of the MLS Stadium project is to build and operate a stadium that can serve as the home to a new Sacramento-based MLS team that would be an outgrowth of and capitalize on the success of the United Soccer League (USL) Sacramento Republic FC. The specific objectives of the proposed MLS Stadium are:

1. Develop a state-of-the-art multipurpose stadium and entertainment facility that meets MLS industry standards, with capacity for up to approximately 25,000 ticketed attendees, and that will serve as the long-term home of the Sacramento Republic FC;

2. Locate the stadium and entertainment facility on a site that can be readily assembled and that enables development of the facility within budget and on schedule to accommodate MLS expansion efforts;

3. Develop and design the stadium and entertainment facility to promote major entertainment, family and civic events that are compatible with, and enhance, the RSP Area and surrounding vicinity;

4. Leverage the stadium and entertainment facility to catalyze redevelopment of the Railyards area consistent with the objectives of the RSPU and help promote redevelopment of underutilized downtown properties throughout the Central Business District; and

5. Promote access to the stadium and entertainment facility by multiple modes of transportation, including convenient parking.

2.3.4 Stormwater Outfall

The overall goal of the Stormwater Outfall project is to construct an outfall to the Sacramento River that accommodates the needs of the Railyards stormwater drainage system and meets the requirements of the City and relevant regulatory agencies. The specific objectives of the proposed Stormwater Outfall project are:

1. Design a Stormwater Outfall that allows for full development of the Railyards area that facilitates integration of the project into the fabric of the existing Central City;

2. Construct an outfall structure that will provide stormwater management and protection to the majority of the Railyards area;

3. Create an outfall structure that will safely discharge stormwater flows from the Railyards area into the Sacramento River in compliance with local, state and federal requirements;

4. Design the outfall structure to facilitate and maximize pedestrian and bicycle access on the levee-top bicycle and pedestrian path and to maintain the views of the Sacramento River;

5. Minimize the impact of discharged flows into the existing Combined Sewer System and other stormwater drainage systems servicing the City of Sacramento;

6. Design, construct, and operate an outfall structure that maintains the structural integrity of the Sacramento River bank and levee, and that minimizes any disruption to natural habitats on or adjacent to the outfall site; and

7. Design and construct a stormwater outfall structure that can be accepted by dedication to the City of Sacramento and thereafter operated by the City of Sacramento in compliance with local, state and federal requirements.

2.4 Railyards Specific Plan Update

2.4.1 Existing Conditions

General Plan and Zoning

The project site is currently designated Urban Center High, Urban Neighborhood High, Parks and Recreation, and Public/Quasi-Public on the City of Sacramento 2035 General Plan Land Use and Urban Form Diagram. According to the 2035 General Plan, the Railyards is a Center that contains "vacant or underutilized lands that provide opportunities for future growth." The general plan notes that Centers "are expected to develop for commercial and employment uses (without

housing) and/or mixed-use projects that integrate housing with retail, office, community facilities and other uses."

The Planning and Development Code (PDC) includes the Sacramento Railyards Special Planning District (SPD) which encompasses the entire RSP Area. The Railyards SPD is defined in chapter 17.440 of the PDC. The Railyards SPD includes the following zones: Office/Residential Mixed-Use (ORMU), Residential/Commercial Mixed-Use (RCMU), Residential Mixed-Use (RMU), Transportation Corridor (TC), and Heavy Industrial (M-2). Chapter 17.440.040 (B) states that "The Sacramento Railyards specific plan envisions a dynamic, 24-hour mixed-use urban environment that provides a full range of complimentary uses in each land use designation. To realize this goal, the RCMU SPD, ORMU SPD, RMU SPD, TC SPD, and M-2 SPD zones are intended to allow for any type of urban function."

The ORMU SPD zone allows for a broad range of office, residential, hotel, and supporting retail, with an emphasis on office and residential. The RCMU SPD zone is designed to create an area that features a wide mixture of urban uses, with an emphasis on commercial uses with a residential component. The RMU SPD zone allows for a broad range of residential mixed-uses, including high-density residential, neighborhood-serving retail uses, and restaurants, with an emphasis on residential. The TC SPD and M-2 SPD zones are intended to regulate land uses around, within, above, and below public transportation corridors to ensure the development is consistent with the Sacramento Railyards specific plan. This zone allows for dense transit-oriented development, including retail, office, hotel, and residential uses. Additional detail on the site zoning is provided in Chapter 3.0, Land Use, Population and Housing.

Existing and Adjacent Uses

The only existing operational uses within the RSP Area are the Sacramento Valley Station, which includes the historic depot building and the associated rail platforms, the Steve Cohn Passageway, Sacramento Regional Transit light rail station, and associated walkways, and parking lots; office and retail uses in the adjacent Railway Express Agency (REA) building, and parking lots that front on 7th Street between F and H streets. The historic Central Shops do not currently house any active uses other than ongoing use of the Erecting Shop and Boiler Shop buildings by the California State Railroad Museum. There are several portable buildings places on the site for the use of workers involved in the ongoing hazardous materials remediation activities. Several streets that were called for in the 2007 RSP have been constructed and will be opened in the coming months, including 5th and 6th streets between H Street and Railyards Boulevard, as well as Railyards Boulevard from 7th Street to Bercut Drive.

The RSP Area is surrounded by active uses on many sides, as noted below:

- South of the UPRR railroad tracks, the Alkali Flat neighborhood lies between 7th Street and 12th Street. The neighborhood includes a mix of single and multi-family housing along with several businesses located on the peripheral streets (7th, D, 12th streets). Along D Street,

immediately south of the UPRR tracks, there are older homes, the Creamery multi-family residential project currently under construction, and the KCRA studio complex.

- Adjacent uses between 7th Street and 5th Street along the southern boundary of the RSP Area include the Sacramento Municipal Utility District's Station A substation and the Robert T. Matsui United States Courthouse.

- South of the Sacramento Valley Station, west of 5th Street, are the Ping Yuen Apartments and Vagabond Inn, and west of 3rd Street, the Old Sacramento Parking Garage, and the California State Railroad Museum in Old Sacramento.

- North of the RSP Area, between I-5 and North 7th Street, are the City of Sacramento Water Treatment Plant and several vacant parcels along Water, North B and Bannon streets. Water Street extends west from Bannon Street to the entrance to the city Water Treatment Plant. Between the intersection of Water/Bannon/North B streets and the project site boundary are two private residences and a property used for commercial storage. Across Water Street on the north is the Volunteers of America Bannon Street Shelter.

- North B Street forms the northern boundary of the RSP Area east of 5th Street. Uses along this stretch of North B Street include a vacant parcel owned by UPRR, industrial uses at the California State Printing Plant and at the property that houses the former City Incinerator. Approximately 750 feet east of 7th Street, the boundary of the project site trends south of North B Street. From that point until 12th Street, the northern boundary of the site is bordered by a scrap metal yard and recycling facility owned by Sims Metals Management.

Access

Primary access to the RSP Area is provided from downtown Sacramento by I, H, G and F streets, and 5th, 6th, and 7th streets (see Figure 2-3). From Old Sacramento, the primary access is a pedestrian connection from the northern end of 2nd Street, or from the Sacramento River Parkway bike/pedestrian trail. On the project's northern boundary, North B Street is an east-west street that runs from southbound 12th Street on the east to Bannon Street on the west. It serves as a primary access between 12th Street and 5th Street, including an existing connections into the RSP Area at 7th Street, and future connections at 5th, 6th, 8th and 10th streets. Connections to north- and south-bound off-ramps to I-5 and a connection to eastbound lanes of the I Street Bridge from West Sacramento are provided at 3rd and I streets. Additional access to north and southbound I-5 is provided at Richards Boulevard, which is accessible from North 7th Street or Bercut Drive. In the future, access to West Sacramento will be provided via a new bridge across the Sacramento River connecting directly to Railyards Boulevard; when this bridge is operational, vehicular access will be removed from the I Street Bridge.

The primary north-sound connector through the RSP Area is 7th Street, which connects the downtown grid at I, H, G, and F streets to the main east-west connectors through the RSP Area at

Camille Lane, Railyards Boulevard, and South Park Street. Proceeding north, 7th Street connects the RSP Area to the River District street network at North B Street and Richards Boulevard. Seventh Street is the primary connector between downtown Sacramento and the River District (Richards Boulevard). South of G Street, 7th Street is one-way southbound and operates as a one-way north-south couplet with 8th Street, which is one-way northbound south of F Street. Seventh Street is also a key corridor served by Regional Transit Green Line light rail trains. Currently the Green Line trains run from K Street, north on 8th Street to a terminus at the Township 9 station, near Richards Boulevard and North 7th Street. Regional Transit plans to extend this line in the future across the American River, north through South and North Natomas to a terminus at Sacramento International Airport.

Also on the southern edge of the project site, 5th Street is a three-lane street that serves as a primary connector from the Capitol Mall area to the RSP Area; 5th Street is one-way northbound between J and I streets, two-way between I and H streets, two-way between J and L streets, and one-way northbound south of L Street. The current lane configuration makes 5th Street an effective connector from the south, but not an effective connection to the south from the RSP Area. South of the RSP Area, 5th Street connects 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 RSP Area 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 has recently extended 5th Street north from H Street to Railyards Boulevard, and the RSPU provides that it will eventually be extended north to the River District where it will connect to Richards Boulevard.

Third Street, between I and J streets, provides north and southbound traffic to the J Street off-ramp from north- and southbound I-5. South of J Street, 3rd Street is one-way southbound, providing connections to Capitol Mall (and West Sacramento) and southbound I-5 at P Street, and also connects directly to a westbound slip ramp that leads to Capitol Mall, the Tower Bridge, West Sacramento, and westbound I-80. 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.

Sixth Street will be a major north-south two-way connector through the RSP Area, between I Street and North B Street. South of I Street, 6th Street extends one block to J Street where it terminates and does not pick up again as a north-south street until south of P Street, other than a disconnected one-block stretch between L Street and Capitol Mall. Within the RSP Area, 6th Street has been extended from H Street to Railyards Boulevard. Eventually, 6th Street will be further extended from Railyards Boulevard to North B Street in the River District.

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 2007 Railyards Specific Plan

The 2007 Railyards Specific Plan (2007 RSP) is a land-use planning document that describes the development program for the RSP Area and guides long-range development of the site. The RSP includes provisions that guide future development of the Railyards including the type, density, and design of future development, the provision of future services, public infrastructure, and open space, and the financing of public improvements.

Land Use Plan

Under the 2007 RSP, the RSP Area consists of five land use designations. Each of these designations allows for a combination of typical land uses, such as commercial, office, residential, and open space. In order to provide as much flexibility as possible, the 2007 RSP set maximum densities for each use that would be allowed within three mixed-use land use zones: ORMU, RCMU, and RMU. The 2007 RSP does not proscribe any particular mix of uses within each category or block within the RSP Area. The 2007 RSP anticipates that allowable development for each use that is developed will depend, in part, on the amount of development capacity that is taken up by other uses. Thus, as an example, under the 2007 RSP the maximum amount of residential development that could occur would be approximately 12,500 units; however if the maximum amount of office space under the RSP were developed (approximately 2.9 million sf), then only 10,000 residential units could be built. The following are maximum levels of development for each land use category under the 2007 RSP:

- Residential 10,000 - 12,500 units (includes 400 units in mixed-use flex)
- Office 2.9 million sf (includes 491,000 sf in mixed-use flex)
- Retail 1.4 million sf
- Mixed-Use Flex 491,000 sf (which could be developed as 491,000 sf of office, retail, or other non-residential uses, or approximately 400 residential units, or some combination of these uses)
- Hotel 1,100 rooms
- Historic/Cultural 485,390 sf
- Open Space 41.2 acres
- Utilities 1.7 acres
- Parking 9,700 spaces

For most of the RSP Area there are no building height restrictions. The areas subject to limitation on building heights include:

- Street-wall on 7th Street south of the UPRR railroad tracks—35 feet, with a 30 foot step back, and then a limit of 85 feet;
- Area adjacent to the Central Shops (Transition Zones) and along North Park and South Park streets—85 feet, and in some locations up to 120 feet;
- In the Riverfront District, two building areas allow heights of 350- and 450-feet over 85 foot building bases; and
- Along the Sacramento River—35 feet with no buildings allowed within 80-feet of the property boundary.

EIR Analysis Scenario

The 2007 RSP EIR did not analyze every possible permutation of land uses that is allowed under the 2007 RSP land use designations. Rather, based on an illustrative concept prepared by the applicant, an EIR analysis scenario was developed that assumed a specific mix and amount of uses. The EIR addressed the effects of this EIR analysis scenario. Total levels of development were distributed on a parcel-by-parcel basis. For each technical impact area, the mixed-use flex space was assumed to be either 491,000 sf of office or 400 dwelling units, depending on whether office or residential would have greater impacts in that particular impact area. **Table 2-1** shows the mix of uses that were assumed under the EIR analysis scenario.

TABLE 2-1.
2007 RSP EIR
EIR ANALYSIS SCENARIO
ASSUMED LAND USE DEVELOPMENT LEVELS BY LAND USE DESIGNATION

Designation	Acres	Housing Units	Retail (sf)	Mixed-Use	Hotel (rooms)	Office (sf)	Historic/ Cultural (sf)	Open Space (acres)	Utilities (acres)	Parking Spaces
RCMU	48.83	1,704 to 2,104	1,062,100	491,000	600	38,000 to 491,000	485,390	-	-	7,425
ORMU	19.46	2,101	157,700	-	-	2,337,200	-	-	1.73	2,275
RMU	41.95	8,296	165,000	-	500	-	-	-	-	-
OS	38.03	-	-	-	-	-	-	38.03	-	-
TU	32.12	-	-	-	-	-	-	3.13	-	-
Total	180.39	10,000 to 12,501*	1,384,000	491,000	1,100	0 to 2,828,200**	485,390	41.16	1.73	9,700

NOTES:

* Assumes maximum residential buildout of mixed-use flex space.
** Assumes maximum office buildout of mixed-use flex space.

Source: City of Sacramento, Railyards Specific Plan Draft Environmental Impact Report, August 2007, Table 3-2, page 3-20.

Sports and Entertainment Facility Overlay

The 2007 RSP recognized that there could be a long term interest in developing a sports and entertainment facility in the Railyards, and included a Sports and Entertainment Facility Overlay on approximately four blocks located north of the Union Pacific railroad tracks and on either side of 7th Street. The RSP does not specifically provide for land uses associated with a sports and entertainment facility, and a specific proposal would require an amendment to the RSP as well as additional CEQA review. The 2007 RSP EIR included only a comparative discussion of the likely environmental consequences of implementation of the Sports and Entertainment Overlay at the end of each environmental impact discussion.

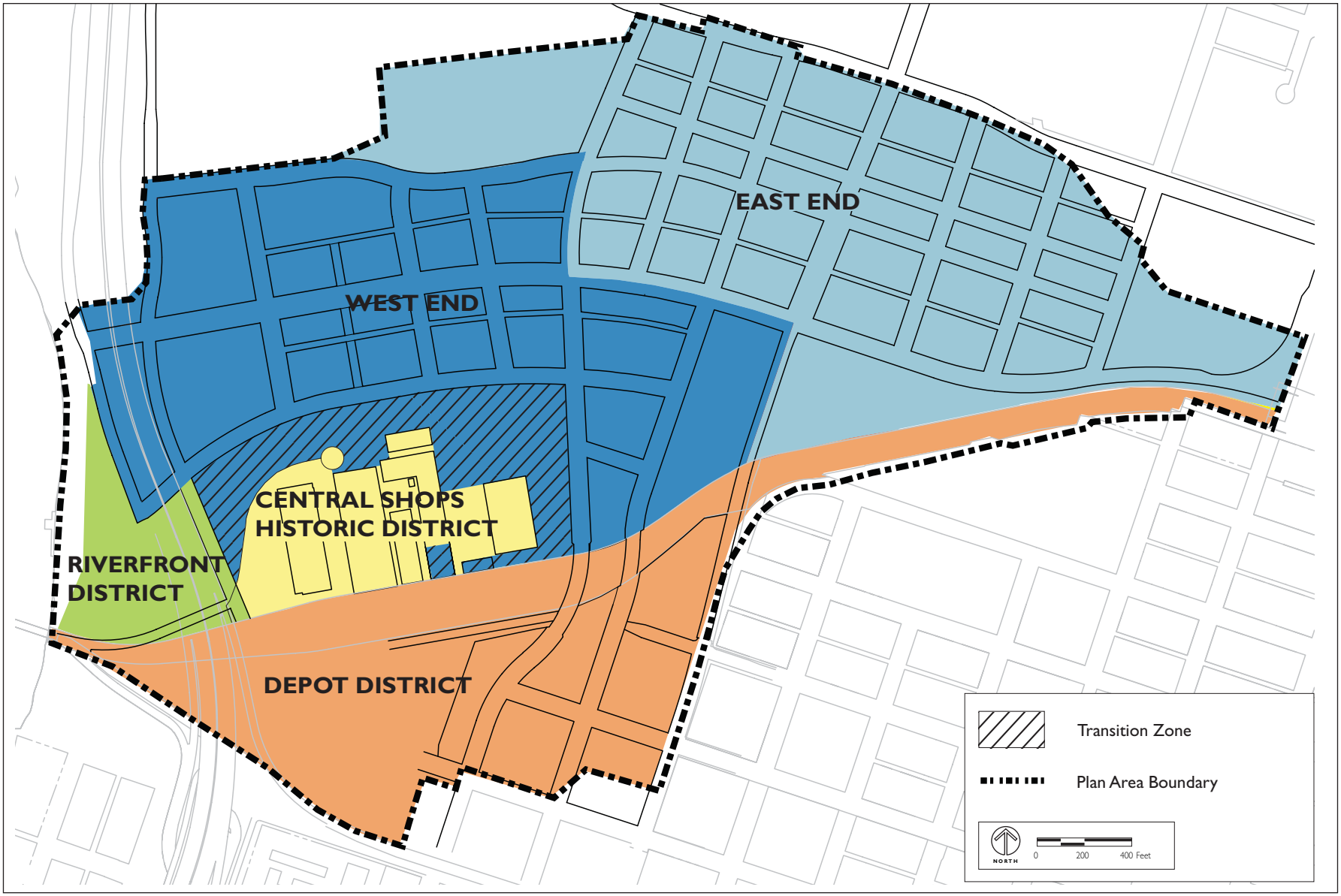
District Plan

The 2007 RSP established five neighborhood districts, each with its own character, dominant land uses and regulations. The 2007 RSP districts are briefly described below and depicted on **Figure 2-4**, 2007 Railyard Specific Plan Districts.

- **Depot District**. Encompasses the area between the Union Pacific railroad tracks, the Sacramento River, the southern boundary of the RSP Area (Old Sacramento, I, H, and G streets), and 5th Street and 7th Street. Includes the Sacramento Valley Station (existing depot and future expanded terminal building), as well as high concentration of office uses mixed with residential and retail development.

- **Central Shops District**. Encompasses the area around the Central Shops. Includes the Central Shops Historic District, with the Central Shops buildings adaptively reused with historic/cultural-themed uses, such as a performing arts theater, exhibit space, public marketplace, art galleries, clubs and other entertainment-supporting uses, and a relatively small amount of office and retail space. The 2007 RSP Design Guidelines provided that new construction within the Historic District would be undertaken in a way to be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the historic properties and their environment, and in such a manner that, if removed in the future, the essential form and integrity would be unimpaired.

- **West End District**. Encompasses the area between I-5 and 7th Street north of the Central Shops District and Union Pacific railroad tracks to South Park (west of 5th Street), and then to Railyards Boulevard to 7th Street. Includes a mix of office, commercial, and residential uses, including a 200,000 sf outdoor gear store, a performing arts center, and Camille Lane which would provide for buildings that would scale down to the Central Shops Historic District. The blocks in the West End District that abut the Historic District would be in a Transition Zone. The West End District includes the Sports and Entertainment Facility Overlay.



SOURCE: PBS&J, 2007

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Figure 2-4

2007 Railyards Specific Plan Districts

- **East End District**. Encompasses most of the RSP Area east of 7th Street and north of the West End District. Includes largely residential land uses organized on a traditional grid system that replicates the neighborhoods to the east of the Railyards. Also includes the approximately 10-acre Vista Park and six-acres of parks made up of a series of "boxcar" parks between North Park and South Park streets.

- **Riverfront District**. Encompasses the area between I-5, the I Street Bridge, and the Sacramento River. Includes a four-acre site designated RMU, a 1.6-acre open space parcel adjacent to I-5, removal of the elevated Jibboom Street, and a stormwater outfall on the river side of the Sacramento River levee.

Circulation

Vehicular, Bicycle and Pedestrian Circulation

The 2007 RSP provided for new streets that created a grid, with primary streets accessing the RSP Area to include 5th Street, 6th Street, 7th Street, 10th Street, 12th Street, F Street, G Street, H Street, Jibboom Street, and Bercut Drive. At the time the 2007 RSP was approved only 7th Street was constructed. Since that time, Railyards Boulevard has been built from 7th Street to Bercut Drive, and 5th Street and 6th Street which have been constructed between H Street and Railyards Boulevard.

Bicycle access through the RSP Area was based on a network of Class I and Class II bike paths on 7th Street (one-way southbound), Railyards Boulevard, 5th Street (one-way northbound), 6th Street, South Park Street, 10th Street, North B Street, Bercut Drive, and Jibboom Street. A Class III bike path was planned along Camille Lane from Jibboom Street to 6th Street. Bicycle and pedestrian tunnels were to be provided in three locations: (1) between Old Sacramento and the western end of the Central Shops District, (2) between the Depot District and the Central Shops, and (3) along 7th Street under the tracks. Bicycle parking was to be provided at all residential and commercial buildings.

Planned pedestrian features of the 2007 RSP included narrow street widths, street trees, broad sidewalks, and grade separated pedestrian pathways and tunnels (described above).

Transit

The key features of the transit system called for in the 2007 RSP included relocation of the UPRR tracks to the north, immediately south of the Central Shops; the development of a major intermodal transportation station identified as the Sacramento Intermodal Transportation Facility (SITF), now known as the Sacramento Valley Station, including reuse and potential relocation of the existing Historic Depot; and the extension of Regional Transit's (RT) light rail system north along 7th Street through the project site. Additional features included expanded local and regional bus service, provisions to accommodate high speed rail at the SITF.

Since certification of the 2007 RSP EIR, the UPRR tracks have been relocated and new platforms have been constructed as identified in the 2007 RSP. In addition, RT's Green Line light rail line has been extended north on 7th Street through the RSP Area to an interim terminus at Township 9, near Richards Boulevard and North 7th Street. The Historic Depot is currently undergoing a major renovation and seismic upgrade that will expand the useable space in the building.

The 2007 RSP allows for expansion of the Sacramento Intermodal Transportation Facility (SITF; now referred to as the Sacramento Valley Station (SVS) to accommodate high speed rail passengers and provides for the required 1,300 feet of straight platform on elevated track at the SVS.

Utilities

Water

The 2007 RSP called for the creation of a new water distribution system for the entire RSP Area. The RSP called for construction of a new 42-inch water main in Bercut Drive, connecting the RSP Area to the City water treatment plant immediately north of the RSP Area.

Wastewater

Wastewater conveyance from the Railyards was planned to be collected in local sewer lines and conveyed to approximately 3rd Street and I Street where the Railyards sewer system would be connected to a proposed reconstructed sewer in 3rd Street. A portion of the RSP Area, along 7th Street, would discharge into an existing combined sewer that flows east to 7th Street. The Railyards wastewater conveyance system was also intended to convey sewage flows from the River District, generally from the area in the vicinity of North B Street and North 12th Street, and was to involve the construction of several pump stations.

Storm Drainage

The 2007 RSP called for a storm drainage system that would convey drainage from the majority of the RSP Area to a cistern in the northwest corner of the RSP Area. Small portions of the site were planned to drain to 7th Street, 12th Street, or north to Pump Station 11 in the River District.

The intent of the cistern was to capture first flush flows and then discharge to the City's combined sewer system (CSS) during off-peak periods at which time the CSS would have capacity for discharges. Peak period flows that exceeded the capacity of the cistern were planned to be discharged to the Sacramento River via a new outfall that was anticipated to be a six- to eight-foot tall, 30- to 35-foot wide concrete structure with flap gates and an erosion control structure on the river side of the levee.

Subsequent planning in concert with the City has resulted in the abandonment of the cistern concept, and the plan for a new pump station and outfall structure in the northwest corner of the RSP Area. These features are still in the planning stage. In the interim, several retention basins

have been constructed in the Railyards to capture runoff from roads that have been constructed, including Railyards Boulevard, 5th Street, and 6th Street.

Energy

The 2007 RSP calls for natural gas service to be provided by Pacific Gas & Electric Company (PG&E) through new distribution lines that would be constructed in the RSP Area and connected to pipelines that exist in downtown Sacramento.

Electrical service was planned to be provided by the Sacramento Metropolitan Utility District (SMUD) through new electrical lines connected to an entirely new substation that would be constructed to serve the Railyards. SMUD is currently in the process of replacing and expanding the capacity of Station A, currently located on Block 42A at the corner of 6th/H streets, with a new Station A to be constructed on Block 42B, near 6th/G streets.

The RSP called for all facilities in the Railyards to be constructed to be compliant with Title 24 (California Energy Efficiency Standards).

Public Services

Public Open Space

The 2007 RSP provided for a total of 41.2 acres of publicly-accessible open space and parks, including the approximately 10-acre Vista Park and a series of mid-block "boxcar" parks in the East End District. The open space and parks were intended to be comprised of pedestrian trails, plazas, play fields, bicycle parks, and incidental cultural, institutional, and retail uses.

Schools

The 2007 RSP noted that although enrollment rates for urban residential uses planned for the Railyards are typically lower than typical suburban development, there was the potential need for a new school. A potential site for a school was identified in the eastern portion of the RSP Area, north of Railyards Boulevard, between 10th Street and 12th Street. It was noted that the new school would likely be an "urban" school, with such characteristics as compact hardscape recreation areas, multi-story classroom facilities, and potentially rooftop recreation areas.

Police and Fire Protection Services

The 2007 RSP EIR indicated the likely need for a new Sacramento Fire Department (SFD) fire station and a new Sacramento Police Department (PD) police station, which could be a joint fire and police station located on one of two sites: north of Railyards Boulevard between 10th Street and 12th Street, or south of Railyards immediately east of 7th Street. The latter facility could be combined with a new school.

Offsite Infrastructure

The 2007 RSP EIR identified two key elements of offsite infrastructure: (1) a stormwater outfall to the Sacramento River, with the actual outfall structure located outside of the RSP boundary; and (2) and Bercut Drive extended to Richards Boulevard.

2.4.3 Proposed Railyards Specific Plan Update

Overview of Railyards Specific Plan Update Structure and Changes

The proposed RSPU would continue and reinforce the vision of the Railyards as an extension of the downtown, resulting in a variety of changes to the approved RSP. Like the 2007 RSP, the proposed RSPU provides a flexible development regulatory framework, does not proscribe any particular mix of uses within each category or block within the RSP Area, and anticipates that allowable development for each use that is developed will depend, in part, on the amount of development capacity that is taken up by other uses. For the purposes of this SEIR, the proposed RSPU is comprised of the updated RSP, Railyards SPD, Design Guidelines, and other implementing documents.

Proposed RSP Update Land Use Designations and Densities

Under the proposed RSPU, the RSP Area would consist of the following land use designations: Central Business District, Urban Center High, Employment Center Low Rise, Public/Quasi-Public, and Parks and Recreation (see **Figure 2-5**, Proposed RSPU General Plan Land Use Designations). These designations would be aligned to conform to the proposed land use plan.

The current zoning designations on the site would be replaced with special planning district zoning based on existing zones that are included in the City's Planning and Development Code: Central Business District (C-3 SPD), General Commercial (C-2 SPD), Limited Commercial (C-1 SPD), Hospital (H SPD), and High Rise Residential (R-5 SPD) (see **Figure 2-6**, Proposed Zoning Diagram).

Each of these zones allows for a combination of typical land uses, such as commercial, office, residential, and open space. The proposed RSPU does not proscribe any particular mix of uses within each category or block within the RSP Area. The proposed RSPU anticipates that allowable development for each use that is developed will depend, in part, on the amount of development capacity that is taken up by other uses. The proposed land uses are presented on **Figure 2-**7, Proposed RSPU Land Use.

The proposed RSPU would establish assumed levels of development for the RSP Area as a whole. The RSPU also envisions a range of residential, hotel and nonresidential development within each district and land use designation. The RSPU SPD would establish specific development standards for each land use designation. The RSPU requires a Site Plan and Design Review process that would ensure that future development projects are consistent with the goals,

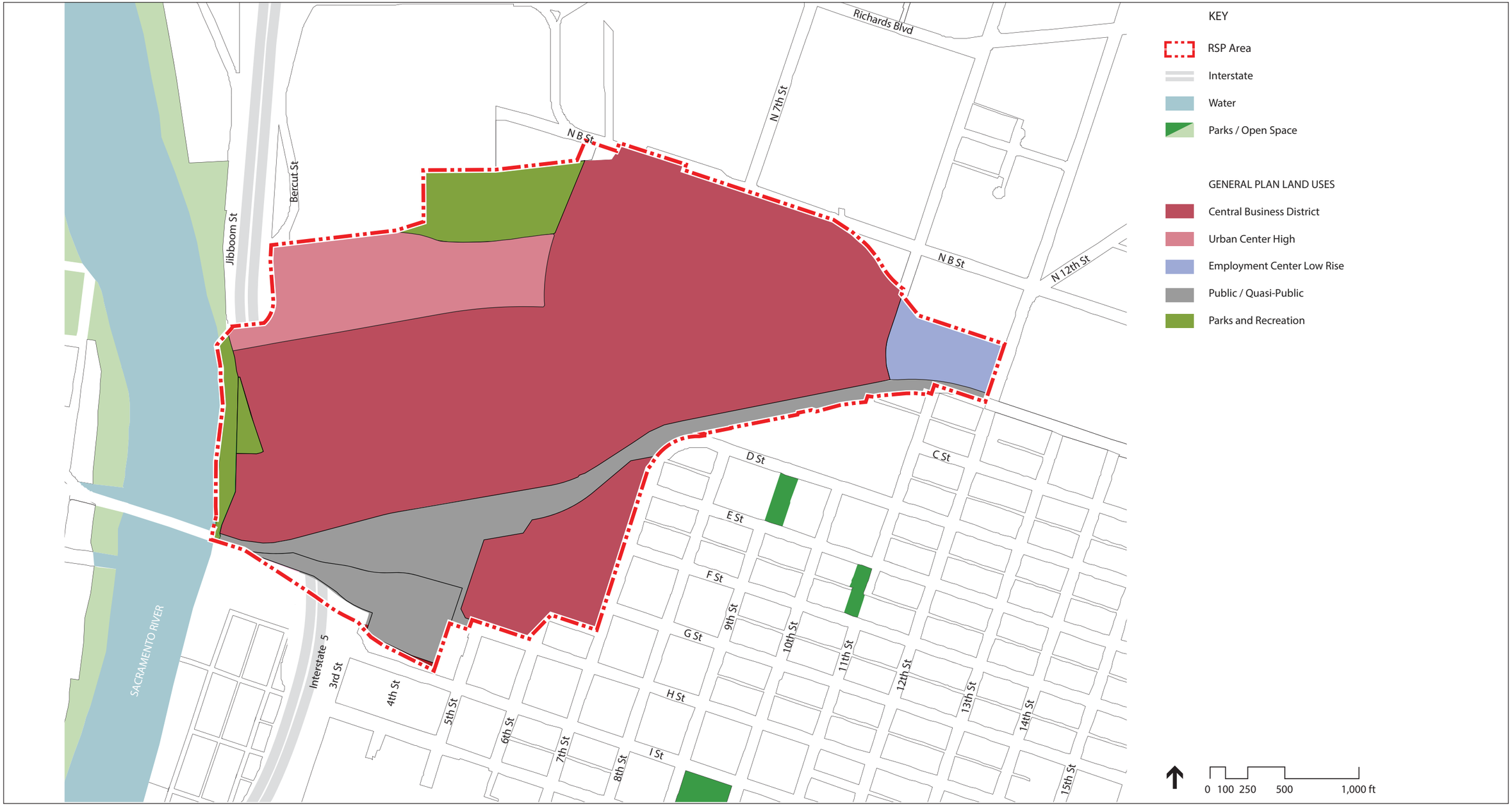
policies, objectives and other provisions of the RSPU; the Sacramento Railyards Design Guidelines; the Sacramento Railyards Specific Plan Subsequent EIR and mitigation monitoring program; any applicable development agreements; the RSPU SPD; all other applicable plans, ordinances, and development regulations. The Site Plan and Design Review process is also intended to ensure that RSPU development would be compatible with surrounding uses. In addition, the Railyards Design Guidelines established a set of maximum building, building base, and street-wall heights, as well as other dimensional controls (see **Figure 2-8**, RSPU Proposed Building Height Limits Diagram). Therefore, the Site Plan and Design Review process may restrict residential and hotel densities and non-residential or mixed-use floor area ratios below the maximums established in the proposed SPD to ensure the development project is consistent with these governing documents.

As proposed, the land use designations would be provided for in the updated Railyards SPD are described below.

C-3 SPD. A total of 103.68 acres of the RSP Area would be designated C-3 SPD. The C-3 SPD land use designation would allow residential densities up to 450 units per acre, and non-residential development between a Floor Area Ratio (FAR) of 3.0 and 15.0. The C-3 SPD would allow all uses normally permitted in the C-3 zone with the exception that the following uses would be prohibited: auto – service, repair; check-cashing center; correctional facility; and gas station. A sports complex is allowable as a conditional use in the C-3 SPD. There would be no height limits, except as specified on certain parcels around the Depot, the Central Shops Historic District, the Riverfront, and adjacent to the Alkali Flat neighborhood. Within the C-3 SPD the maximum street-wall height would generally be 65 feet, except in areas that are adjacent to the Central Shops Historic District where the street-wall height limit is set as the maximum height of existing buildings in the Central Shops, and along Railyards Boulevard where the street-wall maximum is set at 85 feet.

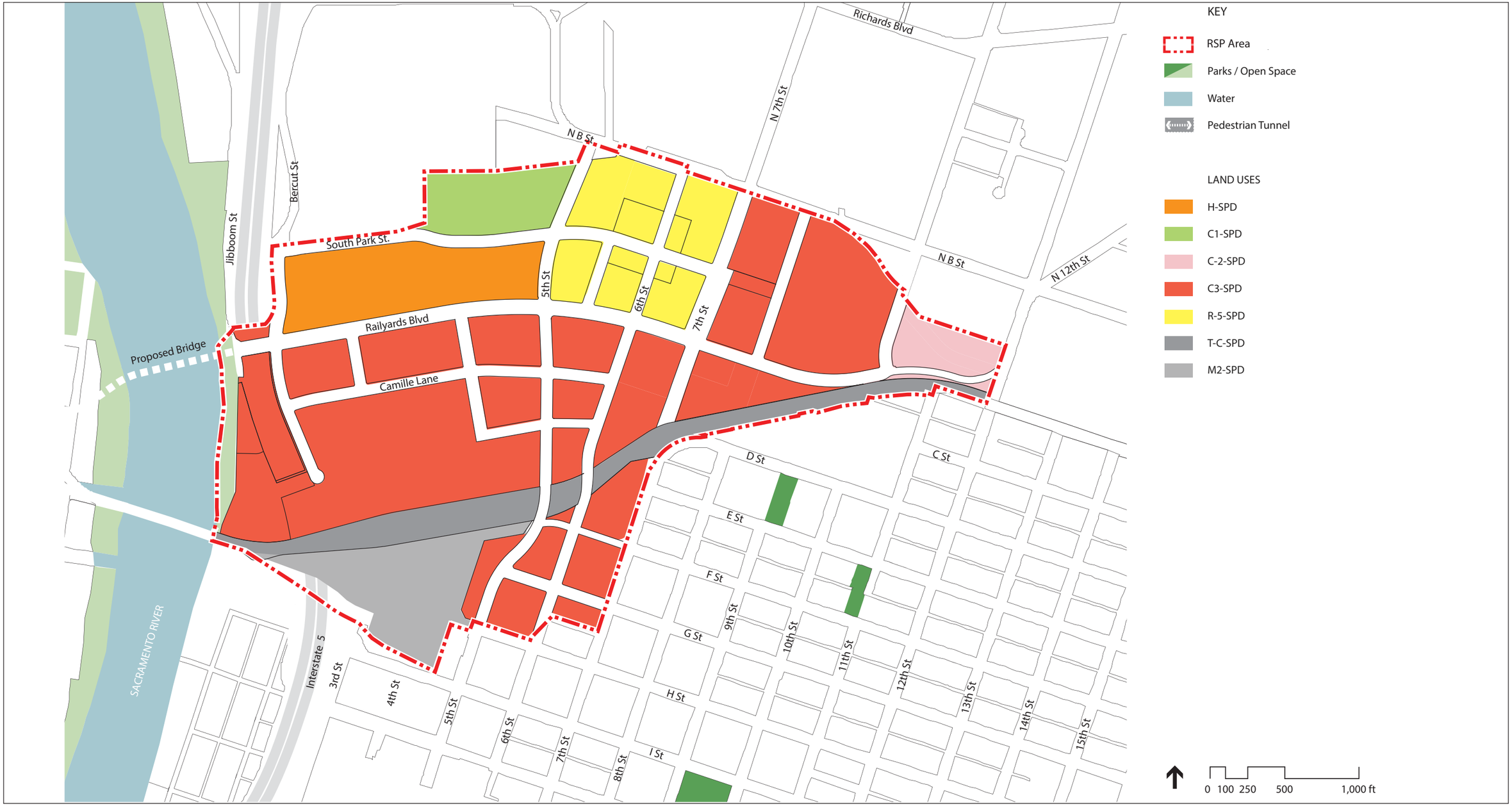
R-5 SPD. A total of 18.16 acres of the RSP Area would be designated R-5 SPD. The R-5 SPD land use designation would allow residential densities between 61 and 450 units per acre, and non-residential uses on ground floors. The R-5 SPD would allow all uses normally permitted in the R-5 zone with the exception that the following uses would be prohibited: cemetery, check-cashing center, correctional facility, golf course, driving range, mobile home park, mortuary, and crematory.

There would be height limit in the R-5 SPD zone of 250 feet, 10 feet higher than the limit for the R-5 zone outside of the RSP Area. The maximum street-wall height would be 65 feet, except that all parcels which front Railyards Boulevard would have a maximum street-wall height of 85 feet. The maximum lot coverage in the R-5 SPD zone would be 80% but there are no minimum setbacks required.



SOURCE: AECOM, May 26, 2016

Figure 2-5
Proposed RSPU General Plan Land Use Designation Diagram



SOURCE: AECOM, May 6, 2016

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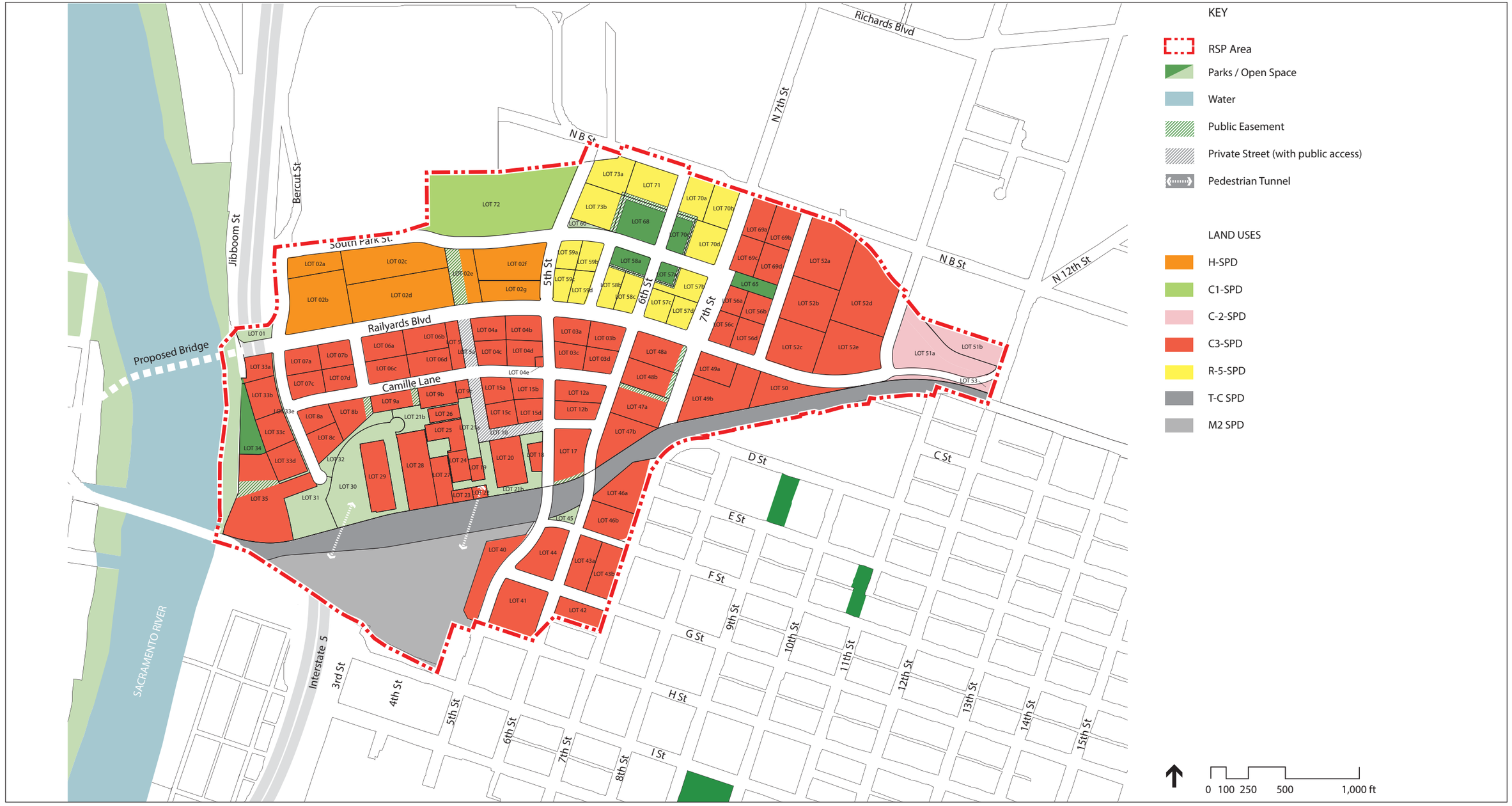
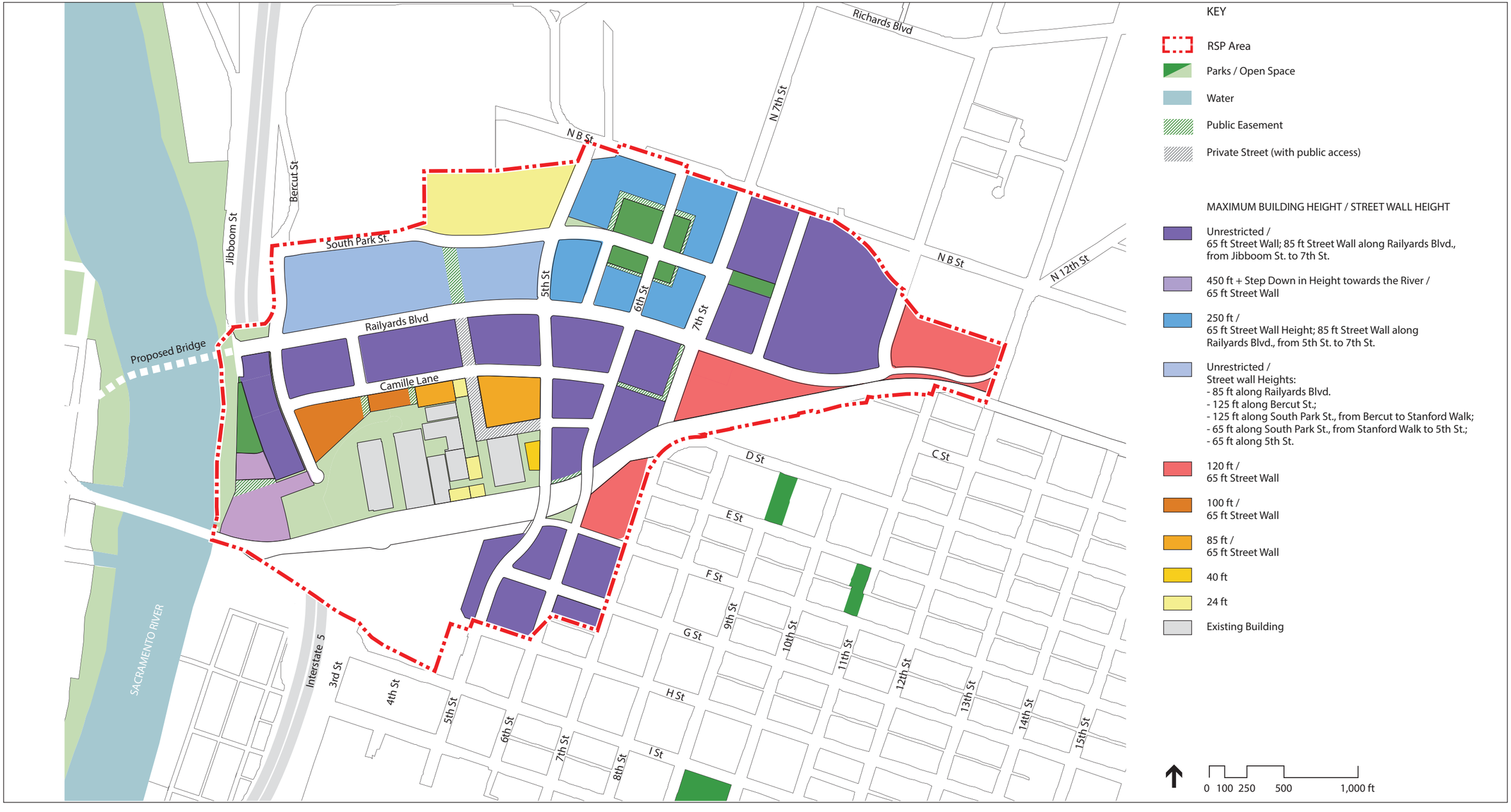
Figure 2-6
Proposed Zoning Diagram



SOURCE: AECOM, June 2, 2016

Figure 2-7
Proposed RSPU Land Use



SOURCE: AECOM, June 7, 2016

Figure 2-8
RSPU Proposed Building Height Limits Diagram

H SPD. A total of 17.8 acres of the RSP Area would be designated H SPD. The H SPD hospital land use designation would allow residential densities from 24 to 250 units per acre pursuant to a conditional use permit, and non-residential and mixed-use development with a minimum FAR of 0.5 and up to a maximum FAR of 8.0.

The H SPD would allow all uses normally permitted in the H zone with the addition of the following uses would be permitted uses: (1) a major medical facility Phase 1 with (i) a hospital not in excess of 658,000 sf (420 beds), (ii) up to 210,000 sf of medical office building(s), (iii) central utilities building up to 60,000 sf, (iv) two 1,500 stall parking structures (one in each of Phase 1 and Phase 2), and (v) at least 200 stalls of surface parking; and (2) nonresidential care facilities; produce stand; outdoor market; athletic clubs; fitness studios; commercial services; restaurants; and retail stores not exceeding 6,400 sf and a residential care facility located on specifically identified parcels fronting on 5th Street. In addition, the following uses would be allowed subject to approval of a conditional use permit: a major medical facility with elements exceeding the permitted sizes, including up to 300,000 sf of medical office and hotels; motels; multi-unit dwellings; vocational schools; retail stores exceeding 6,400 sf; residential care facilities on parcels that do not front on 5th Street; and a helistop.

There would be no maximum height in the H SPD zone. The maximum street-wall height in the H zone would be 85 feet along Railyards Boulevard; 125 feet along Bercut Drive, and along South Park Street from Bercut Drive to Hopkins Walk; and 65 feet along 5th Street, and along South Park Street from Hopkins Walk to 5th Street. One hundred percent of the building frontage is permitted along the build-to line. Parking would be permitted at a ratio of three (3) spaces per built bed and one (1) space per future bed for hospital uses (with the future ratio applicable only to Phase 1), and three and a half (3.5) spaces per 1,000 gross sf of medical office space. In the H SPD zone, all vehicular ingress and egress from Railyards Boulevard would be required to occur at signalized intersections.

C-1 SPD. A total of 9.63 acres of the RSP Area would be designated C-1 SPD. The C-1 SPD land use designation would allow non-residential development up to an FAR of 1.0. The C-1 SPD would allow all uses normally permitted in the C-1 zone with the exception that the following uses would be prohibited: bed and breakfast inns; cemeteries; check-cashing centers; correctional facilities; dormitories; drive-in theaters; self-service laundromats; mobile home parks; offices; and superstores. There would be a maximum height limit of 35 feet.

C-2 SPD. A total of 5.14 acres of the RSP Area would be designated C-2 SPD. The C-2 SPD land use designation would allow residential densities up to 60 units per acre, and non-residential and mixed-use development up to an FAR of 2.0. The C-2 SPD would allow all uses normally permitted in the C-2 zone with the exception that the following uses would be prohibited: sales, storage, rental of automobiles; auto service and repair; drive-in theaters; drive-through restaurants; equipment rental or sales yards; gas stations; mini storage; sales or storage of mobile

homes; towing services; vehicle storage yards; and wholesale stores and distributors. There would be a maximum height limit of 120 feet, and a maximum street-wall height of 65 feet.

Sports and Entertainment Facility Overlay

The 2007 RSP included a Sports and Entertainment Facility Overlay that was located on approximately four blocks east and west of 7th Street, between Railyards Boulevard and the UPRR railroad tracks. The overlay was partly in the West End District and partly in the East End District. At the time of the 2007 RSP EIR there was no active proposal for development of such a facility, and it was noted that approval of such a facility would require amendment of the RSP and additional CEQA review.

Because the proposed C-3 SPD would accommodate a sports complex as a conditional use, and in light of the current proposal for a proposed MLS Stadium in the East End District, the proposed RSPU has eliminated the Sports and Entertainment Facility Overlay.

SEIR Analysis Scenario

The proposed RSPU would establish land use designations that would provide considerable flexibility to allow future uses to respond to market conditions, both in terms of use and intensity. The land use designations proposed for the RSPU would allow the same uses, densities, and intensities that were evaluated for the 2007 RSP, among many possible permutations. This SEIR does not analyze every possible permutation of land uses that would be allowed under the proposed RSPU land use designations. Instead, based on an illustrative concept reflective of the applicant's current expectation of future development, an EIR analysis scenario was developed that assumed a specific mix and amount of uses. The SEIR addresses the effects of this SEIR analysis scenario. Total levels of development were distributed on a parcel-by-parcel basis. **Table 2-2** shows the mix of uses that were assumed under the SEIR analysis scenario.

The level of development for each land use category has changed under the proposed RSPU compared to the 2007 RSP. The assumed capacity for each type of land use is summarized below, and compared to the 2007 RSP in Table 2-2:

- Residential 6,000 - 10,000 units[3]
- Office 2,757,027 - 3,857,027 sf[3]
- Medical Office 510,000 sf
- Hospital Facilities 718,003 sf

[3] The EIR analysis scenario reflects a "sliding scale" in the relationship between housing and office space. In the event that housing is developed in excess of 6,000 units, the allowable office development would be commensurately decreased. At 10,000 units, the maximum allowable office square footage would be reduced from 3,857,027 to 2,757,027, a decrease of 1,100,000 sf. This represents a relationship where for every 100 units above 6,000, the office square footage would be reduced by 27,500 sf.

TABLE 2-2.
RSPU ASSUMED CAPACITY BY LAND USE TYPE

Land Use	2007 RSP	Proposed RSPU
Housing (units)	10,000 - 12,500	6,000 – 10,000
Office (sf)	2,900,000	2,757,027 - 3,857,027
Medical Office (sf)	0	510,000
Hospital Facilities (sf)	0	718,003
Retail (sf)	1,400,000	514,270
Flexible Mixed-Use (sf)	491,000	771,405
MLS Stadium (ticketed capacity)	0	25,000
Hotel (rooms/keys)	1,100	1,100
Historic & Cultural (sf)	485,390	485,390
Retail (sf)		162,525
Museum (sf)	187,830	180,000
Flex (sf)		142,865
Open Space (acres)	41.2	30

Source: Downtown Railyard Venture, LLC, 2016.

- Retail — 514,270 sf (not including an additional 162,525 sf in historic buildings)
- Mixed-Use Flex Space — 771,405 (which could be developed as office, retail, or other non-residential uses, or residential units, or some combination of these uses; for the purposes of the SEIR it is assumed that the space would be developed with 75% office (578,554 sf) and 25% retail (192,851sf))
- Hotel — 1,100 rooms
- Historic and Cultural — 485,390 sf (which would include 162,525 sf of retail space, 180,000 sf of museum space, and 142,865 sf of flex mixed-use space)
- MLS Stadium — 25,000 attendee capacity
- Open Space — 30 acres
- Utilities — 1.7 acres
- Parking — 9,700 spaces

As described above, the residential capacity of the proposed RSPU is substantial, with the proposed C-3 SPD and R-5 SPD allowing residential densities up to 450 units per acre. The analysis scenario identified above reflects an anticipated range of housing development from 6,000 units up to 10,000 units. The estimate of 6,000 units reflects an average density of about 100 units per acre for blocks with residential or mixed-use development. The analysis also accounts for the potential that in future years the residential market in Sacramento could support higher densities, and thus reflects a higher residential capacity to 10,000 units.

As analyzed, if over time residential development increases over the 6,000 unit level, there would be corresponding decreases in the non-residential capacity to ensure that the overall level of environmental impact does not exceed that described in this SEIR. At 10,000 units, for example, the maximum allowable office square footage would be reduced from 3,857,027 to 2,757,027, a decrease of 1,100,000 sf. This represents a relationship where for every 100 units above 6,000, the office square footage would be reduced by 27,500 sf.[4] In the event that the City were requested to approve development above the 10,000 unit maximum level, it would be required to undertake supplemental analysis pursuant to CEQA to consider whether additional or exacerbated environmental impacts would occur.

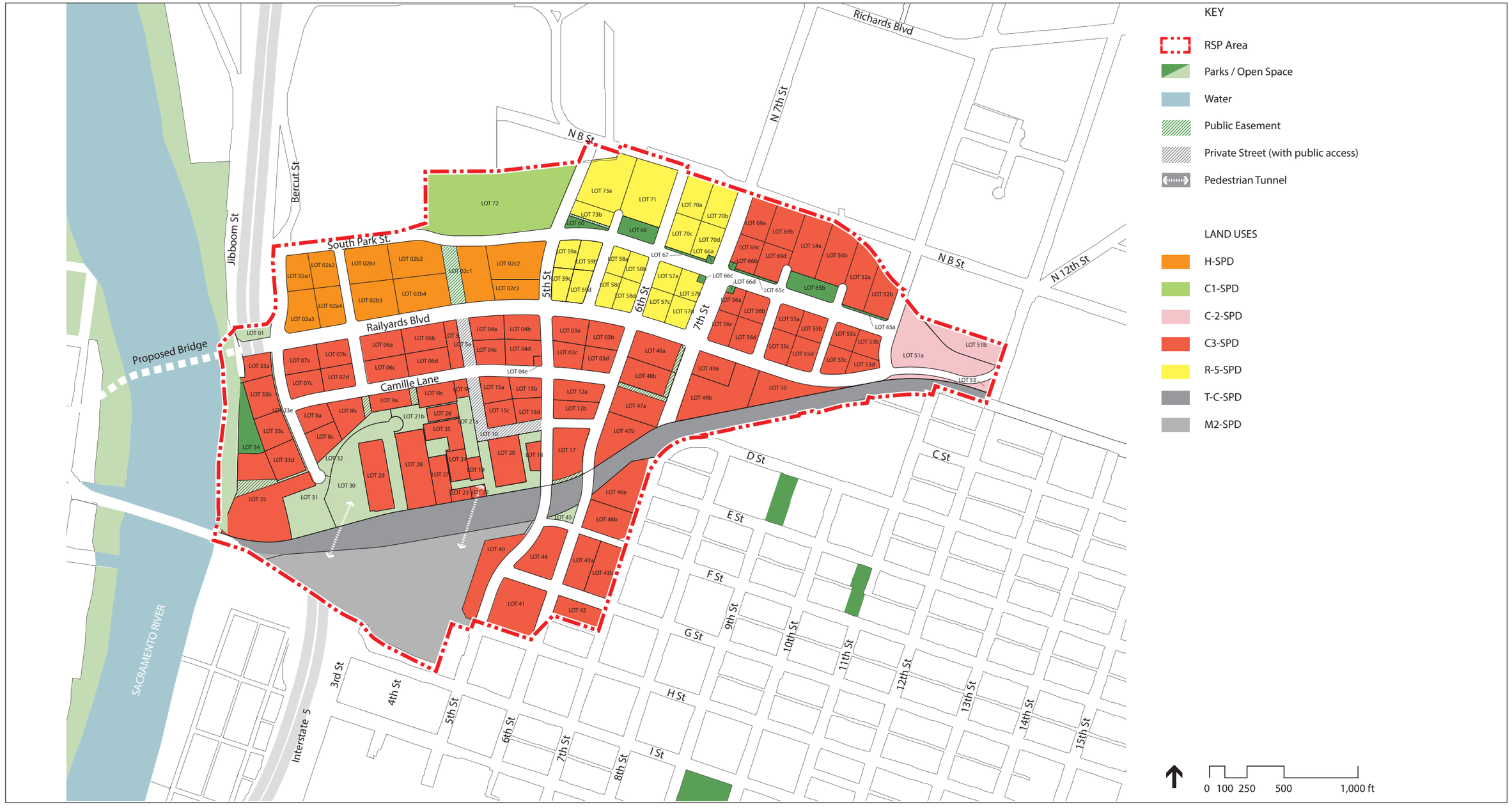
Land Use Variant

The proposed RSPU would provide land use designations that are anticipated to accommodate a new proposed KP Medical Center in the West End District, and a new proposed MLS Stadium in the East End District. It is currently anticipated that those projects would be implemented as indicated in this project description. However, in the event that market conditions or other factors result in those projects not being completed, the proposed RSPU would allow for an alternate set of land uses within the blocks that constitute the KP Medical Center and Stadium project sites (see **Figure 2-9**, Land Use Variant - Land Use Diagram). Specifically, under the Land Use Variant, instead of the proposed KP Medical Center on Block 2, a total of 921,002 sf of office, 92,100 sf of retail, 138,150 sf of flex space, and 250 residential units would be developed. Similarly, on Blocks 52-55, instead of the 25,000-attendee MLS Stadium, the Land Use Variant would accommodate construction of 750 residential units, 30,700 sf of retail, and 46,050 sf of flex space. **Table 2-3** provides a summary of land uses under the Land Use Variant.

As described above for the proposed RSPU, if over time residential development under the Land Use Variant increases over the 7,000 unit level, there would be corresponding decreases in the non-residential capacity to ensure that the overall level of environmental impact does not exceed that described in this SEIR. At 10,000 units, the maximum allowable office square footage would be reduced from 4,778,029 to 3,953,029, a decrease of 825,000 sf. This represents a relationship where for every 100 units above 7,000, the office square footage would be reduced by 27,500 sf.[5]

4 See Land Use Allocation Tables included in Appendix M.2.

5 See Land Use Allocation Tables included in Appendix M.2.



SOURCE: AECOM, June 2, 2016

Figure 2-9
Land Use Variant - Land Use Diagram

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TABLE 2-3.
SUMMARY OF LAND USES UNDER THE LAND USE VARIANT

Land Use	Proposed RSPU	Land Use Variant
Housing (units)	6,000 – 10,000	7,000 – 10,000
Office (sf)	2,757,027 - 3,857,027	3,953,029 - 4,778,029
Medical Office (sf)	510,000	0
Hospital Facilities (sf)	718,003	0
Retail (sf)	514,270	637,070
Flexible Mixed-Use (sf)	771,405	955,605
MLS Stadium (ticketed capacity)	25,000	0
Hotel (rooms/keys)	1,100	1,100
Historic & Cultural (sf)	485,390	485,390
Retail (sf)	162,525	162,525
Museum (sf)	180,000	180,000
Flex (sf)	142,865	142,865
Open Space (acres)	30	30

Source: Downtown Railyard Venture, LLC, 2016; ESA, 2016.

As with the proposed RSPU, under the Land Use Variant, if the City were requested to approve development above the 10,000 unit maximum level, it would be required to undertake supplemental analysis pursuant to CEQA to consider whether additional or exacerbated environmental impacts would occur.

Districts

The organization and intent of the Districts in the RSPU is similar to the District plan in the 2007 RSP, as described further below (see **Figure 2-10**, 2016 Railyard Specific Plan Districts).

Depot District

The Depot District is unchanged from the 2007 RSP. It would encompass all of the land in the RSP Area south of the realigned UPRR tracks, as well as the right-of-way for the rail line itself through the entirety of the plan area. The Depot District would continue to include the Sacramento Valley Station (existing depot and future expanded terminal building), as well as land use designations that would accommodate a high concentration of office uses mixed with residential and retail development.

Central Shops District

The Central Shops District would continue to provide for the adaptive reuse of the historic Central Shops buildings with historic/cultural-themed uses, such as a performing arts theater, exhibit space, public marketplace, art galleries, clubs and other entertainment-supporting uses, as well as office and retail space. The boundaries of the Central Shops District (which are

coterminous with the Central Shops Historic District) would be modified to eliminate Lots 12 and 13, which front on Camille Lane. These lots would be located in the West End District, and would be designated Transition Zone. In addition, the Central Shops District would be expanded to include land that is located between Lot 20 and 5th Street; this land was in the West End District and designated Transition Zone in the 2007 RSP.

The proposed RSP would allow for the addition of at least one new building in the District, generally located in the large open area between Lots 20 and 24; the new building is proposed to be identified as Lot 22. By contrast, the 2007 RSP provided that no new buildings would be constructed within the Historic District.

West End District

The proposed West End District would be similar to the configuration in the 2007 RSP, with the exception of the changes described above, under the Central Shops District, and a reduction in size on the western end where approximately two acres of land under I-5 (designated Lot 33d) would be included in the Riverfront District. The land uses envisioned in the West End District would continue to be a mix of office, commercial, and residential uses with the following notable changes. The 2007 RSP envisioned a 200,000 sf outdoor gear store in the West End; this is no longer a part of the plan.

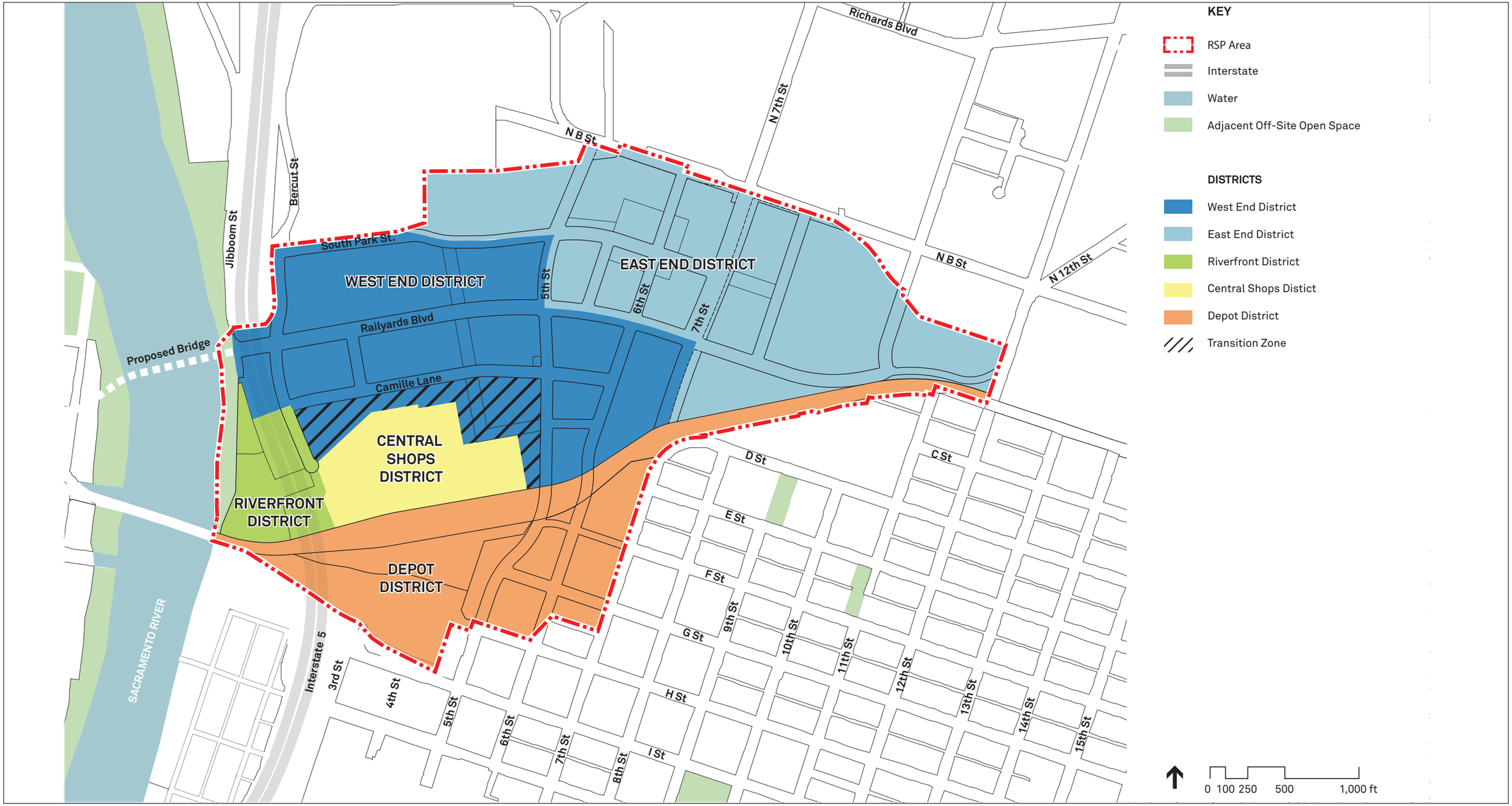
The 2007 RSP included a portion of a Sports and Entertainment Facility Overlay in the West End District, north of the tracks between 5th Street and 7th Street; this is no longer part of the plan.

West of 5th Street, between Railyards Boulevard and South Park Street, the 2007 RSP envisioned a series of small scale blocks that would accommodate mixed-use buildings; under the proposed RSPU the small network of streets and alleys would be removed and the resultant 17.8 acre parcel(s), designated Lots 2a-g, would accommodate the proposed KP Medical Center.

East End District

The configuration of the East End District is essentially the same as in the 2007 RSP. This district continues to be proposed as a largely residential neighborhood, but the traditional grid system depicted in the 2007 RSP would be replaced with larger blocks. In addition, the blocks between 8th Street and 10th Street, north of Railyards Boulevard would be re-designated to provide the site for the proposed MLS Stadium. Similar to the 2007 RSP, this District includes the approximately 10-acre Vista Park, but the series of "boxcar" parks between North Park and South Park streets has been revised to include a series of Neighborhood Parks centered on the intersection of 6th and South Park streets, as well as open space in the South Park Street alignment between 7th and 8th streets.

The 2007 RSP included a portion of a Sports and Entertainment Facility Overlay in the East End District, north of the tracks between 5th Street and 7th Street. In the proposed RSPU, a sports and entertainment stadium is planned on Lot 52 within the East End District.



SOURCE: AECOM, September 2016

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Figure 2-10
2016 Railyards Specific Plan Districts

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Riverfront District

The Riverfront District would continue to be as described in the 2007 RSP, although expanded as described above, with the addition of Lot 33d under I-5, south of Camille Lane.

Circulation

Roadway Network

The 2007 RSP extended existing City streets into and through the Railyards, and created new streets to provide a comprehensive circulation grid. Since adoption, three new streets have been constructed: (1) Railyards Boulevard from 7th Street to the alignment of Bercut Drive, (2) 5th Street from H Street to Railyards Boulevard, and (3) 6th Street from H Street to Railyards Boulevard. The construction of 5th Street and 6th Street has included the construction of bridges for those streets to pass over the realigned UPRR tracks.

In the proposed RSPU, the overall configuration of the street system would remain largely the same as in the 2007 RSP (see **Figure 2-11**, Tentative Map). Refinements to the street system would include:

- Elimination of east-west mid-block public alleys on the blocks north and south of Railyards Boulevard, and the blocks north of South Park Street;
- Elimination of North Park Street;
- Realignment of Camille Lane approximately 100 feet to the north;
- Elimination of a connection of Judah Street to North B Street;
- Elimination of 9th Street between Railyards Boulevard and North B Street;
- Elimination of Crocker Street and Stanford Street, between Railyards Boulevard and South Park Street; and
- Elimination of Jibboom Street between Railyards Boulevard and Camille Lane.

The proposed RSPU Circulation Plan is presented on **Figure 2-12**.

Vehicular Parking

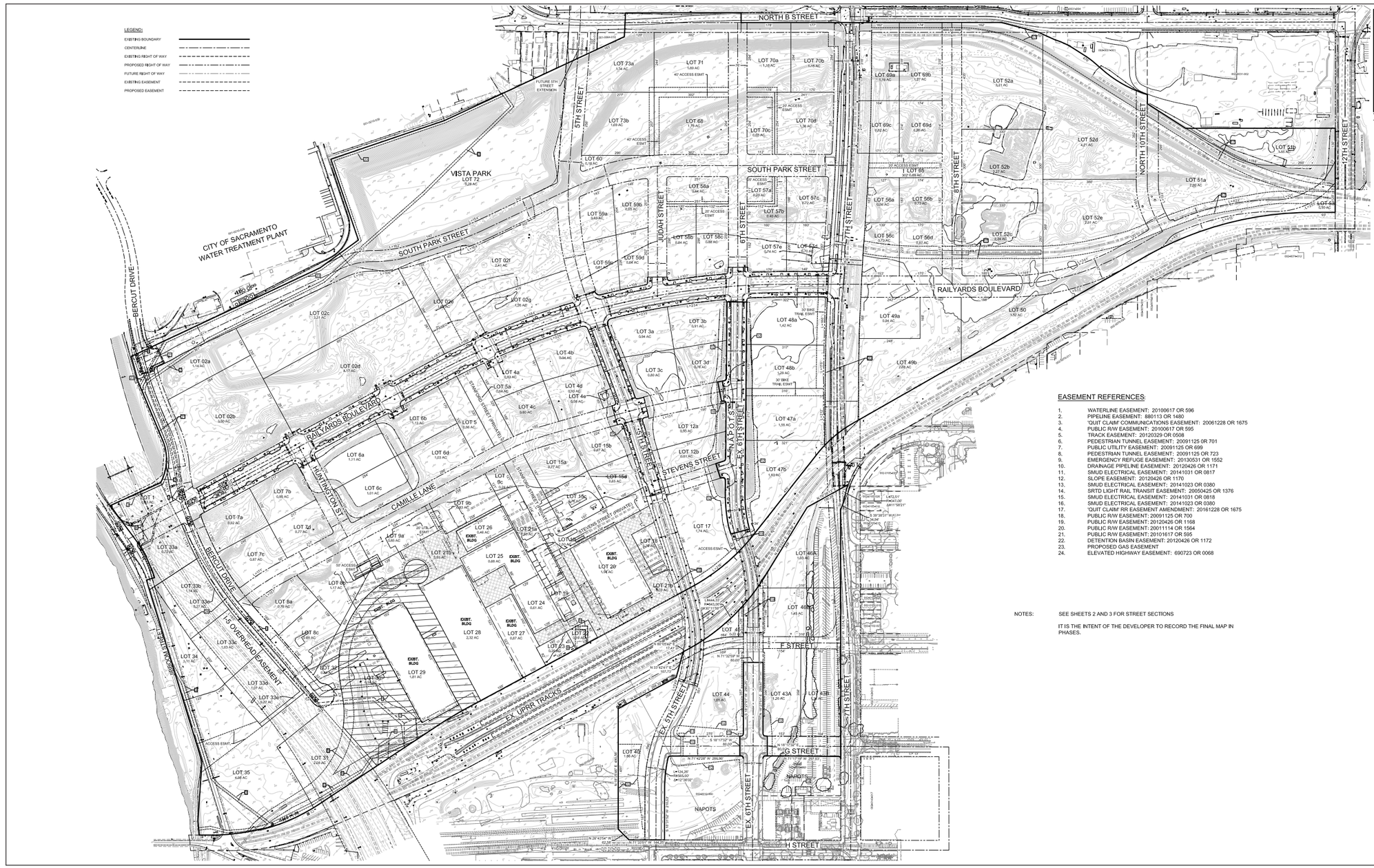
Over the long term, it is anticipated that vehicular parking in the RSP Area would be provided in parking structures that are either constructed as part of residential and non-residential development projects or constructed as centralized general public use facilities. The potential location of public parking garages is presented on **Figure 2-13**. Parking capacities would be consistent with the provisions of the City of Sacramento Planning and Development Code, except as otherwise provided for in the proposed RSP SPD.

An illustrative plan has been developed to provide 4,000 parking spaces for use in the near term to accommodate event attendee parking for the proposed MLS Stadium. The illustrative plan calls for approximately 30 acres of surface parking that may be provided in temporary, all-weather, gravel or shale lots, or paved, improved joint use parking lots. An illustrative parking plan that identifies the location of undeveloped lots within the RSP Area that could be used for MLS surface parking initially is presented in **Figure 2-14**, Illustrative Temporary Surface Parking Plan. The final plan for temporary surface parking in the Railyards would be reviewed and approved by the City through the Site Plan and Design Review permit or other applicable permit process. It is expected that the final temporary surface parking plan would be updated as development occurs within the RSP Area.

Pedestrian and Bicycle Network

The proposed RSPU bicycle network would include a network made up of Class I trails, Class II lanes, Class III routes, and Class IV protected lanes (see **Figure 2-15**, Bike Plan). Key changes from the 2007 RSP include:

- Addition of Class IV protected bike lanes (north and southbound) on 6th Street between Railyards Boulevard and H Street;
- Addition of a Class IV protected bike lane on F Street between 7th and 5th streets;
- Addition of Class I bicycle trail on the west side of 7th Street from North B Street to Camille Lane;
- Elimination of the bicycle (and pedestrian) tunnel parallel to 7th Street, which would remove bike travel on 7th Street between E Street and Railyards Blvd.;
- Addition of Class III bike routes on Stanford Street between Camille Lane and Railyards Boulevard., and on Judah Street between Railyards Boulevard and South Park Street;
- Addition of a Class II bike lane on 8th Street between Railyards Boulevard and North B Street;
- Elimination of bicycle traffic from the now exclusive pedestrian tunnel between the historic Depot and the Central Shops (via the Steve Cohn Passageway);
- Addition of a Class I bike trail between Camille Lane and the Central Shops, connecting to the Riverfront District; and
- Addition of a Class I bike trail from the southern end of Bercut Drive connecting to the Class III bike route on 2nd Street in Old Sacramento.



EASEMENT REFERENCES:

1. WATERLINE EASEMENT: 20100617 OR 596
2. PIPELINE EASEMENT: 880113 OR 1480
3. 'QUIT CLAIM' COMMUNICATIONS EASEMENT: 20061228 OR 1675
4. PUBLIC R/W EASEMENT: 20100617 OR 595
5. TRACK EASEMENT: 20120329 OR 0508
6. PEDESTRIAN TUNNEL EASEMENT: 20091125 OR 701
7. PUBLIC UTILITY EASEMENT: 20091125 OR 699
8. PEDESTRIAN TUNNEL EASEMENT: 20091125 OR 723
9. EMERGENCY REFUGE EASEMENT: 20130531 OR 1552
10. DRAINAGE PIPELINE EASEMENT: 20120426 OR 1171
11. SMUD ELECTRICAL EASEMENT: 20141031 OR 0817
12. SLOPE EASEMENT: 20120426 OR 1170
13. SMUD ELECTRICAL EASEMENT: 20141023 OR 0380
14. SRTD LIGHT RAIL TRANSIT EASEMENT: 20050425 OR 1376
15. SMUD ELECTRICAL EASEMENT: 20141031 OR 0818
16. SMUD ELECTRICAL EASEMENT: 20141023 OR 0380
17. 'QUIT CLAIM' RR EASEMENT AMENDMENT: 20161228 OR 1675
18. PUBLIC R/W EASEMENT: 20091125 OR 700
19. PUBLIC R/W EASEMENT: 20120426 OR 1168
20. PUBLIC R/W EASEMENT: 20011114 OR 1564
21. PUBLIC R/W EASEMENT: 20101617 OR 595
22. DETENTION BASIN EASEMENT: 20120426 OR 1172
23. PROPOSED GAS EASEMENT
24. ELEVATED HIGHWAY EASEMENT: 6907230 OR 0068

NOTES: SEE SHEETS 2 AND 3 FOR STREET SECTIONS

IT IS THE INTENT OF THE DEVELOPER TO RECORD THE FINAL MAP IN PHASES.

SOURCE: Baker-Williams Engineering, April 2016

Figure 2-11
Tentative Map

SOURCE: AECOM, May 6, 2016

Figure 2-12
Circulation Plan

SOURCE: AECOM, April 1, 2016

Figure 2-13
Proposed Public Parking Garages
(proposed surface and garages and number of spaces)

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SOURCE: Kimley-Horn 2015

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Figure 2-14

Illustrative Temporary Surface Parking Plan

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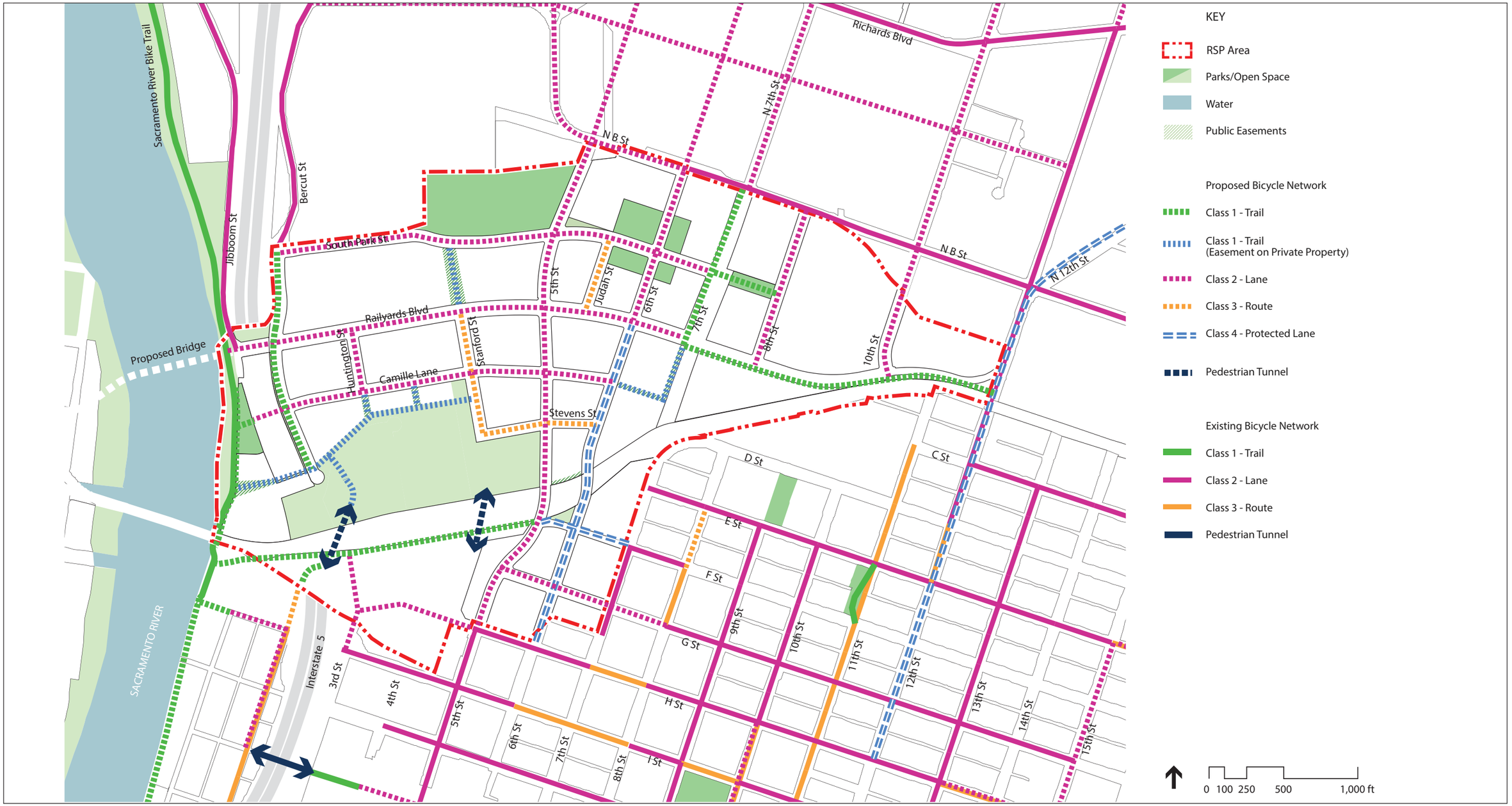

SOURCE: AECOM, June 6, 2016

Figure 2-15
Bike Plan

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As with the 2007 RSP, pedestrian features of the proposed RSPU would include narrow street widths, street trees, and broad sidewalks. Key refinements to the approved pedestrian system would include:

- Elimination of the approximately 300-foot long pedestrian (and bicycle) tunnel that was to parallel 7th Street under the UPRR rail line.

Transit Systems

The key transit features in the RSP Area include the UPRR rail lines that accommodate freight and passenger rail service, including the Capitol Corridor. Since certification of the 2007 RSP EIR, the mainline tracks have been relocated as called for in the approved RSP, supporting expanded passenger service and more efficient through freight service. The proposed RSPU would make no changes in the location or number of rail lines that traverse the RSP Area.

Sacramento Valley Station

The focus of the transit systems described in the 2007 RSP (see RSP DEIR pages 3-33 to 3-43) is the creation of the City's planned expanded Sacramento Valley Station (referred to as the Sacramento Intermodal Transportation Facility). The 2007 RSP EIR indicated that the future SVS would include both the existing 57,000 sf historic Depot, as well as a 127,511 sf new intermodal facility, as described in **Table 2-4**. The proposed RSPU would make no changes to the Depot District that would alter the City's plans for such expansion as funds become available.

TABLE 2-4.
EIR ASSUMPTIONS FOR SVS TERMINAL PROGRAM USES

Program Use	Square Footage
Ticketing	2,660
Baggage	5,758
Waiting Area	25,146
Passenger Amenities	10,553
Administration	60,632
Joint Development	22,762
Total	**127,511**

Source: City of Sacramento, 2004; Railyards Specific Plan Draft EIR, August 2007, page 3-39.

Light Rail

The 2007 RSP EIR notes that the RSP would provide for a new RT Green Line LRT station to be built at 7th and South Park streets. The current plan is largely unchanged, with the stations to be provided on both sides of 7th Street between Railyards Boulevard and South Park Street.

High Speed Rail

The proposed RSPU would provide space for the construction of platforms that would serve future High Speed Rail trains and passengers. However, rather than allowing for this service at the SVS, sufficient space would be provided for elevated platforms that would be located east of 7th Street.

Site Topography and Grading

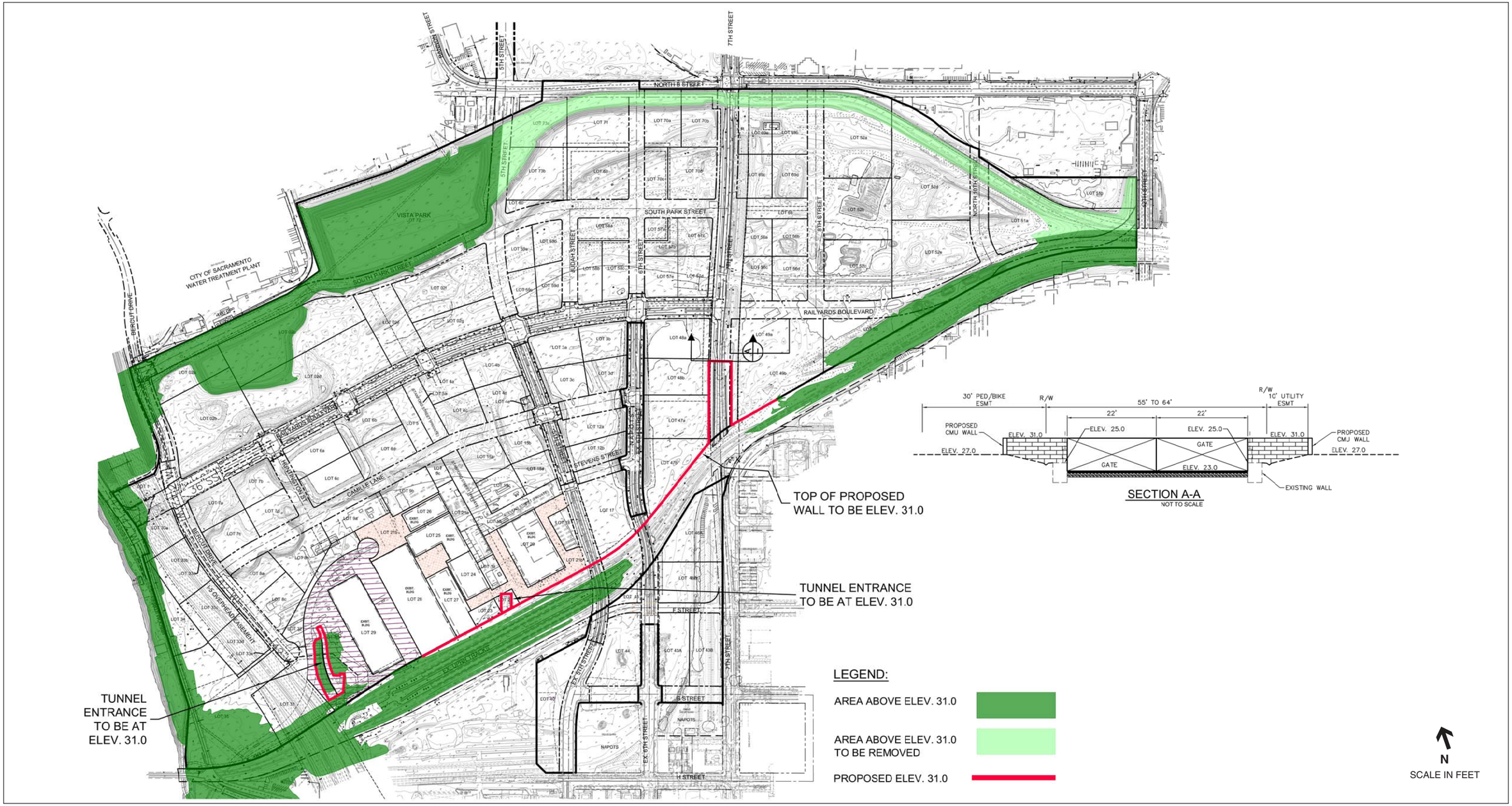
The project site is relatively flat, with extensive elevation changes that are a result of extensive past grading to accommodate railroad activities, as well as extensive soil movement, including excavation and stockpiling, as part of remediation activities undertaken over the last 25 years. The proposed RSPU would result in substantial grading activities along with import of fill to result in a relatively flat topography that would gently slope from east to west. The grading of the site would require the import of up to a total of approximately 750,000 cubic yards of fill. As part of the site grading, the northern embankment would be lowered. Finished lots facing along North B Street would be about 4 to 5 feet above grade, and streets would be graded to an elevation consistent with the North B Street elevation (see **Figure 2-16**, Berm Elevation Exhibit). The material in the embankment would be used to reduce the amount of imported fill required for the project.

Although the embankment is not part of the regional flood control system, and is not necessary to provide flood protection to downtown Sacramento or other parts of the City, the RSP Area would be graded and constructed to provide equivalent flood dynamics to those provided by the embankment. In order to accomplish this, an elevation of 31.0 (National Geodetic Vertical Datum of 1929 (NGVD 29)) would be maintained or constructed along the northern boundary of the UPRR right-of-way. The construction would be a combination of grading, gates, and/or an 8-inch to 24-inch masonry block floodwall along the railroad right-of-way. Around the existing 7th Street underpass, improvements would include a gate or stoplog system to bridge the gap to the east of 7th Street where the bed of the tracks is less than 31.0 (NGVD).

In addition, the pedestrian tunnels that connect under the UPRR tracks, including the Steve Cohn Passageway and the tunnel connecting the west side of the Central Shops to Old Sacramento, would be graded to ensure that the top of the tunnel steps is at elevation 31.0 (NGVD). This would require the addition of one step at the top of the current tunnels to ensure that the rim on the tunnel entrances is at the requisite elevation.

Railyards Project Soil and Groundwater Management Plan

Since approval of the 2007 RSP, much of contaminated soils within the RSP Area have been remediated. Those areas owned by DRV that have been certified by the Department of Toxic Substances Control (DTSC) as remediated (Certified Areas) are covered by the 2015 Land Use Covenant (LUC), which restricts activities in the Certified Areas as necessary to protect human health and the environment (because even remediated areas could have some level of residual contaminated soil and/or groundwater). The LUC runs with the land, similar to a deed restriction, and therefore applies to existing and any future owners of a covered parcel. As remediation is



SOURCE: Baker-Williams Engineering Group, May 2016

Figure 2-16
Berm Elevation Exhibit

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completed on other parcels owned by DRV, it is assumed that they will be covered by a Land Use Covenant that is substantially similar to the 2015 LUC as well.

One of the requirements of the 2015 LUC and the proposed RSPU is the implementation of the Railyards Projects Soil and Groundwater Management Plan or SGMP (see Appendix H.2). The SGMP applies to any development project to be constructed within the DVR-controlled portion of the RSP Area. This includes both areas that have already been remediated and are covered by the 2015 Land Use Covenant ("Certified Areas"), and parcels still undergoing remediation that are owned by DVR (Non-Certified Areas"). The SGMP describes project development management activities for soil and groundwater in Certified Areas. In addition, the SGMP describes testing, management, treatment and disposition activities that must be implemented in the event that soil or groundwater is determined to be above applicable remediation goal levels. Development in Non-Certified Areas (such as, Central Shops Study Area and the excluded triangle east of Vista Park (northwest corner of the Lagoon Study Area) can only commence after the project proponent obtains written approval from DRV, the property owner and DTSC of an addendum to the SGMP that lays out measures specific to the subject parcel.

The 2015 LUC and the SGMP are discussed in more detail in Chapter 4.8, Hazards and Hazardous Materials.

Utilities

Water

As with the 2007 RSP, the proposed RSPU would have a water distribution system that largely follows the street system throughout the entire RSP Area, with a primary connection to the City's water treatment plant via a 42-inch transmission main under Bercut Drive. This main would connect under the UPRR tracks to I Street, where it would tie into the existing 18 inch water line under 7th Street (see **Figure 2-17**, Utilities - Water System). The only other material change from the 2007 RSP water system is that under the proposed RSPU there would not be a water line crossing the UPRR tracks on the 6th Street bridge; north-south connections across the UPRR tracks would be limited to 5th Street and the current line in 7th Street.

Wastewater

The proposed RSPU sewer plan would be essentially the same as the sewer plan in the approved 2007 RSP, with the provision of a sewer collection and conveyance system made up of sewer lines under streets throughout the RSP Area (see **Figure 2-18**, Utilities - Wastewater System). These lines would collect and convey all sewage from the project north of the UPRR tracks to the 3rd Street relief sewer at a point near the intersection of 3rd and I streets. At that point, the RSP sewer system would connect into the City's new relief sewer in 3rd Street, which would be designed and constructed to separate sanitary sewer flows from Combined Sewer System (CSS) flows in the CSS line under 3rd Street between I Street and T Street.

The RSPU would provide for a 36-inch diameter sewer main in Bercut Drive, connecting the existing exiting Railyards Boulevard sewer main to the City's future 3rd Street relief sewer (located at the intersection of 3rd and I streets). The alignment of this pipe would parallel the City's 42-inch water transmission main located within the Bercut Drive alignment. The pipe would be designed to convey the full peak wet weather flow from the Railyards north of the tracks and the River District.

Once the downstream connections are available, the City of Sacramento would divert flows from the 12th Street CSS into the Railyards trunk sewer main. The revised routing would be dependent upon a lift station which is conceptually planned to be located at the intersection of 10th Street and North B Street.

Stormwater Drainage

Since certification of the 2007 RSP EIR, the stormwater drainage system that was included in the 2007 RSP has been further studied by the City and the project engineers. The results of these studies are reflected in the proposed RSPU Drainage Master Plan (see **Figure 2-19**, Utilities - Stormwater System). Key variations from the drainage system that was considered in the 2007 RSP EIR include:

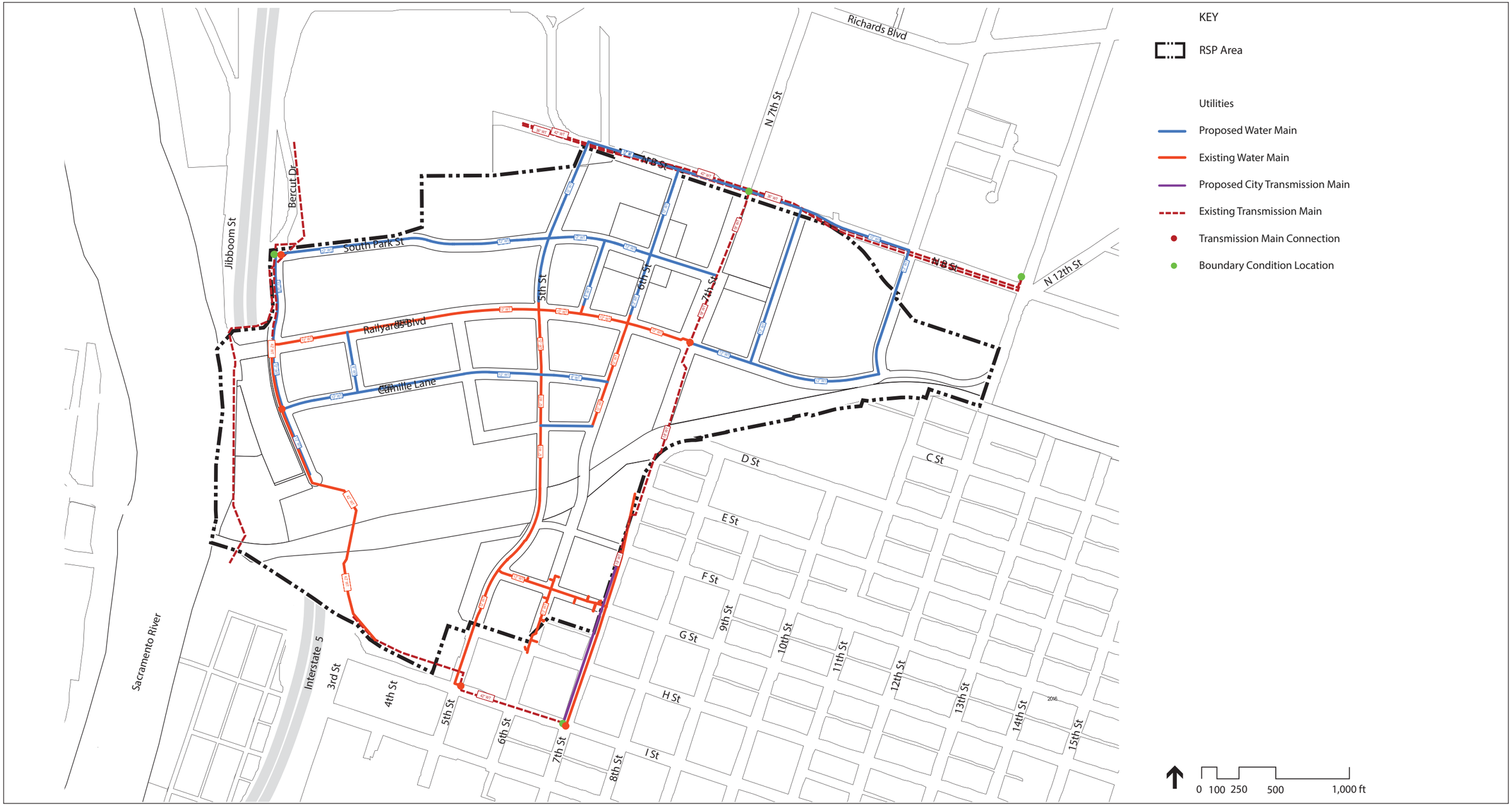
- Eliminate the inclusion of connections to the CSS. Instead essentially all stormwater flows would be directed to an outfall on the Sacramento River (described in further detail later in this Project Description);

- Elimination of the cistern that was to capture first flush flows prior to discharge to the CSS;

- Relocation of the pump station from the southeast corner of Railyards Boulevard and Bercut Drive, to a location immediately west of that location, south of Railyards Boulevard and under I-5. The pump station would be connected to the proposed Stormwater Outfall via discharge pipes that would pass under the bike trail and discharge stormwater to the Sacramento River.

Consistent with the 2007 RSP drainage plan, a small amount of the RSP Area would drain to existing lines in 7th Street that convey drainage north to the CSS in North B Street. Similarly, a small amount of the RSP Area, south of the UPRR tracks, between 6th and 7th Street, would drain to existing lines in 7th Street. Stormwater drainage from the Central Shops would be redirected, from its current discharge point into the CSS at 3rd and I Street, to the new pump station and stormwater outfall on the Sacramento River.

The capacity of the existing 3rd Street CSS is limited and the City has identified a maximum allowed flow rate from the RSP as 2.24 cubic feet per second (cfs), which includes total flow from sanitary, stormwater, and remediated groundwater. An improvement project for the 3rd Street sewer (3rd Street Relief Sewer) is currently under design that will increase the allowable peak discharge from the RSP to 14.7 cfs. The RSP Area is presently allowed a maximum



SOURCE: AECOM, June 7, 2016

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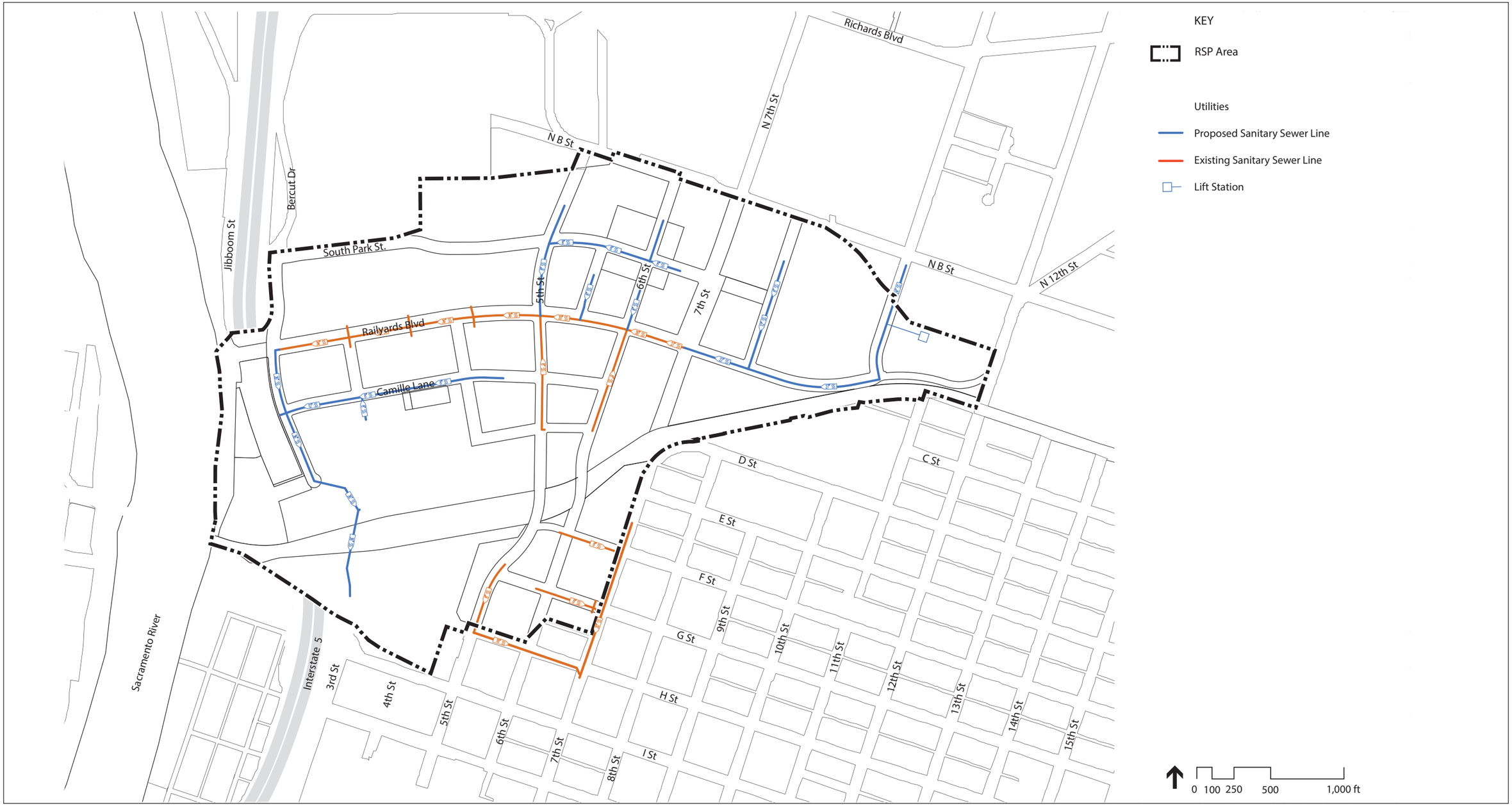
Figure 2-17

Utilities - Water System



SOURCE: AECOM, June 7, 2016; adapted by ESA, 2016

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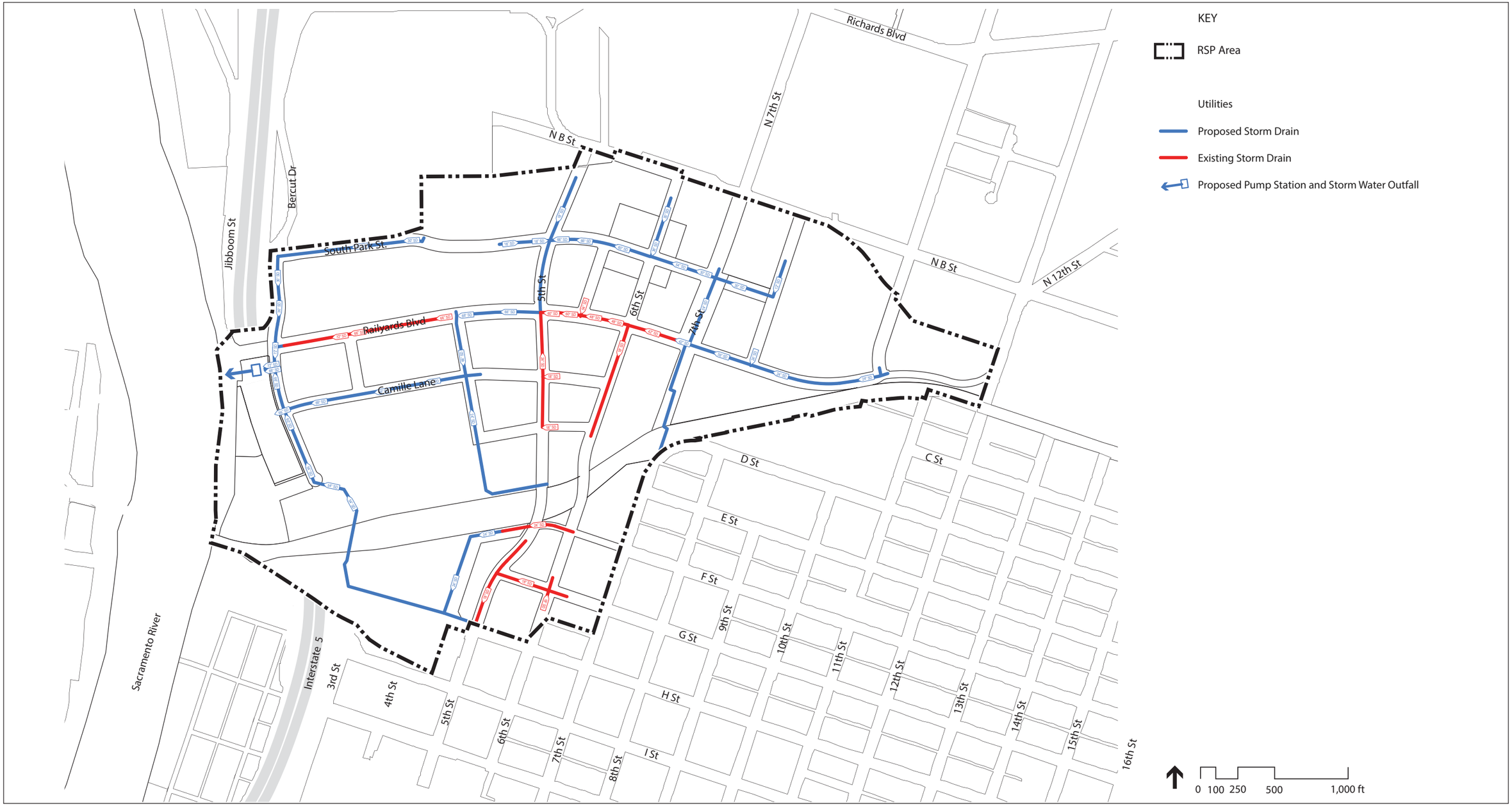
Figure 2-18

Utilities - Wastewater System



SOURCE: AECOM, June 7-, 2016

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Figure 2-19

Utilities - Stormwater System

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discharge of 220 gallons per minute (gpm) or 0.5 cfs of groundwater remediation flow from the South Plume Source (SPS) Interim Remedial Measure to the 3rd Street CSS. This discharge is from 11 extraction wells located in the Central Shops area. Until the 3rd Street Relief Sewer project is constructed, this groundwater discharge would be considered as part of the current maximum allowable discharge of 2.24 cfs.

Development activities pursuant to the proposed RSPU that would increase stormwater runoff volumes, including construction of the proposed MLS Stadium, may be initiated prior to construction of the Stormwater Outfall. This runoff would be combined with the groundwater remediation to the maximum of 2.24 cfs. During times of storm water pumping to the 3rd Street CSS, the groundwater pumping may be temporarily stopped to allow additional stormwater discharge. The City limits stormwater inflows from the RSP Area to the 3rd Street CSS to a maximum of 1 cfs.

If future development within the RSP Area were to initiate construction prior to completion of the Stormwater Outfall, construction of separate retention basins to collect stormwater flows from new impervious surfaces may be required. An existing retention basin with a capacity of 12 acre feet south of Railyards Boulevard and east of Bercut Drive collects runoff from Railyards Boulevard, 5th Street and 6th Street. Additional retention basins could be constructed to retain runoff from other proposed construction areas. A 16.6-acre-foot retention basin could be constructed adjacent to the existing retention basin to accommodate development of the KP Medical Center. Runoff from the 5th and 6th streets extensions to North B Street, Bercut Drive from Railyards Boulevard to South Park Street, South Park Street from Bercut Drive to 7th Street, Camille and Stevens Street from 5th to 6th Street, and Judah Street could be accommodated by a 7.2-acre-foot retention basin on the same block as the existing retention basin. Runoff from the area between 5th Street and 7th Street between Railyards Boulevard and North B Street could be accommodated by a 26.2-acre-foot retention basin at the southeast corner of Railyards Boulevard and Bercut Drive. An additional 18-acre-foot retention basin west of 7th Street south of Railyards Boulevard could be constructed to retain stormwater flows from the proposed MLS Stadium.

These temporary retention basins would be equipped with temporary 1 cfs pumps that would be connected to the 3rd Street CSS by a temporary pipeline. If the City 3rd Street Relief Sewer project is constructed before the Stormwater Outfall were to be constructed and operational, additional flows from the temporary retention basins would be pumped in the new 3rd Street Relief Sewer, up to the maximum allowed for the RSP Area. After construction of the Stormwater Outfall and pump station, the retention basins, pumps, and pipelines would no longer be needed.

The RSPU drainage system would be designed to meet the City requirements to capture and discharge flows from the 10-day 100-year storm event through pump station and stormwater outfall into the Sacramento River. The pump station and stormwater outfall are described in further detail under Stormwater Outfall, below.

The 2007 RSP relied on the cistern to provide water quality treatment to first flush flows. With the removal of the cistern, the proposed RSPU would include a diverse system of water quality features and Best Management Practices (BMPs). This system would be based on a variety of features incorporated into each of the developed lots based on the anticipated physical development of that block, but would include stormwater planters, tree boxes and tree wells, Filterra bioretention system units, and Contech stormfilters. These features are described in greater detail in the 2015 Railyards Water Quality Master Plan.

Energy

As described for the 2007 RSP, energy to the proposed RSPU would be provided by SMUD (electricity) and PG&E (natural gas). SMUD service would be provided via lines from the newly expanded Station A that is being constructed on Block 42, as well as interconnections to other lines and substations in the vicinity.

Natural gas lines would be included in public utility easements and connected to PG&E's distribution system that currently serves downtown Sacramento and the River District.

As with the 2007 RSP, the proposed RSPU would comply with Title 24 energy efficiency standards, or any additional standards that may be in place at the time of actual development activity.

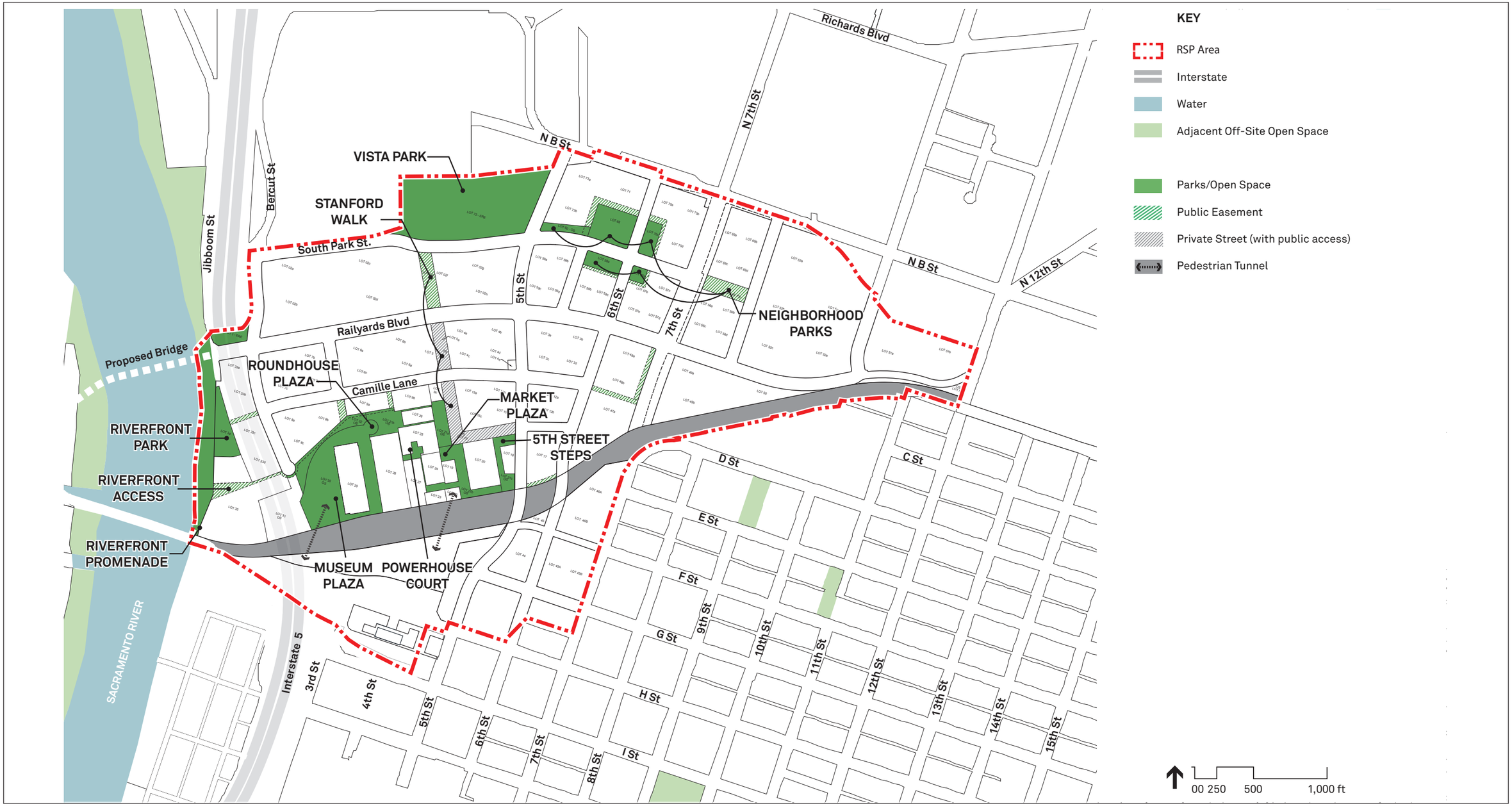
Offsite Infrastructure

The proposed RSPU would require offsite infrastructure similar to that identified in the 2007 RSP EIR, including: portions of the Stormwater Outfall that fall outside of the RSP Area (on the Sacramento River riverbank; see the detailed description of this feature starting on page 2-133); extension of 10th Street across the Sims Metal Management property, to a new connection at North B Street; and connections of Railyards Boulevard to 12th Street. Although the 2007 RSP included a proposed connection of Railyards Boulevard to 12th Street, the specific configuration of that connection was not designed, and thus this SEIR considers the specific effects of the current proposed connection to 12th Street.

Public Services

Parks and Public Open Space

Similar to the 2007 RSP, the proposed RSPU would include open spaces and parks that would be comprised of parks, parklettes, urban plazas, trails and pathways, and similar features. Based on the reduced number of housing units, the total park acreage in the RSP Area would be reduced from 41.2 acres in the 2007 RSP to 30 acres in the proposed RSPU. The proposed open space and park plan for the proposed RSPU is presented in **Figure 2-20**, Open Space and Park Plan. The 9.28–acre Vista Park would remain largely in the location and size as previously approved. The "boxcar" parks that were previously planned to be located north of South Park Street 5th and 10th streets would be replaced by a four Neighborhood Parks centered around the intersection of 6th



SOURCE: AECOM, September 27, 2016; ESA, 2016

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Figure 2-20

Open Space and Park Plan

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and South Park streets, collectively comprising 3.13 acres. In addition to Vista Park, there would be an approximately 0.18 acre park located on the north side of South Park Street, between 6th Street and Judah Street. A 0.69-acre greenway would be constructed in the alignment of South Park Street between 7th and 8th streets. Further, private open space that would be an extension of Stanford Street where is passes through the proposed KP Medical Center would connect to Vista Park to the north.

Substantial open spaces would be included around the proposed MLS Stadium, in the Central Shops District, and in the Riverfront District.

Schools

High-density urban housing tends to generate demand for schools at a fraction of the rate of more traditional suburban housing. The proposed project would generate a demand for additional school services, but at lower rates than typical suburban development, due to the increased density of residential uses. Depending on the ultimate amount of housing built within under the proposed RSPU, the Sacramento Unified School District may request the provision of a site for the construction of an elementary school within the RSP Area. Education facilities are allowed as conditional uses under the C-3 SPD, R-5 SPD and H SPD designations. As in the 2007 RSP, a potential school site has been identified at the eastern tip of the RSP Area (see **Figure 2-21**, Proposed Public Facilities Locations), but other locations may be ultimately identified and agreed to by the District. Due to its downtown location, any school facility built within the RSP Area would likely be an "urban" school, and would include characteristics such as compact hardscape recreation areas, multi-story classroom facilities, and space saving solutions such as rooftop recreation areas.

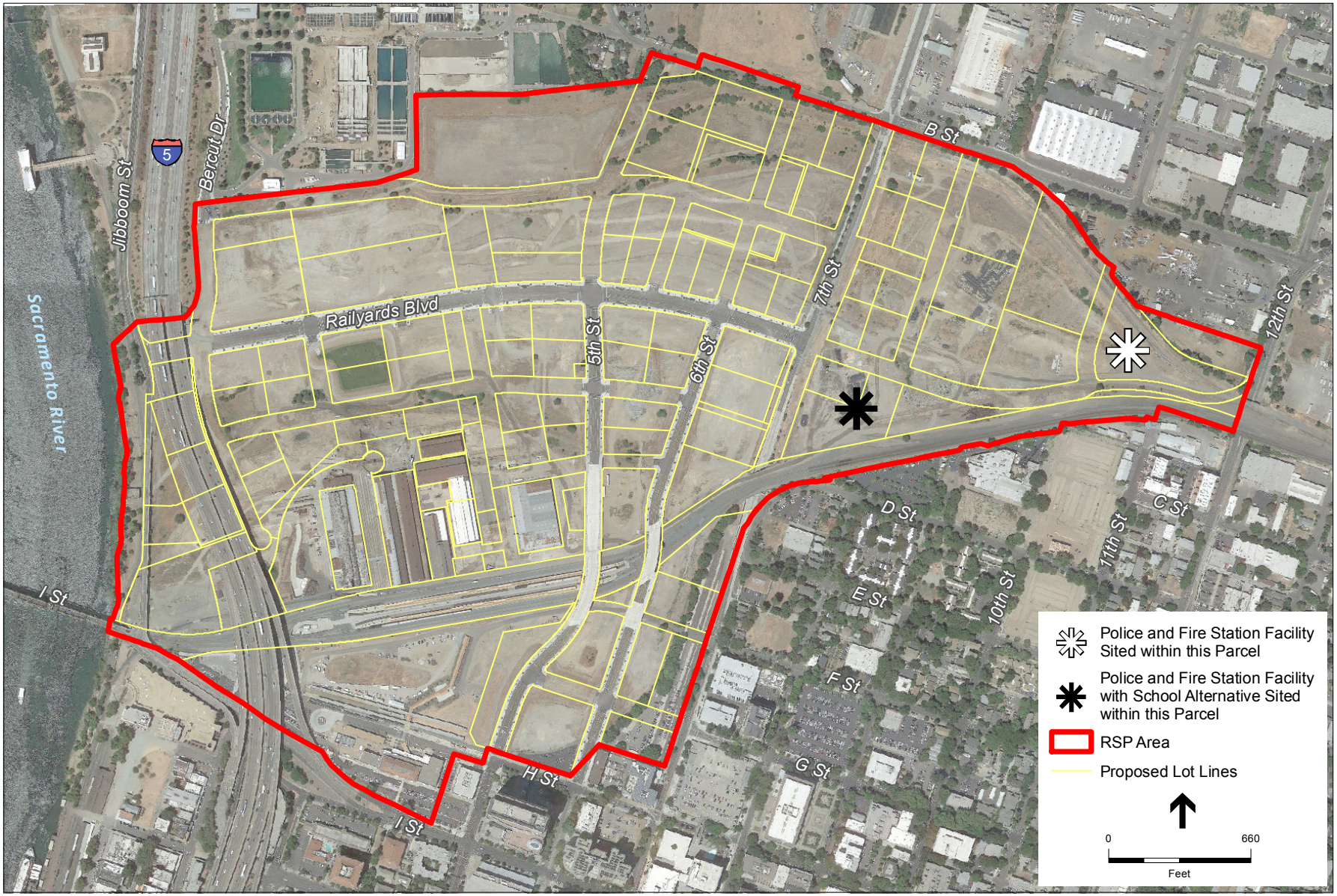
Regardless of whether a school site is located within the RSP Area, new development pursuant to the proposed RSPU would contribute toward the provision of schools to serve the children of new residents and employees. This contribution would occur in the form of in-lieu fees, to fund school expansion and construction outside the RSP Area, off-site or on-site land dedication, and/or the construction of a school facility within the RSP Area.

Police Services

Law enforcement services would be provided by the City of Sacramento PD. Like the 2007 RSP, the proposed RSPU identifies two potential locations for joint police and fire stations, shown in Figure 2-21. If constructed in the RSP Area, it is anticipated that a new station would be located in a multi-story, multi-use building.

Fire Protection Services

Fire protection would be provided by the City of Sacramento Fire Department. As described in the 2007 RSP, a fire station may be constructed in the RSP Area. As described above, the potential locations for a joint fire and police station are shown in Figure 2-21.



SOURCE: Kimley-Horn, 2016; AECOM, 2016; ESA, 2016

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Figure 2-21

Proposed Public Facilities Locations

Other Project Elements

Goals and Policies

In addition to the land use, circulation, and infrastructure plans described above, the proposed RSPU would amend several of the goals and policies of the 2007 RSP, as described further below.

- Elimination of Policy S-1.1 which had become unnecessary in light of the Land Use Covenant and Railyards Soil and Groundwater Management Plan;
- Elimination of policy S-1.7 which has essentially been made obsolete by changes to state law and building codes requiring energy efficient construction and building systems;
- Elimination of policy S-1.9 which required encouragement of US Green Building Council's Leadership in Energy and Environmental Design (LEED) certified buildings;
- Amendment of Policy CC-1.7 to allow ground floors of parking structures to be visually screened rather than requiring that parking structures be wrapped by other uses;
- Amendment of Policy CC-1.8 to reflect that structured parking should be encouraged in lieu of surface parking;
- Amendment of Policy CC-2.4 to ensure that new or extended buildings in the Central Shops district respect the scale, design, and character of existing historic structures, as well as other features;
- Replacement of Policy HO-2.1, which formerly ensured long-term affordability of low and moderate income housing, with a new policy to require implementation of the Railyards Inclusionary Housing Plan approved by the City;
- Replacement of Policy HO-2.2, which formerly ensured that affordable units were built in a manner that maintains the high quality of design in the community, with a new policy that ensures compliance with Chapter 17.712 of the City Code (Mixed-Income Housing) with respect to any obligation to pay an affordable housing impact fee and the quality and diversity of any affordable housing units constructed;
- Amendment of Policy HO-3.1 to broaden the scope of the policy from just elderly housing to encourage the development of a range of housing sizes and configurations suitable for the elderly and persons with disabilities and integration of market-rate housing with affordable housing;
- Amendment of Policy C-2.1 to eliminate the requirement to extend 5th and 6th Street from downtown into the RSP Area (because this has already been completed), and add a requirement to extend 8th Street to the River District;

- Addition of Policy C-3.5 which requires the provision of a robust network of varying scaled pedestrian pathways to fully integrate the Central Shops with the West End and Vista Park, and 5th Street with the Sacramento riverfront;
- Amendment of Policy C-5.3 to add that the provision of safe pedestrian linkages should be accomplished by minimizing parking and service access crossings of sidewalks, and that the policy should apply to linkages to buildings as well as to public spaces;
- Amendment of Policy C-4.4 to add a requirement for electric vehicle charging stations in all residential projects;
- Add a new Goal CS-6 to provide for solid waste and recycling disposal and collection systems to ensure safe, efficient, movement of waste from the Railyards to disposal sites;
- Add a new Policy CS-6.1 to require the design of street and alley systems to minimize pedestrian crossings by recovery vehicles for solid waste, grease, and other waste streams;
- Amendment of Goal HR-1 to reflect that the RSPU should provide for public use and enjoyment of historic resources rather than just historic buildings;
- Amendment of Policy HR-1.1 to promote viable reuse of the historic district, rather than just the historic buildings;
- Amendment to Policy HR-1.2 to direct preservation of historic resources rather than just structures within the Central Shops District;
- Amendment to Policy HR-1.3 to ensure that the rehabilitation of the entire Central Shops complex and features conforms to the standards set forth in Title 17, Section 17.604 of the City Code;
- Amendment of Policy HAZ-1.1 to require that City land use approvals are compatible with DTSC approved land use covenants;
- Amendment of Policy HAZ-2.2 to require, in the event of changing cleanup standards, the property owner to work with DTSC to ensure that additional remediation activities are undertaken by the appropriate responsible party, eliminating the prior requirement for City involvement;
- Amendment of Policy HAZ-3.1 to require that development is consistent with DTSC-approved land use covenants;
- Amendment of Policy HAZ-4.1 to protect human health and the environment through implementation of the DTSC-approved land use covenants; and
- Elimination of Policy HAZ-5.1, which required that development be coordinated with remediation activities.

Open Space

As addressed further in proposed revisions to the RSP Design Guidelines, the following are key proposed RSPU revisions to the Open Space chapter of the 2007 RSP:

- Amendment of the Open Space objective for the Central Shops District to reflect the importance of taking care in the placement of new uses so as to maintain a strong visual relationship between the buildings in order to convey the historic functional interconnections;
- Reconfiguration of the 2007 RSP "Box Car Parks" into a series of "East End Neighborhood Parks" configured around the 6th/South Park streets intersection as well as a landscaped corridor in the South Park Street alignment between 7th and 8th streets;
- Elimination of the 5th Street Bridge Overlook, replaced by two smaller overlooks on the existing 5th Street bridge;
- Realignment of Hopkins Walk to connect Stanford Street and the Central Shops to Vista Park through the proposed KP Medical Center campus; and
- Replacement of a Chinese Garden with a Chinese landscape design theme as part of the SITF development.

Circulation and Transportation

The following are key proposed revisions to the Circulation and Transportation chapter of the 2007 RSP:

- Recognition that the following streets have been constructed since adoption of the 2007 RSP: Railyards Blvd. from 7th Street to the Bercut Drive alignment, 5th Street from H Street to Railyards Blvd., including the 5th Street Bridge over the UPRR tracks; and 6th Street from H Street to Railyards Blvd. including the 6th Street Bridge over the UPRR tracks. Although not open for public use at the time of the release of this Draft SEIR, it is anticipated that these streets will be opened for public use during summer 2016, prior to certification of the SEIR.
- Straightening and realigning Camille Lane approximately from 10 to 100 feet north of the alignment in the 2007 RSP;
- Reconfiguration of one-way couplets that were previously called for with 5th (northbound)/7th (southbound) streets and South Park (eastbound)/North Park (westbound) streets, into two-way streets, making 5th Street available for connectivity from Richards Boulevard to I Street;
- Elimination of North Park Street and North 9th Street, as well as the connection of Judah Street to North B Street;
- Elimination of Huntington, Crocker, and Stanford streets between Railyards Blvd. and South Park Street to accommodate construction of the proposed KP Medical Center. These streets would remain in the Land Use Variant;

- Between Camille Lane and Railyards Blvd., elimination of Crocker Street and realignment of Huntington Street further east to create similarly shaped parcels to the east and west;
- Conversion of Railyards Blvd. between 7th Street to 10th Street from one-way (westbound) to two-way;
- Inclusion of a Class IV Protected Bike Lane on 6th Street from H Street to Railyards Boulevard, and exclusion of bike and pedestrian travel on 7th Street from F Street to Camille Lane, as well as elimination of the previously approved bike/pedestrian tunnel;
- Upgrade of bike lanes on Railyards Blvd., west of 7th Street, to exclusively Class II lanes; and
- Elimination of on-street parking on the west side of 6th Street between Railyards Boulevard and Stevens Street.

Although not called for in the 2007 RSP, a north-south vehicular, bicycle, and pedestrian connection on 10th Street between D Street and Railyards Blvd. was added to the General Plan Circulation Element as part of the adoption of the River District Specific Plan. Based on engineering studies that determined that grade separated facilities (tunnels and bridges) that could accommodate vehicular traffic and/or bicycle and pedestrian travel were not feasible in light of existing and proposed land uses, Americans with Disability Act accessibility requirements, safety concerns, and other factors, the proposed RSPU calls for the elimination of this connection (see Appendix J.3).[6]

Like the 2007 RSP, the proposed RSPU includes a one-way, single lane westbound connection from 12th Street to Railyards Blvd., with the two-way segment of Railyards Blvd. at the intersection of 10th Street. Engineering design of this connection was not conducted as part of the 2007 RSP, and has now been undertaken as part of the preparation of the RSPU. The westbound connection, referred to as a "slip lane," would diverge from 12th Street south of its intersection with North B Street, taking all traffic from the westernmost lane (after removal of the current westernmost lane for the purpose of construction of a two-way cycle track as part of the North 12th Street Complete Street Project). The remaining section of 12th Street between the diverge and the UPRR track underpass would include two southbound lanes, with three southbound lanes available south of the underpass.

Utilities and Services

Key aspects of the proposed RSPU Utilities and Services plan are described above. The proposed RSPU also reflects the utility improvements that have been constructed in the RSP Area since adoption of the 2007 RSP, including water supply, wastewater, and storm drainage infrastructure in the recently constructed 5th and 6th streets and Railyards Blvd., as well as the construction of a

6 Kimley-Horn and Associates, Inc., Railyards Boulevard and 10th Street Access Feasibility Study, October 15, 2015.

42-inch water transmission main from the Sacramento River Water Treatment Plant to the intersection of I and 5th streets, through the west side of the RSP Area.

The RSPU acknowledges the importance of water conservation in both residential and non-residential development and landscaping. It includes a commitment to a series of water conserving landscape requirements that involve the use of drought-resistant landscaping and water-conserving irrigation methods to reduce water waste, as well as to achievement of CALGreen Tier 1 Water Efficiency Standards or better.

Historic and Cultural Resources

The proposed RSPU recognizes that since 2007, the historic Depot building has been acquired by the City and many improvements have been planned and renovations initiated to fully integrate this facility with the planned Sacramento Intermodal Transportation Facility (SITF). Three phases of construction and renovation activities have been planned. Phase1, completed in 2013, included the relocation of the UPRR tracks to the current configuration immediately south of the Central Shops and construction of the new pedestrian/bicycle tunnel (the Steve Cohn Passageway) west of the new platforms. Phase 2, which is currently underway, involves the architectural restoration and rehabilitation of the historic Depot building consistent with the Secretary of the Interior's Standards for Historic Buildings. Phase 3, which was adopted in June 2009, anticipates the building of the SITF with multiple regional transportation services within convenient locations for passengers. No specific construction schedule has been established for Phase 3.

The following are key proposed revisions to the Historic and Cultural Resources chapter of the 2007 RSP:

- Reconfiguration of the Central Shops Historic District and the adjacent Transition Zone to conform to changed alignment of Camille Lane;
- The creation of a new development parcel, Parcel 22,[7] that would be located between the Paint Shop and Car Shop 3 within the previously identified "Market Plaza"; and
- Elimination of the previously planned relocation of the historic Water Tower, which under the proposed RSPU would remain in its current location at the northeast corner of Camille Lane and 5th Street.

Figure 2-22 presents the proposed reconfigured Central Shops Historic District.

[7] The 2007 RSP included a Lot 22 that would be subsumed into the proposed Lot 23 in the RSPU.

Hazards

The following are key proposed revisions to the Hazards chapter of the 2007 RSP:

- Revisions to update the status of soil and groundwater remediation activities, and to reflect legal changes in the responsibility for remediation of the RSP Area. The 2007 RSP reflected the land owner and project applicant's responsibility for clean-up. Following the loss of the property by way of foreclosure on the prior landowner, the proposed RSPU Hazards chapter reflects the accepted responsibility of UPRR for completion of remediation activities pursuant to a 1988 Enforceable Agreement with the DTSC;

- Replacement of a Tri-Party Memorandum of Understanding that addressed the roles of key parties, and responsibilities for ongoing oversight during construction, with a Two-Party Memorandum of Agreement that addresses the roles of the property owner and DTSC, and responsibilities for monitoring compliance with Land Use Covenants and construction activities. As part of this change, future coordination regarding remediation activities would occur between DTSC, UPRR, and the property owner;

- Implementation of the DTSC-approved Railyards Soil and Groundwater Management Plan; and

- Compliance with the terms of a Land Use Covenant for areas of the RSP Area in which completion of soil remediation has been certified.

Design Guidelines

The proposed RSPU includes updates to the RSP Design Guidelines (RSPDG), which were previously incorporated into the Central City Urban Design Guidelines (CCUDG). The key changes proposed for the RSPDG are to incorporate and bring the RSPDG into greater conformance with applicable guidance from the CCUDG, as described further below.

Public Realm Guidelines

Key changes proposed for the Public Realm Guidelines include:

- The addition of design guidelines for North B Street between 7th and 10th streets that proscribe four travel lanes, a center turn lane, and 6-foot Class II bike lanes on each side of the street, along with separated sidewalks, landscaped parkways with street trees on both sides of the street. North B Street between 5th and 7th streets would be two travel lanes, a center turn lane, and a 6-foot Class II bike lane on each side of the street. Sidewalks on North B Street would be 16-feet on both sides of the street from 5th to 7th, and on the south side of the street between 7th and 8th Street. All other sidewalks on North B Street would be 5.5 to 6 feet in width;

- A change in the RSP Area's "Main Street" from Camille Lane to Stanford Street, with Camille Lane becoming a primary pedestrian-focused connection between the Riverfront and West End Districts;

SOURCE: AECOM, May 6, 2016

Figure 2-22
Proposed Central Shops Historic District Boundaries

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- Where alleys in the commercial or residential districts are to be provided, they are to be designed consistent with Section B.1 of the Central Core Design Guidelines;
- The 2007 RSPDG for public sidewalks would be replaced by the sidewalk design guidelines provided in Chapter 3, Section C of the Central Core Design Guidelines, with most sidewalks in the RSP Area would be 16 feet wide, except at locations that are existing, constrained by right-of-way, and/or recently constructed with narrower sidewalks;
- The following changes to the guidelines for street furnishings and amenities:
    - Landscape guidelines are referred to in Section D of the Central Core Design Guidelines, with the exception of a limited number of street tree guidelines which continue to require that street trees are 10 feet from building facades and 15 feet from street lights;
    - Street lighting guidelines would be removed. Street lighting is referred to section C.3.d of the Central Core Design Guidelines, with the exception of limitation of street lights on pedestrian streets to 15 feet in height, and allowing 30 feet in height on larger streets;
    - Small public places guidelines would be removed and replaced with the small public places guidelines for the Central Core Area provided in Chapter 3, Section E of the Central Core Design Guidelines; and
    - Public art guidelines would be removed and replaced with the public art guidelines for the Central Core Area provided in Chapter 3, Section F of the Central Core Design Guidelines;
- Parks and open space guidelines revisions, include changes to the following requirements:
    - Elimination of paving, site furniture, and light fixtures in Roundhouse Plaza to be similar to those used in the Central Shops historic buildings;
    - Museum Park is refined to be Museum Plaza, with the addition of design features that commemorate the historic track alignment into the street pavement, street furniture, signage, etc.;
    - Elimination of the requirement that the 5th Street Steps to use the same paving, planting, and site furnishings used along 5th Street;
    - Hopkins Walk would be reconfigured to be a connection between Stanford Street and Vista Park;
    - Addition of a requirement that Vista Park have active play areas that can be used for various sports activities; and

- Elimination of the 5th Street Bridge Overlook that was to provide 30-foot wide viewing platforms (Note: the 5th Street Bridge was constructed with 12- to 16-foot wide sidewalks on the west side, and shade structures to facilitate viewing of the Central Shops, the Depot District, downtown Sacramento, and other points to the west);

- Parks and open space guidelines also include replacement of guidelines for the "Box Car Parks" included in the 2007 RSP with guidelines for East End Neighborhood Parks oriented around the intersection of 6th/South Park streets and a greenway that follows the alignment of South Park Street between 7th and 8th streets. The East End Neighborhood Parks are encouraged to include amenities for young children and families, including tot lots and adventure play areas; and

- Parks and open space guidelines would also eliminate the requirement for a Chinese Garden in exchange for requirements that a Chinese landscape theme be included in the design of landscape and open spaces in the Depot District.

Private Realm Guidelines

Key changes proposed for the Private Realm Guidelines include:

- In the Depot District, a change to allow mid-rise as well as high-rise commercial mixed-use buildings;

- In the West End District, elimination of residential/commercial mixed-use low rise buildings as the primary building type on 7th Street near the Alkali Flat neighborhood, a change to allow mid-rise as well as high-rise commercial mixed-use buildings, and the addition of health care and hospital buildings as a building type;

- In the East End District, elimination of a requirement for mid-block alleys on all blocks, and of requirements for buildings to step down to adjacent parks. Buildings would be limited to a maximum of 320-foot frontage, with alleys or lanes used to break up the building mass. Building types would be changed to eliminate low-rise residential mixed-use buildings, to add commercial mixed-use mid-rise and high-rise buildings, to allow residential mixed-use buildings near Vista Park to include ground-floor neighborhood serving businesses and services rather than strictly retail uses, and to provide for residential mixed-use high-rise buildings along the 7th Street corridor rather than along the northern and southern edges of the District. In addition, soccer stadium is identified as a building type allowable in the District;

- In low-rise (5 stories or less), mid-rise (6-8 stories), and high-rise residential buildings, a strict requirement for the facades of retail-level uses to be 75% transparent and activated;

- In high-rise residential buildings, above the street-wall, maximum average floor plates would be raised from 7,500 sf to 10,000 sf, and other massing and building configuration requirements (e.g., maximum plan and diagonal dimensions) would be eliminated;

- In hospital high-rise buildings, the maximum average tower floor plate would be set at 50,000 sf;
- In commercial high-rise buildings, street-wall heights of between 65 in most of the RSP Area, with 85 feet along Railyards Boulevard, and up to 125 feet on portions of the H zoned block would be allowed prior to application of bulk controls, compared to 60 to 85 feet in the 2007 RSPDG;
- 2007 RSPDG site planning guidelines for build-to lines and setbacks, tree setbacks, lot coverage, open space, small public spaces, landscaping, project size and building type, and service areas and access would be replaced with the relevant portions of the Central Core Design Guidelines;
- 2007 RSPDG massing and building configuration guidelines for street-wall and building base height, massing and bulk controls, facades, rooftops and mechanical penthouse enclosures, development along alleys, sustainability, and public and private art would be replaced with relevant portions of the Central Core Design Guidelines, with the following key exceptions:
    - Maximum street-wall heights that were previously 60 to 85 feet would be lowered to 65 feet, except on Railyards Boulevard where the maximum street-wall height would remain at 85 feet, and around the H Zone parcels would be 85 feet along Railyards Boulevard; 125 feet along Bercut Drive, and along South Park Street from Bercut Drive to Hopkins Walk; and 65 feet along 5th Street, and along South Park Street from Hopkins Walk to 5th Street.; and
    - 2007 RSPDG bulk controls would be replaced with the bulk controls included in Central Core Design Guidelines, Chapter 4, Section D.3;
- 2007 RSPDG parking and vehicle access guidelines for location and configuration, and bicycle parking would be replaced with relevant portions of the Central Core Design Guidelines, Chapter 4, Section E.1, with the following key exception:
    - The 2007 RSPDG guideline that required ground floor parking to be wrapped with an active street front use would be amended to also allow ground floor parking to use design and architectural treatments to preclude visibility of parking uses at street level.

Historic Resources

The following revisions to the Historic Resources chapter of the 2007 RSPDG are proposed:

- It would be clarified that Transition Zone Guideline 1, which requires that new buildings be placed a minimum of 20 feet from an historic structure, does not apply to additions to existing buildings; and

- The requirement that new buildings in the Transition Zone be "slender or modulated" would be eliminated, but the requirement that such buildings be designed to allow views from the Central Shops to I-5, Camille Lane, and 5th Street would remain.

Signage

The following revisions to the Signage chapter of the 2007 RSPDG are proposed:

- A requirement would be added for a master sign program that reflects the character of each district; and
- In the Central Shops District provision would be made for tenant signage on walls, in addition to the prior allowed signs on door openings, painted on glass, or on free-standing poles/structures.

Building Heights

The 2007 RSP established no building height limits for most of the RSP Area. There were specific building height limits in the East End District, north and south of the Box Car Parks; in the Transition Zone around the Central Shops Historic District, and in the Riverfront District between I-5 and the Sacramento River. The height limits proposed in the RSPU are shown on Figure 2-8, RSPU Proposed Building Height Limits Diagram. The primary changes in the height limits in the proposed RSPU respond to the reconfiguration of parks and open space in the East End District, and the configuration of the Central Shops Historic District and realignment of Camille Lane. The following are proposed changes to the 2007 RSP Building Height Limits:

- Elimination of 120-foot limits covering the half block south of South Park Street and the half block north of the prior North Park Street, from 7th to 10th streets. This would be replaced with 250-foot limits in the R-5 SPD zone, and unrestricted height on the blocks east of 7th Street;
- Reduction in the height limit on Parcel 22, between Car Shop #3 and the Paint Shop building, from 67 feet to 24 feet;
- Reduction in the height limit on Parcel 23, immediately south of Car Shop #3, in the Central Shops, from 78 feet to 24 feet;
- Reconfiguring Parcel 18 and reducing the 67-foot building height limit to a maximum height of 40 feet, in the Transition Zone east of the Central Shops;
- Increasing the limit from 67 feet to 100 feet on the area identified as Block 8, south of Camille Lane and west of the Roundhouse, in the Transition Zone;
- Decreasing the height limit from unrestricted to 120 feet on Blocks 49, 50 and 51;
- Increasing the height limit on the eastern side of Block 46 (facing 7th Street) from 85 feet with a 35-foot street-wall, to 120 feet with a 65-foot street-wall;

- Decreasing the height limit for any structures built on the Vista Park block (Block 72) from unrestricted to 35 feet; and
- Changing the height limits on the southern building footprint of Parcel 35 in the Riverfront District. The change would be from a 450-foot height limit, with a required building base height of 85 feet, and then a step down to 35 feet within 100 feet of the riverbank, to a height limit of 450 feet with a 65-foot street-wall to the property line with an additional step down to be approved as part of the Site Plan and Design Review process.

Special Planning District

The RSPU proposes revisions to the Railyards SPD. The revisions involve changes to the SPD to make it consistent with the land use designations described above (see pages 2-22 through 2-28). In addition, general and specific provisions of the development permitting process would be revised to bring the process into conformance with the development permitting process established in the City's Planning and Development Code.

Construction

Imported Fill Material

As described above, the project site would be graded to provide a positive flow of drainage from east to west. In order to create the necessary grades, an estimated 750,000 cubic yards of imported fill would be required for the complete proposed RSPU. The project applicant is contracting with the Sacramento County Regional Sanitation District to provide clean fill that is being created as part of the earthmoving in the SCRSD sewer treatment plant upgrade project.

The Sacramento County Regional Sanitation District plant is located on the north end of Dwight Road in the City of Elk Grove. The haul route would be a total of 15 miles: 0.5 miles from the plant south on Dwight Road, 1.3 miles west on Laguna Boulevard, 12.8 miles north on I-5, 250 feet east on Richards Boulevard, and 0.9 miles south on Bercut Drive to the RSP Area. The return route would be the same except the trucks would go north 0.6 miles on Jibboom Street to the southbound I-5 onramp at Richards Blvd.

A maximum of 50 trucks per day would each haul an average of fourteen cubic yards of fill material, with an average of five round trips per day. At this rate, the haul operation associated with fill of the project site would take a total of approximately 214 days to complete.

The loading at the treatment plant would be performed using 100,000 pound excavator, 4,000 gallon water truck, 40,000 pound dozer and a road sweeper. At the delivery point in the RSP Area, there would be a 40,000 pound sheep foot compactor, 4,000 gallon water truck, 50,000 pound motor grader and a road sweeper. The haul operation would run from Monday through Saturday from 6:00 am to 6:00 pm.

Both the loading and unloading operation would be subject to a Storm Water Pollution Prevention Plan approved by the Central Valley Regional Water Quality Control Board and the Railyards Soil and Groundwater Management Plan, and all equipment for the haul operation would conform to California CARB Standards.

Project Approvals and Entitlements

City of Sacramento

The proposed projects are anticipated to include, but may not be limited to, the following City actions:

- Approval of a Water Supply Assessment;
- Certification of the SEIR to determine that the SEIR was completed in compliance with the requirements of CEQA, that the decision-making body has reviewed and considered the information in the SEIR, and that the SEIR reflects the independent judgment of the City of Sacramento;
- Adoption of a Mitigation Monitoring Plan (MMP), 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 one or more amendments to the City's 2035 General Plan;
- Approval of the Railyards Specific Plan Update;
- Approval of amendments to the Railyards SPD, Chapter 17.440 of the City Code;
- Approval of amendments to the Railyards Design Guidelines;
- Approval of revisions to the Central Shops Historic District Ordinance (Ordinance # 2007-103) to change the boundary of the District, remove the Water Tower as a contributing resource in the District, and delete the references to relocation of the Water Tower into the District;
- Approval of a landmark designation for the Water Tower on its original site;
- Approval of a Conditional Use Permit for a Sports Facility (MLS Stadium and related facilities) on Lots 52(a-e) in the C-3 SPD zone;
- Approval of a Conditional Use Permit for a helistop at the KP Medical Center;
- Approval of a Conditional Use Permit for stand-alone, all-weather MLS Stadium parking lots;
- Approval of a Tentative Subdivision Map;

- Approval of a Master Development Agreement;
- Approval of a Site Plan and Design Review Permit for the MLS Stadium, including surrounding plaza area;
- Approval of a variance from the City's Noise Ordinance to allow extended construction hours and operation of the MLS Stadium and associated facilities;
- Approval of a Site Plan and Design Review Permit for the Stormwater Outfall;
- Approval of a Finance Plan;
- Amendments to the City's Bicycle Master Plan;
- Approval of a rezone; and
- Approval of a Mixed Income Housing Strategy.

Other Local, Regional, State or Federal Agencies

The proposed projects are 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 dewatering to the combined sewer system (CSS);
- Approval of a pre-treatment permit from the Sacramento Regional County Sanitation District to allow discharges associated with construction dewatering to the CSS;
- Approval of a stationary source permit from the Sacramento Metropolitan Air Quality Management District (SMAQMD);
- Approval of a permit pursuant to Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers, including any related Biological Opinion from the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS);
- Approval of a Section 408 permit to alter the existing levee pursuant to Section 14 of the Rivers and Harbors Act (33 CFR 408) from the U.S. Army Corps of Engineers;
- Approval of a water quality certification under Section 401 of the Clean Water Act by the Central Valley Regional Water Quality Control Board (CVRWQCB);
- Approval of a Streambed Alteration Agreement pursuant to Section 1600 of the California Fish and Game Code from the California Department of Fish and Wildlife;
- Approval of an encroachment permit from the Central Valley Flood Protection Board;

- Approval of a lease from the California State Lands Commission;
- Approvals of the design of the proposed hospital by the California Office of Statewide Health Planning and Development (OSHPD); and
- Approval by California State Department of Parks and Recreation for encroachment by the Stormwater Outfall pipes and structures.

2.5 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 Army Corps of Engineers (USACE),
- United States Fish and Wildlife Service (USFWS),
- United States Department of Commerce, National Marine Fisheries Service (NMFS),
- 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),
- California Office of Statewide Health Planning and Development (OSHPD),
- California State Lands Commission (CSLC),
- Central Valley Flood Protection Board (CVFPB),
- 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), and
- Sacramento Regional Transit (RT).

2.5.1 KP Medical Center

Kaiser Foundation Hospitals, a California nonprofit public benefit corporation (Kaiser) is applying for land use entitlements for the development of a new, state-of-the-art approximately 1.3 million sf Kaiser Permanente Medical Center (KP Medical Center) campus in the City. The

KP Medical Center would bring a comprehensive range of health care services to Kaiser Permanente members in the City and surrounding communities, including without limitation: a comprehensive range of inpatient and outpatient primary and specialty care services; including diagnostic and treatment services; surgical services and emergency care; urgent care; radiation/ oncology services; diagnostic services including radiology and telemedicine; women's services; and supporting ancillary health care services such as optical, pharmacy, laboratory, education and training.

Morse Avenue KP Medical Center

Kaiser currently operates its Sacramento Medical Center at 2025 Morse Avenue in unincorporated Sacramento County. The Morse Avenue facility offers a full hospital with 287 licensed beds, inpatient and ambulatory surgical services, medical offices, emergency services, pharmacy, and other related healthcare services and administrative functions.

Following the opening of the proposed KP Medical Center in the RSP Area, all hospital and clinical uses would be relocated from the existing Morse Avenue KP Medical Center, which would cease to operate for medical service delivery purposes. Administrative and other non-medical uses may continue into the future.

Until a future use is determined for the facility buildings and/or land at the Morse Avenue site, 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 buildings and parking lots would continue to be operated for security purposes.

For purposes of this SEIR, it is therefore assumed that the hospital and other medical buildings at the Morse Avenue facility would be closed upon opening of the proposed Railyards KP Medical Center, and remain closed for an indeterminate period until further action is taken by Kaiser Permanente to either demolish or convert the buildings to different uses.

State-Mandated Compliance with Senate Bill 1953

Seismic-safety legislation Senate Bill (SB) 1953 and the Alfred E. Alquist Hospital Facilities Seismic Safety Act (the Alquist Act), mandate the replacement or seismic-retrofit of existing California acute care hospital facilities that do not meet current earthquake-resistant standards for hospitals within specified timeframes continuing to 2030. The Morse Avenue KP Medical Center is classified as an acute care facility.

The Alquist Act also requires that building plans for the retrofit or replacement of acute care hospital facilities be submitted to, and approved by, the Office of Statewide Health Planning and Development (OSHPD). OSHPD enforces building standards and codes related to construction of health facilities. Specifically, hospitals with non-ambulatory patients, such as the future KP Medical Center, are considered "Institutional Group I Occupancy" structures (as defined in the

California Building Code) and are subject to stringent requirements for life safety (fire, health, seismic). Non-OSHPD structures (i.e., structures that do not house OSHPD-regulated hospital functions) are not subject to the same building requirements, but are subject to the 2013 California Building Code and currently applicable building codes, State and federal accessibility requirements, and local regulations.

Kaiser Permanente J Street Medical Office Building & Sports Medicine Clinic

Kaiser Permanente has purchased the existing building and parking structure at 501 J Street in downtown Sacramento. Design is underway to convert the 210,000 sf, six-story building into an outpatient specialty care medical office building. Construction on phase one of the interior tenant improvements is expected to start in 2016 and will run through early 2018. Phase one opening is planned for mid-year 2018. Phase two would coincide with the opening of the Railyards KP Medical Center campus.

The new J Street MOB will include offices for 86 providers in phase one, and a total of approximately 120 providers when phase two is completed. All of the ancillary services typically found in a Kaiser Permanente stand-alone medical office building will be provided, including Lab, Imaging, and Pharmacy. Urgent Care services will not be provided at 501 J Street.

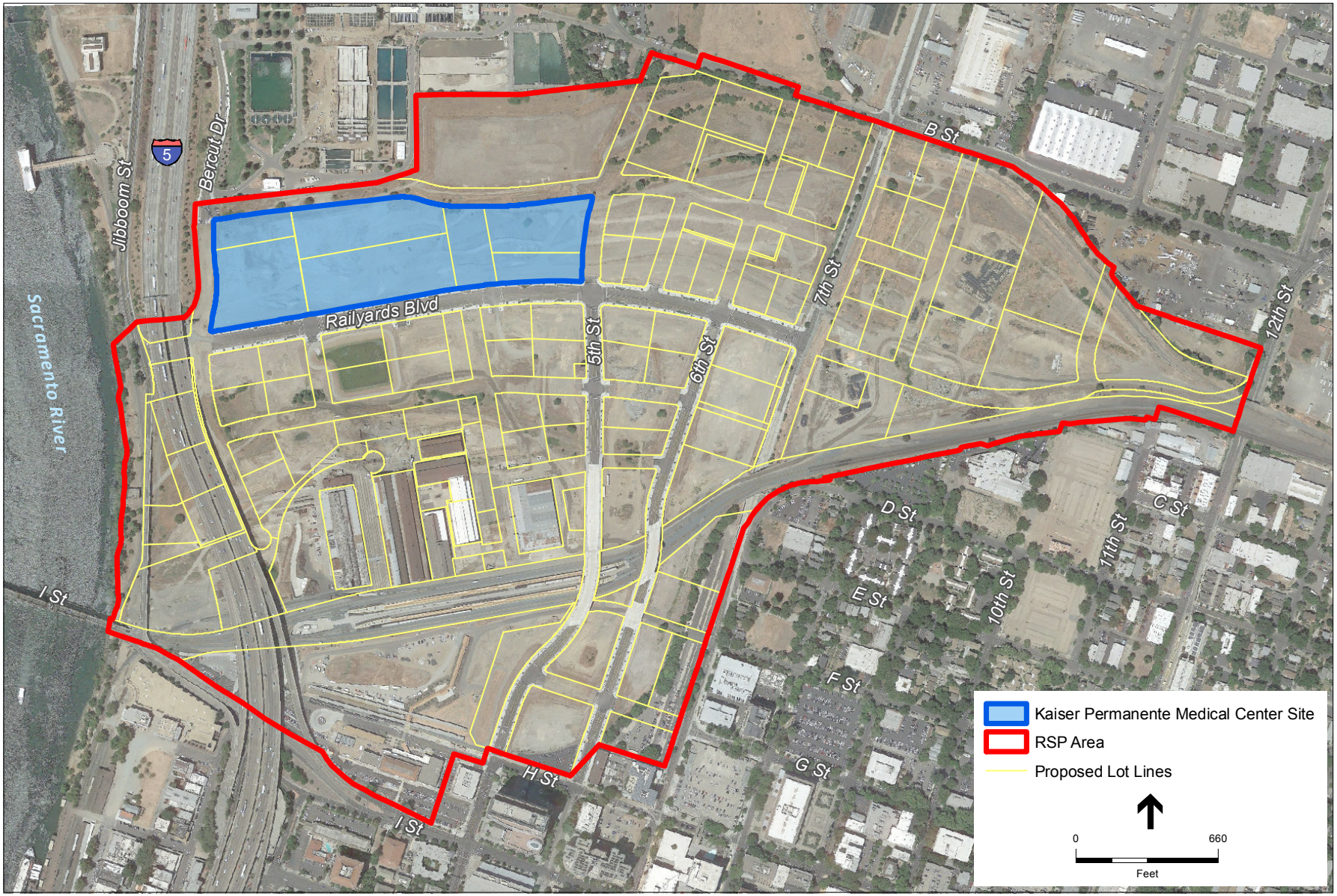
A 15,000 sf Sports Medicine Clinic annex will be located directly across the street in the new Sacramento Kings practice facility structure, contiguous to Golden 1 Center, currently under construction.

Kaiser Permanente members will come to both facilities on an appointment-only basis. Member traffic between 501 J Street and the proposed KP Medical Center in the RSP Area is expected to be minimal. Members would come to one or the other facilities based on where their appointment is scheduled.

Staff traffic between the facilities would also be minimal, and potentially would include only the regularly scheduled courier cars that move medical supplies and lab samples between facilities. Staff would be encouraged to walk between facilities. An employee shuttle between 501 J Street and the proposed KP Medical Center in the RSP Area is not contemplated at this time.

Project Location

The proposed KP Medical Center would be located on 17.8 acres north of Railyards Boulevard and west of 5th Street (see **Figure 2-23**, Kaiser Permanente Medical Center Site). The site is generally situated between the City Water Treatment Plant and the future Vista Park on the north, I-5 and the Sacramento River to the west, RSP mixed-use development and the Central Shops Historic District to the south, and the RSP residential R-5 neighborhood to the east. More specifically, the proposed KP Medical Center site is bounded by Railyards Boulevard on the south, Bercut Drive on the west, South Park Street on the north, and 5th Street on the east.



SOURCE: Kimley-Horn, 2016; Lionakis, 2016; AECOM, 2016; ESA, 2016

Figure 2-23
Kaiser Permanente Medical Center Site

Major Project Components

Kaiser has developed illustrative plans for the proposed KP Medical Center; these illustrative plans form the basis of the analysis in this SEIR. The illustrative plans are not the subject of formal applications to the City, and the final designs remain subject to future City review and approval. In the future, Kaiser would present the City with detailed design plans and programming for subsequent City review and approval of a Site Plan and Design Review permit. At that time, the City would compare the detailed designs with the policy, regulations, and Design Guidelines of the RSPU, as well as the SEIR. To the extent that the detailed designs conform to the parameters established in the RSPU and the SEIR, it is anticipated that no further CEQA analysis would be required. In the event that the final designs materially differ from the RSPU and assumptions in the SEIR, especially in terms of total square footage of uses, employment estimates, and/or key features of the hospital and medical center, the City would be required under CEQA to consider the environmental effects of the differences. Assuming that no new or substantially more severe impacts would result, no further CEQA analysis would be required.

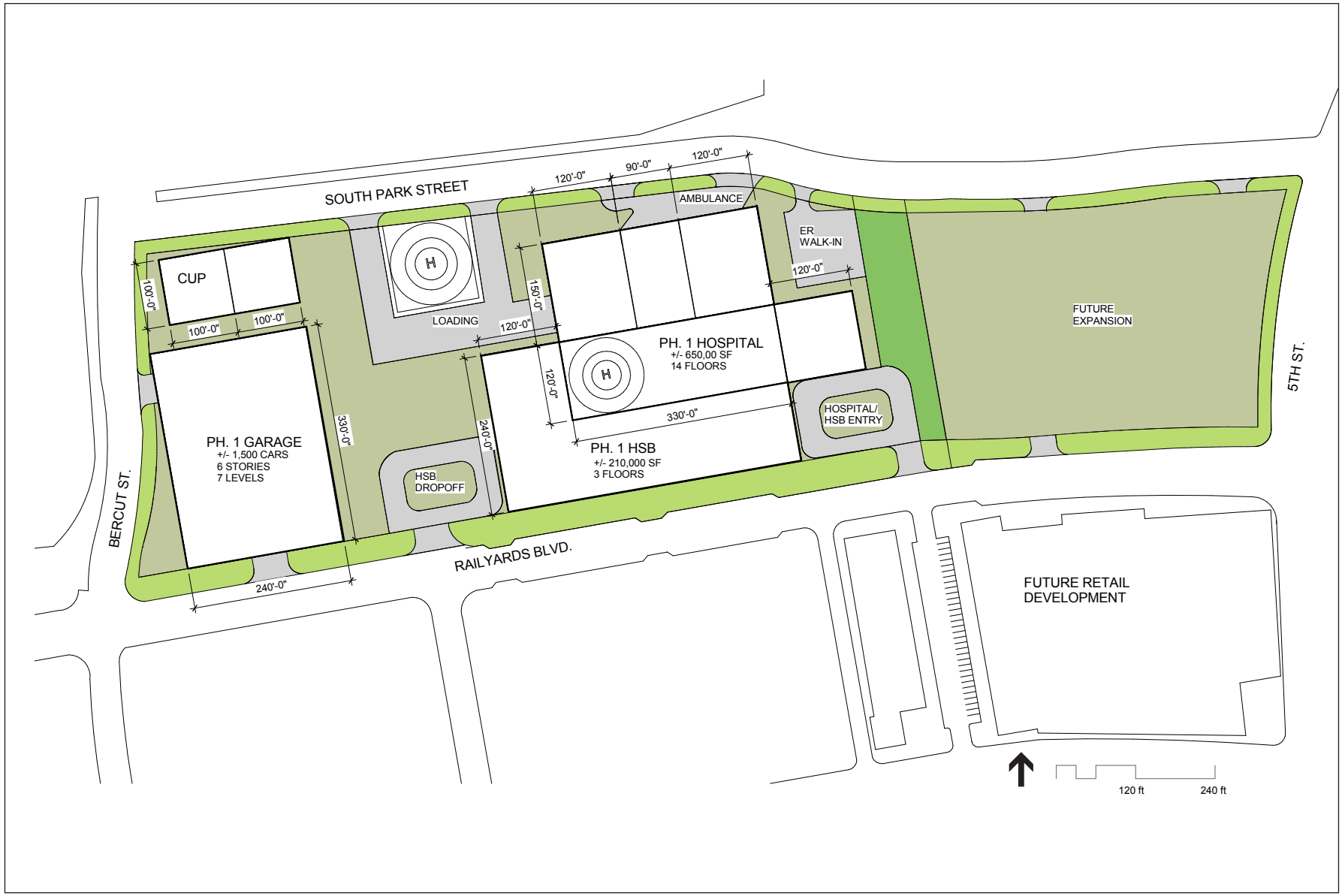
The KP Medical Center would result in the construction of the following: (1) an approximately 658,000 sq. ft. hospital or similar facility (with 24/7 use); (2) approximately 510,000 sq. ft. of medical, support office, and clinic buildings; (3) an approximately 60,000 sq. ft. Central Utility Plant (CUP); (4) surface and structured parking providing approximately 3,200 spaces; (5) internal privately-owned roads; and (6) green spaces. Based on the illustrative plan, excluding rooftop and penthouse structures, the heights for the buildings would range from approximately 90 feet to 230 feet. Although the KP Medical Center would not be a trauma center, it would include a helistop to provide non-emergency patient transport. There would be no publicly-owned internal vehicular roads on the KP Medical Center and any existing public roads on the site would be eliminated. Because the site is vacant, no existing structures would be demolished in connection the construction of the KP Medical Center.

Phase 1

Phase 1 of the KP Medical Center project would be comprised of the new hospital building, an adjacent hospital support building (HSB), and a parking structure. In addition, a CUP and a helistop for use in the transport of patients would be constructed during Phase One. Phase One is anticipated to begin construction in 2018 and be open to the public in 2022. See **Figure 2-24**, Illustrative Site Plan: KP Medical Center – Phase I for an illustrative depiction of the planned features of Phase 1 of the KP Medical Center.

Hospital

The new hospital building would be comprised of an approximately 658,000 sf in-patient hospital shown on the illustrative plan to be located centrally on the portion of the KP Medical Center site bounded by Railyards Boulevard and South Park Street, roughly between the alignments of Huntington Street and Stanford Street. The illustrative site plan indicates that the hospital would include a three to four-level base (approximately 42 to 64 feet above grade) that would feature the hospital entry on the west and the emergency room and related facilities on the north, with a main



SOURCE: LIONAKIS 2016

Figure 2-24

Illustrative Site Plan: KP Medical Center - Phase 1

hospital tower rising up to 14 stories in the center of the block, to a maximum height of approximately 230 feet.

During Phase 1, the entire approximately 658,000 sf hospital building would be constructed. Fully occupied, the hospital would have the capacity for approximately 420 in-patient beds.

Upon opening, it is expected that the hospital would provide a total of approximately 252 in-patient beds, 48 emergency bays, 12 operating rooms, and 8 additional procedure rooms. Initially, only the first ten floors (approximately 500,000 sf) would be occupied; the remaining floors would be built, but left unfinished ("shelled"), to be to be commissioned and occupied on an incremental basis, as needed to meet the demands from Kaiser members.

As noted above, during the hospital would be constructed to its full 658,000 sf physical space. After opening, incremental expansion would occur into the shelled space on floors 11 through 14 would accommodate approximately 72 additional intensive care/critical care beds and 96 medical/surgical acute care beds, as well as relatively minor expansions into shell space on some of the floors 1, 2, and 5.

As currently envisioned, the hospital would include the following suite of potential uses on the 14 floors of the hospital building:

Floor 1: Admitting, cafeteria, emergency department, gift shop, food and nutritional services, environmental services, conference rooms, imaging, loading dock, linen services, morgue, security, supply rooms, and staff locker rooms;

Floor 2: Surgical operating rooms, interventional radiology, recovery rooms, procedure suites, anesthesia offices, and sterile processing;

Floor 3: Labor and delivery (12 beds), newborn nursery (6 bassinets), perinatal services (24 beds);

Floor 4: Mechanical;

Floor 5: Clinical laboratories and blood bank, pathology labs, pharmacy, rehabilitation therapy, respiratory care, communications, and hospital based physician offices;

Floor 6: 36 Intensive care/critical care beds;

Floor 7: 36 Intensive care/critical care beds;

Floor 8: 48 Medical/surgical acute care beds;

Floor 9: 48 Medical/surgical acute care beds;

Floor 10: 48 Medical/surgical acute care beds;

Floor 11: 48 Medical/surgical acute care beds;

Floor 12: 48 Medical/surgical acute care beds;

Floor 13: 36 Intensive care/critical care beds; and

Floor 14: 36 Intensive care/critical care beds.

Hospital Support Building

As shown on the illustrative site plan, on the south, facing Railyards Boulevard, and on the west, the hospital tower would be flanked by an attached Hospital Support Building (HSB). The approximately 210,000 sf, three-to-four level HSB would include physician offices, laboratories, clinical treatment facilities, ambulatory surgical facilities, and other similar facilities that are related to, but not functionally part of, the main hospital. The proximity of these two structures would provide ease of access for patients, medical professionals, and families who need to move between buildings. Based on the illustrative site plan, the HSB would largely front Railyards Boulevard, and would rise to a height of approximately 48 to 64 feet.

Helistop

The KP Medical Center would include a helistop that would provide for rapid transport of patients to and from the proposed KP Medical Center. The proposed KP Medical Center would not be a Level 1 Trauma Center; rather, helicopter use of the helistop would be for non-emergency transfer of patients who, for medical reasons, are most appropriately moved to or from the proposed KP Medical Center to another acute care facility through the air rather than via traditional vehicular ambulances. This can typically reduce materially the amount of time in transport which can be advantageous for certain patients. It is anticipated that the helistop would typically experience 2 to 6 operations (landings and takeoffs) per week. Although not prohibited, because the helistop would not be used for emergency transport, it is expected that the vast majority of helistop operations would take place during the day and that nighttime operations would be infrequent.

The illustrative site plan indicates two potential locations for the proposed KP Medical Center helistop: (1) an approximately 150-foot by 150-foot ground-level helistop immediately west of the hospital building and south of South Park Street; or (2) a helistop on the roof of the hospital building.

Central Utility Plant

Phase 1 of the proposed KP Medical Center would also include construction of a 60,000 sf CUP, which would include boilers and chillers which, in turn, would provide steam and chilled water to heat and cool the proposed buildings. If located on the ground level, the proposed CUP would be constructed on an approximately 20,000 sf site, generally located in the illustrative site plan near the southeast corner of South Park Street and Bercut Drive (see Figure 2-24). The proposed CUP would include up to approximately 10 boilers, 8 chillers, a tank farm, a cooling tower, emergency

backup generators and related power equipment, staff offices and control rooms, storage, and other rooms. The buildings would be landscaped.

The proposed CUP tank farm would include tanks for the storage of several gaseous chemicals that would be stored under pressure; some would be stored as a gas and some in a liquid state. The chemicals that would be stored on-site include liquid oxygen, compressed carbon dioxide gas, liquid nitrogen, and nitrogen oxide gas. In addition, the CUP could include an above-ground, approximately 54,000 gallon, diesel storage tank that would support emergency backup generators. Other chemicals would be stored and used at the CUP for the operations and maintenance of the CUP. Although the CUP has not yet been designed, based on review of hazardous materials stored and/or used at a comparable Kaiser facility, a list of chemicals that can be expected to be stored and used at the CUP is presented in **Table 2-5**.

TABLE 2-5.
CHEMICALS POTENTIALLY STORED AND USED
AT KP MEDICAL CENTER CENTRAL UTILITY PLANT

Chemical	Physical State
Acetylene	Gas
Compressed Carbon Dioxide	Gas
Compressed Nitrogen	Gas
Compressed Nitrous Oxide	Gas
Corrosion Inhibitor FM 12L	Liquid
Diesel Fuel	Liquid
Envirotemp Transformer Fluid FR 3	Liquid
Gasoline	Liquid
Hydraulic Oil	Liquid
Liquid Oxygen	Liquid
Non Oxidizing Biocide FM 310	Liquid
Oxidizing Biocide FM3340	Liquid
Oxygen Scverger Sodium Sulfite FM 1160	Liquid
Paint Thinner	Liquid
Scale/Corrosion Inhibitor FM 2010Z	Liquid
System Condensate Steamline Neutralizing Amin FM 4425	Liquid
System Scale/Corrosion Inhibitor FM 1123	Liquid
Thermal Fluid (Hydrotreated Mineral Oil)	Liquid

Source: Kaiser Permanente, Westside Central Utility Plant Hazardous Materials Identification System Spreadsheet, 2015.

Parking

Parking during Phase 1 would be provided by a parking garage shown on the illustrative site plan to be located at the western end of the KP Medical Center campus and a paved parking lot on the eastern end (see Figure 2-24).

The illustrative site plan identifies that the Phase 1 Parking Garage would be located on an approximately 1.8-acre footprint on the western end of the KP Medical Center project site, near the intersection of Railyards Boulevard and Bercut Drive, immediately south of the CUP, and approximately 200 feet west of the main entrance to the HSB. The illustrative site plan indicates that the structure would include approximately 7 levels and would be 6 stories above grade (approximately 70 feet in height). The Phase 1 Parking Garage would provide approximately 1,500 parking spaces and would be intended to be used by hospital staff, patients, families, and visitors to the hospital and/or HSB.

The illustrative site plan indicates an approximately 450-space Phase 1 Parking Lot located on an approximately 2.5-acre footprint near the intersection of 5th Street and South Park Street, approximately 150 feet east of the main hospital entrance. As shown, vehicular ingress and egress would be provided from Railyards Boulevard and South Park Street.

Circulation

All of the key circulation elements of the KP Medical Center campus would be constructed as part of Phase 1. Primary vehicular entries would be provided from Railyards Boulevard. The illustrative site plan indicates that the eastern entrance, which would provide drop-off access to the hospital main entry, would be on Railyards Boulevard immediately north of Stanford Street, and that the western entrance that would provide vehicular access to the main entry to the HSB, as well as to a Phase 1 parking lot, would be from Railyards Boulevard immediately north of Huntington Street.

The illustrative site plan also indicates that vehicular access would be provided from South Park Street, which forms the northern boundary of the KP Medical Center site. North and west of the hospital building there would be vehicular access points for a small parking lot that would provide parking for emergency room walk-in patients. Further to the east would be ingress and egress for ambulances and other emergency vehicles approaching the emergency room. Farther west, on either side of the ground-level helistop location, would be access for loading and service vehicles.

Open Space

A variety of landscaped areas and open spaces would be provided in and around the KP Medical Center. Most notably, a dedicated open space greenway would bisect the campus in a north-south alignment, connecting Stanford Street south of Railyards Boulevard to Vista Park, north of South Park Street. The greenway would be an urban park, designed to contribute to and support the healing environment of the KP Medical Center. Vehicle traffic would not be permitted within the park. The park would be designed to maximize adaptability, allowing for a variety of activities from solitary respite to group socialization. The park would provide a flexible framework to accommodate weekly farmers markets. Key design features would include:

- Connection to the community – draw the local community and visitors into the park;
- Planned and built for adequate pedestrian circulation both on campus and to Vista Park;

- Public art – such as sculpture, lighting, and fountains;
- Site furniture to provide comfort and respite;
- Shaded and sun filtered areas for the warmer summer months;
- Landscape to provide human scale, enhance connectivity and cohesiveness across the campus;
- Lighting to improve way finding and to encourage evening use and promote a safe and secure environment; and
- Low maintenance and sustainable design.

Phase 2

Phase 2 would involve the addition of new buildings on the KP Medical Center campus (see **Figure 2-25,** Illustrative Site Plan: KP Medical Center – Phase 2). Phase 2 is expected to be initiated no sooner than approximately 10 years after completion of Phase 1.

Medical Office Buildings

Phase 2 of the KP Medical Center would include construction and operation of two medical office buildings (MOBs) shown on the illustrative site plan to be located east of the main hospital building. As presented, the MOBs would be each approximately 150,000 sf in size, six stories, rising approximately 80 to 85 feet in height over grade. As presented on the illustrative site plan, one MOB would be constructed on a 0.6-acre site situated between the main hospital building and the future Phase 2 Parking Garage (see Figure 2-25). It would be constructed in a north-south alignment parallel to the Stanford Street open space that would run through the campus. A second MOB would be constructed on a similarly sized site located between the future Phase 2 Parking Garage and Railyards Boulevard, near its intersection with 5th Street.

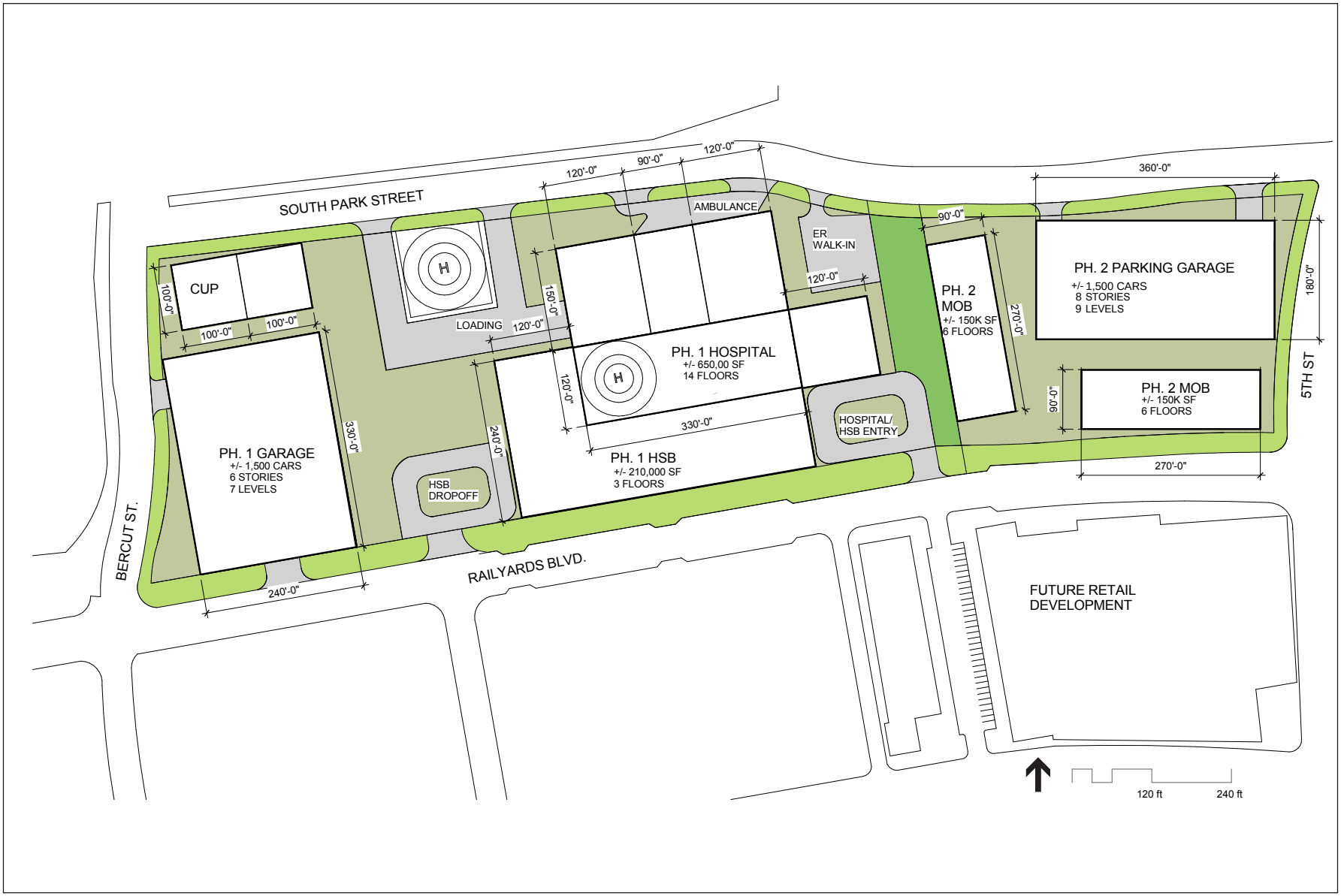
Phase 2 Parking Garage

Phase 2 would include the conversion of the Phase 1 Surface Parking Lot to the sites for the Phase 2 medical office buildings, described above, and a multi-story parking garage providing approximately 1,500 parking spaces. As shown on the illustrative site plan, the Phase 2 Parking Garage would sit on a portion of the site of the Phase 1 Parking Lot. The garage would be an approximately 9-level parking structure, with 8 stories above grade, rising to a height of approximately 85 feet above grade. The Phase 2 Parking Garage would be accessed from the same South Park Street vehicular entries that would serve the Phase 1 Parking Lot, but would not be accessible from Railyards Boulevard.

As part of the construction of the Phase 2 Parking Garage, it is proposed that surface parking at the KP Medical Center would be reduced from 450 spaces to 200 spaces.

Helistop

There would be no changes to the helistop as part of Phase 2 of the proposed KP Medical Center.



SOURCE: LIONAKIS 2016

Figure 2-25

Illustrative Site Plan: KP Medical Center - Phase 2

Central Utility Plant

During Phase 2, there would be minor changes to the interior of the CUP in order to provide energy to the Phase 2 buildings. There would be no expansion in overall space at the CUP and no change to the footprint of the structure.

Project Design Concepts and Characteristics

The proposed buildings in the KP Medical Center would be designed to be visually cohesive, with a comprehensive and consistent set of building and façade materials. The buildings would be clad in a combination of glazed and non-glazed surfaces, ranging between approximately 30% and 40% glass. As noted above, Kaiser has developed illustrative plans for the proposed KP Medical Center. Once detailed project designs have been prepared, Kaiser would seek approval of a Site Plan and Design Review permit from the City.

Lighting Concept

The proposed KP Medical Center campus would include a comprehensive system of exterior lighting for the purposes of safety, security, and nighttime visibility. In addition, interior building lighting will be visible at night through windows and other glazed surfaces. The exterior system will include lighting of roads, parking lots and garages, pedestrian walkways and entries, exterior stairs, ramps, and handicap lifts. **Table 2-6** provides an overview of the lighting parameters established for the proposed KP Medical Center.

Lighting will range in intensity based on the purpose. Road lighting will be less intense, with an average horizontal foot candle of 0.25.[8] Lighting of pedestrian walkways will be more intense (an average of approximately 1.25 to 1.50 horizontal foot candles), and exterior stairs, ramps/lifts, and parking garages will be the most intense (an average of approximately 5.00 to 7.00 horizontal foot candles).

The exterior lighting plan would position lights in manner to reduce light pollution/sky-glow. All lights mounted to a pole/base/pedestal with an overall height 12 feet or greater would be full cut-off light distribution, with those mounted below 12 feet as semi cut-off distribution. Wall mounted lights would not be mounted more than 15 feet above finished floor, and would have a full cut-off distribution. Lights mounted to walkway canopies would not distribute visible light above the visible canopy and each light would be limited to no more than 5,000 lumens.

All exterior lighting would be controlled by either a photocell or an astronomical time clock, with use of both recommended. In certain areas, weather-proof occupancy sensors, as required by California Title 24, would bring levels down to 70% and below when the space is vacant.

[8] One foot candle is equivalent to one lumen per square foot

TABLE 2-6.
KP MEDICAL CENTER
PRELIMINARY LIGHTING PLAN

Task/Area	Type of Light	Lamp Source[1]	Mounting Height	Options	Average Horizontal Foot Candles	Average Vertical Foot Candles
Roadway	Pole Mounted	LED, HID, or Induction	25-35 ft	Via Photocell	0.25	0.10
Open Parking Lot	Pole Mounted	LED, HID, or Induction	20-30 ft	Via Occupancy Sensor, Photocell, or Time Clock	1.50	0.75
Parking Garage (Enclosed Structure)	Surface Mount	LED, HID, Fluorescent or Induction	Surface	Via Time Clock and Daylight Harvesting	5.00	1.75
Parking Garage (Top of Structure)	Pole Mounted	LED, HID, or Induction	15-25 ft	Via Occupancy Sensors, Photocell, or Time Clock	1.50	0.75
Pedestrian Walkway (Uncovered)	Pole or Bollard Mounted	LED, HID, Fluorescent, or Induction	10-15 ft	Via Occupancy Sensors, Photocell or Time Clock	1.25	0.75
Pedestrian Walkway (covered)	Bollard or Surface of Covered Walkway	LED, HID, Fluorescent, or Induction	Bollard: 3-4 ft Covered Walkway: Surface	Via Photocell and/or time Clock	1.50	0,75
Exterior Stairs (Uncovered)	Pole, Bollard or Stair/Aisle Mounted	LED	Pole: 10-15 ft Bollard: 3-4 ft Stair/Aisle: Recessed in Stair	Via Occupancy Sensors, Photocell or Time Close	6.00	3.00
Exterior Stairs (Covered)	Mounted on Surface of Covered Walkway	LED, HID, Fluorescent, or Induction	Surface	Via Occupancy Sensors, Photocell or Time Close	6.00	3.00
Exterior Ramps/Handicap Lifts	Pole, Bollard, or Stair/Aisle	LED, HID, Fluorescent or Induction	Pole: 10-15 ft Bollard: 3-4 ft Stair/Aisle: Recessed in Stair	Via Photocell and/or Time clock	7.00	6.00

NOTES:

1. A variety of light sources will be used at the KP Medical Center, and will be selected based on the particular location and situation. LED is “light emitting diode,” which emit light when a diode is connected to an electrical circuit and are more efficient and long lasting than traditional light bulbs. HID is “high intensity discharge” lights in which the filament is replaced with a capsule of gas containing two electrodes; the light is more intense and uses less power than a halogen lamp. A “fluorescent” lamp is a low pressure mercury-vapor gas-discharge lamp that uses fluorescence to produce visible light, and produces light more efficiently than an incandescent lamp. “Induction” lamps are like fluorescent lamps but do not include an electrode and are longer lasting than fluorescent lamps.

Source: Lionakis, 2015.

Signage Concept

The proposed KP Medical Center would include a comprehensive signage program intended to identify the presence of the medical campus to passers-by on I-5 and other major roadways, to orient drivers and others who approach the medical center on the local roadways in the RSP Area, and to assist patients, staff, and other visitors who are walking in and around the medical center (see **Figure 2-26**, Illustrative Site Plan: KP Medical Center Signage Locations). Signage would include illuminated landmark signage on the top floor of the hospital structure ("Kaiser Permanente" letters approximately six feet in height), monument signage at major street corners (e.g., a 12-foot wide, 20-foot high sign at the Railyards Boulevard and 5th Street intersection identifying the KP Medical Center with direction arrow to Emergency), 20-foot high pylon signs at building entrances and at key locations for wayfinding, a four-foot "Welcome" sign at the main hospital entrance from Railyards Boulevard, signs that indicate the location of the emergency department, and numerous small wayfinding and orientation signage around the campus.

Employment

As described above, Kaiser currently operates a full acute care hospital and medical center at its existing Morse Avenue Sacramento Medical Center. The Morse Avenue facility currently employs approximately 3,280 staff, including physicians and other service providers, administrators, and other staff involved in operation and maintenance of the hospital and associated facilities. These staff will be transferred to the proposed KP Medical Center in the Railyards.

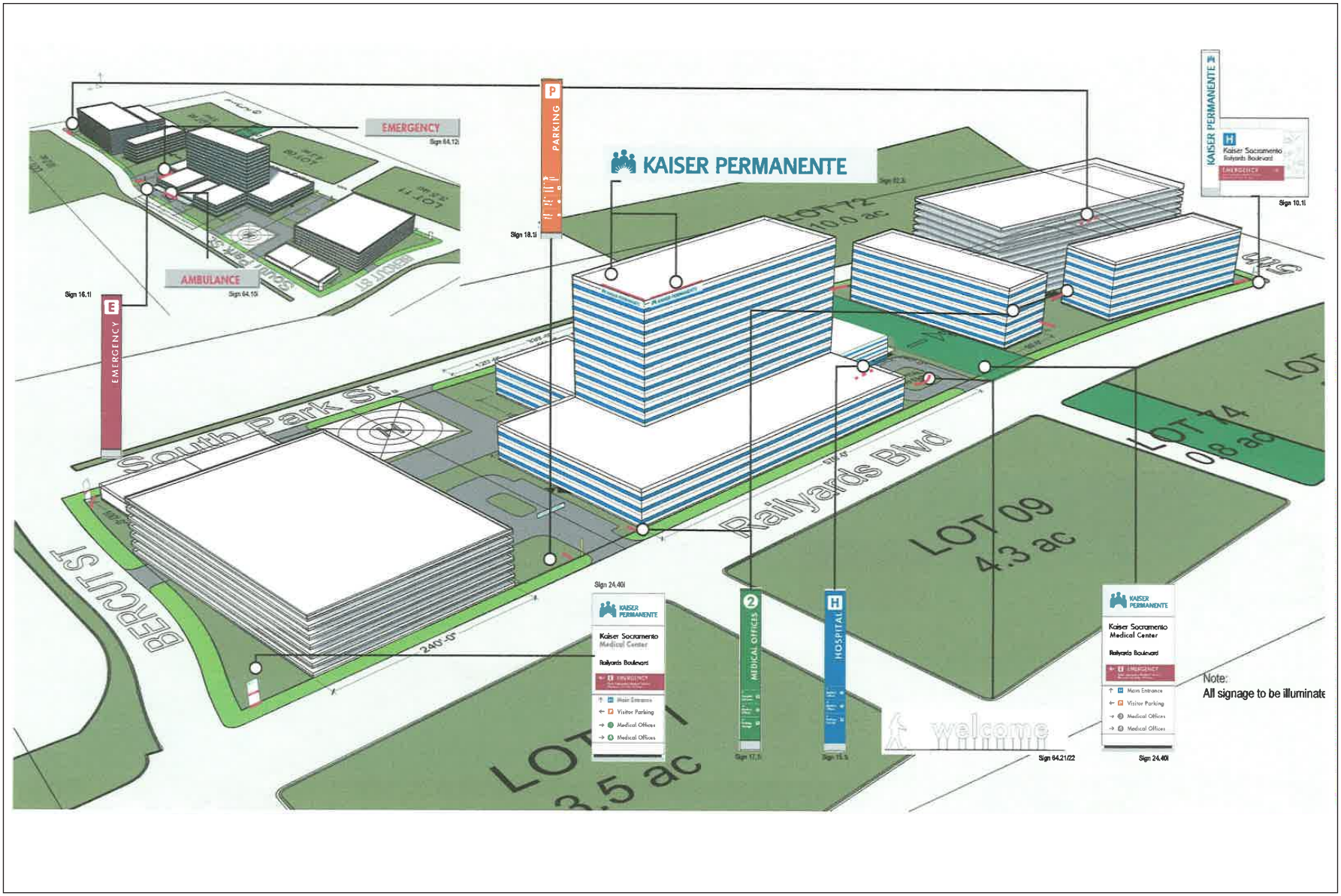
Based on employment densities estimated for other recently constructed Kaiser Permanente medical centers in northern California, it is estimated that the future Kaiser Permanente Railyards Medical Center would employ up to a total of 4,465 staff, an increase of approximately 1,185 over existing employment levels at the Morse Avenue facility.

Site Access and Circulation

General Vehicular Circulation

Based on the illustrative site plans provided by the project applicant, the primary vehicular access to the KP Medical Center would be located on Railyards Boulevard and South Park Street.[9] The main entrances to the Hospital and the HSB, along with the Phase 1 Parking Lot/Phase 2 Parking Garage would be located on Railyards Boulevard. Vehicles travelling on South Park Street would access the Phase 1 Parking Garage, the Emergency Department, as well as the helistop and CUP. Loading and service vehicles would access the Hospital via loading docks accessible from South Park Street, just east of the helistop. A secondary access to the Phase 2 Parking Garage would be

[9] The description of project circulation is based on the illustrative site plan provided by the applicant and is the basis for analysis of major access points. During Site Plan and Design Review for the proposed KP Medical Center, analysis of all aspects of site circulation, including minor access points, would be undertaken based on a detailed site plan submitted for approval.



SOURCE: LIONAKIS 2016

Figure 2-26

Illustrative Site Plan: KP Medical Center Signage Locations

provided on Bercut Drive. There would be no vehicular access to the proposed KP Medical Center from 5th Street.

Vehicle dropping off or picking up patients at the hospital main entrance would enter the campus from Railyards Boulevard, immediately north of Stanford Street. The entrance would be designed as a traffic circle where vehicles would drop off or pick up patients entering or exiting the hospital. No long-term parking would be provided at this location; however, some short-term parking may be provided.

Based on the illustrative site plan, the main entrance to the HSB would be located on the western end of the building. Vehicles dropping off or picking up patients at the HSB would enter from Railyards Boulevard immediately north of Huntington Street. After dropping patients off, drivers would have the option of immediately entering the Phase 1 Parking Lot/Phase 2 Parking Garage from this entry without re-entering traffic flow on Railyards Boulevard. Similarly, drivers parked in the adjacent Parking Lot/Garage could retrieve their vehicle and pick up patients departing the HSB without re-entering Railyards Boulevard's traffic flow. Alternatively, vehicles departing from the Phase 2 Parking Garage could depart from the access on Bercut Drive, about half-way between Railyards Boulevard, and South Park Street.

Emergency Response Access

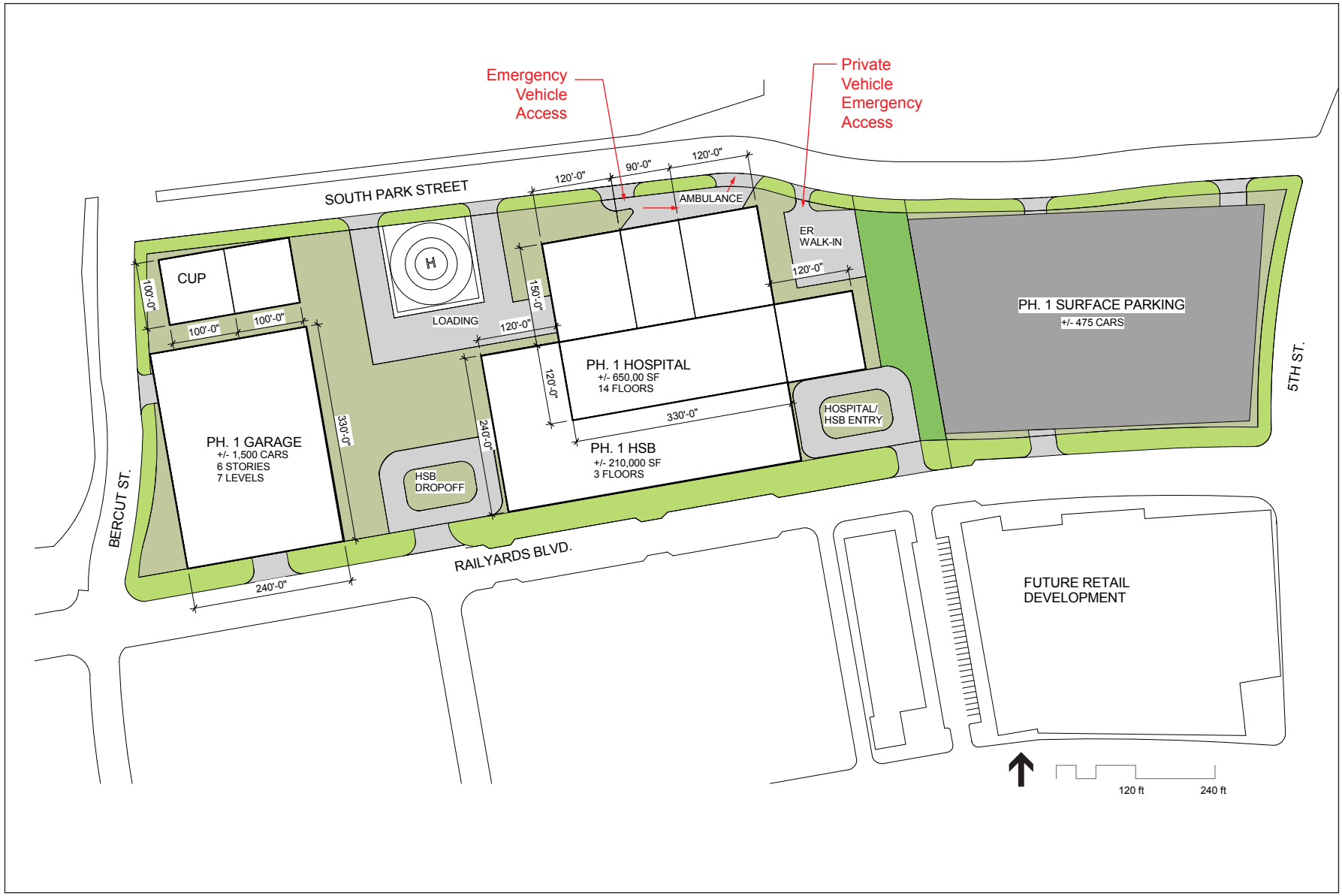
As described above, the illustrative site plan depicts the hospital's emergency room and emergency services located on the north side of the hospital building facing South Park Street, with emergency vehicle ingress and egress located on South Park Street. Emergency vehicles would enter at the western entrance and pull into a covered porte-cochère where patients would be transferred immediately into the hospital's emergency department. Patients being driven to the emergency room in private vehicles would park in an emergency walk-in parking area immediately east of the hospital and would access the emergency services department via an entrance on the eastern side of the building (see **Figure 2-27**, Illustrative Site Plan: Emergency Response Access).

Delivery Access

As noted above, the illustrative site plan indicates the service and delivery vehicles would access the campus from South Park Street, just east of the proposed ground-level helistop location. Up to 15 loading docks would be provided on the western edge of the hospital building.

Transit Access

It is currently anticipated that bus stops to facilitate transit access would be made available on Railyards Blvd, and/or South Park Street. Shuttle service connecting the KP Medical Center to the RT 7th/South Park Street station and potentially the Sacramento Valley Station would be considered, based on demand.



SOURCE: LIONAKIS 2016

Figure 2-27

Illustrative Site Plan: Emergency Response Access

Pedestrian and Bicycle Access

The proposed KP Medical Center would include short-term and long-term bicycle parking as required by the City of Sacramento Planning and Development Code. Although specific designs have not yet been completed, it is anticipated that secure long-term bicycle parking spaces and lockers would be included in the proposed parking garages. Short-term bicycle racks would be provided proximate to entrances and exits from the proposed hospital, hospital support building, and medical office buildings.

If feasible, based on project design and space utilization, the proposed KP Medical Center may make provisions for a Bikeshare docking station, if such a program is initiated by the City/ SMAQMD. A Bikeshare docking station near the KP Medical Center could be coordinated with the anticipated Bikeshare station at the Sacramento Valley Station and other potential locations in the RSP Area.

Parking

As described above, based on the illustrative site plan the proposed KP Medical Center would provide on-site vehicular parking at two sites on the campus. During Phase 1, a new 1,500-car Parking Garage would be constructed at the southwest corner of the campus, near the intersection of Railyards Blvd. and Bercut Drive, south of the CUP. The ingress and egress to and from the structure would be provided at locations on Railyards Blvd. and Bercut Drive; the entrance on Railyards Blvd. would be at a signalized intersection. The Phase 1 Parking Garage would provide primary parking for patients, staff, and visitors to the hospital and HSB; after construction of Phase 2 buildings, the Phase 1 Parking Garage would also provide parking for people destined to the two Phase 2 MOBs.

The illustrative site plan shows that parking would also be provided at the east side of the campus, near 5th Street. During Phase 1, a 450-space paved Phase 1 Parking Lot would provide parking for patients, staff, and visitors with destinations at the hospital or HSB. The Parking Lot would be accessed via the ingress/egress points on Railyards Blvd and South Park Street, across from Vista Park. During Phase 2, a new approximately 1,500-space Phase 2 Parking Garage would be constructed on the site of the Phase 1 Parking Lot. The Phase 2 Parking Garage would be accessed from South Park Street, but connections from Railyards Blvd. would be eliminated as a result of construction of the Phase 2 medical office buildings. Approximately 200 surface parking spaces would remain permanently to serve the Emergency Department, Central Utility Plant, drop-offs for the Hospital, Hospital Support Building, and medical office buildings, and other uses.

Kaiser's Green and Sustainability Initiatives

The KP Medical Center would incorporate Kaiser's leading sustainable building standards and green initiatives. Kaiser serves a key role in developing nationally recognized health-based green building strategies for the health care sector. Kaiser implements a multi-tiered approach to the research, development, implementation of and ongoing improvements in energy and water

conservation practices and building performance initiatives. Kaiser has voluntarily implemented many green initiatives without being mandated to do so by regulation. In addition, the hospital and CUP would meet OSHPD requirements, which include conformity with many of the CALGreen requirements, including Tier 1 water efficiency standards.

Kaiser strives to be on the cutting edge of new green technologies. As part of its commitment to green building, Kaiser would pursue LEED Silver certification or equivalent for the buildings that it develops on the Project Site. To attain this goal, Kaiser anticipates implementing many of its current green strategies in the proposed KP Medical Center. For example:

- Achievement of CALGreen Tier 1 water efficiency standards,
- PVC-free materials (such as resilient flooring, carpet and roofs),
- Low or VOC-free paints,
- CFC-free refrigerants,
- Innovative construction waste diversion programs to keep harmful materials out of landfills,
- Formaldehyde-free casework,
- Use of recycled building materials,
- High efficiency HVAC systems,
- Cogeneration electricity production and heat recovery,
- Permeable paving to reduce stormwater runoff in parking areas,
- Green roofs to reduce heat gain and reduce storm water runoff,
- Thermal fluid heaters as a high-efficient water heating source,
- Cool roofs for solar reflectivity and building cooling,
- Turf-free and indigenous native planting for low irrigation demand,
- Water conservation efforts to reduce potable and process water use,
- Enhanced commissioning,
- Access to daylight,
- Non-smoking campus, and
- Interior and exterior areas of respite and open space.

Kaiser's potential future green strategies at the proposed KP Medical Center may include use of:

- Solar power/photovoltaics,
- Electric vehicle charging stations,

- Transportation demand management,
- Fuel-cell technology,
- Displacement ventilation,
- Toxin-free furniture,
- Green cement, and
- Use of green power for construction.

Construction Activities

Construction Phasing and Duration

The construction of the KP Medical Center would take place in phases. The initial phase would include construction of the Hospital, HSB, CUP, Phase 1 Parking Garage and Phase 1 Parking Lot, as well as site landscaping and hardscape. Later phases would include construction of the Phase 2 MOBs and the Phase 2 Parking Garage.

Phase 1 would be constructed over a period of approximately 3.5 years, as described **Table 2-7**. Phase 2 would be constructed in two steps (see **Table 2-8**), first with the construction of the Phase 2 Parking Garage and MOB #1, and then with the final stage of construction of MOB #2. Each of these two stages would take place over a period of approximately 18 months.

TABLE 2-7.
KP MEDICAL CENTER
PHASE 1 CONSTRUCTION SCHEDULE

Phase Name	Preliminary Phase Start Date	Preliminary Phase End Date	Number of Days Per Week	Total Number of Days
Site Preparation	2-Apr-18	4-May-18	5	25
Grading	7-May-18	17-Aug-18	5	75
Building Construction	20-Aug-18	16-Jul-21	5	750
Paving	19-Jul-21	24-Sep-21	5	50
Architectural Coating	27-Sep-21	3-Dec-21	5	50
Total				**950**

Source: Kaiser Permanente, 2016

As noted in Tables 2-7 Kaiser has preliminarily identified dates for Phase 1 construction. These dates would be revised based the timing of City approvals, OSHPD review and approvals, funding, and other related factors.

TABLE 2-8.
KP MEDICAL CENTER
PHASE 2 CONSTRUCTION SCHEDULE

Phase Name	Phase Start Date	Phase End Date	Number of Days Per Week	Total Number of Days
Site Preparation	TBD	TBD	5	10
Grading	TBD	TBD	5	30
Building Construction	TBD	TBD	5	300
Paving	TBD	TBD	5	20
Architectural Coating	TBD	TBD	5	20
Total				**380**

Source: Kaiser Permanente, 2016.

Site Grading and Excavation

Shallow footings would be supported on prepared pads. Some excavation would be required to support the new slab on grade.

In order to address onsite soil conditions, liquefaction potential, bearing capacity, and the need to avoid cross contamination of groundwater layers, the project foundation may be require the use of driven steel piles. There is a relatively hard layer reachable by piles approximately 30 feet below the existing surface, thus the piles would be driven to at least this depth. Based on later geotechnical studies, other systems could be considered that may result in less noise and vibration. However, for the purposes of this SEIR, it is assumed that the driving of steel piles would be required as part of the foundation construction.

Some limited construction period dewatering could be required during excavation for deeper pile caps, grade beams, and underground vaults.

Utilities

In 2014, construction of Railyards Boulevard was completed and, at that time, dry utilities were installed to up the future Huntington Street stub. Gas, electric, telephone, internet are all stubbed to that location for future extension into the KP Medical Center project site.

Project Entitlements and Approvals

The RSPU and KP Medical Center land use and environmental approvals are being processed concurrently. The City approvals required for the proposed RSPU would provide for the KP Medical Center local land use approvals, including:

- An amendment to the Railyards Specific Plan confirming all of the KP Medical Center uses and the elimination of public roads on the project site;

- A corresponding change to the Railyards SPD that would create an Hospital (H SPD) zone in which the proposed KP Medical Center uses would be allowed as permitted or conditional uses; and
- Environmental compliance.

In addition to the approvals and entitlements granted through the approval of the RSPU, the KP Medical Center is seeking a Conditional Use Permit for operation of a helistop and approval of long-term vested rights coverage through a development agreement. Subsequent actions would include Site Plan and Design Review approval for each phase of development, a CUP for the Phase 2 medical office buildings, and then later ministerial actions, including grading and/or building permits.

As required and necessary, the KP Medical Center would seek additional discretionary permits or approvals from other non-City governmental entities.

2.5.2 Major League Soccer Stadium

The proposed MLS Stadium would include the construction of an outdoor stadium intended to accommodate sporting and entertainment events. It is expected that the stadium would be initially built with capacity for up to approximately 19,700 ticketed attendees, but over time could be expandable to accommodate up to 25,000 ticketed attendees.[10]

Project Location

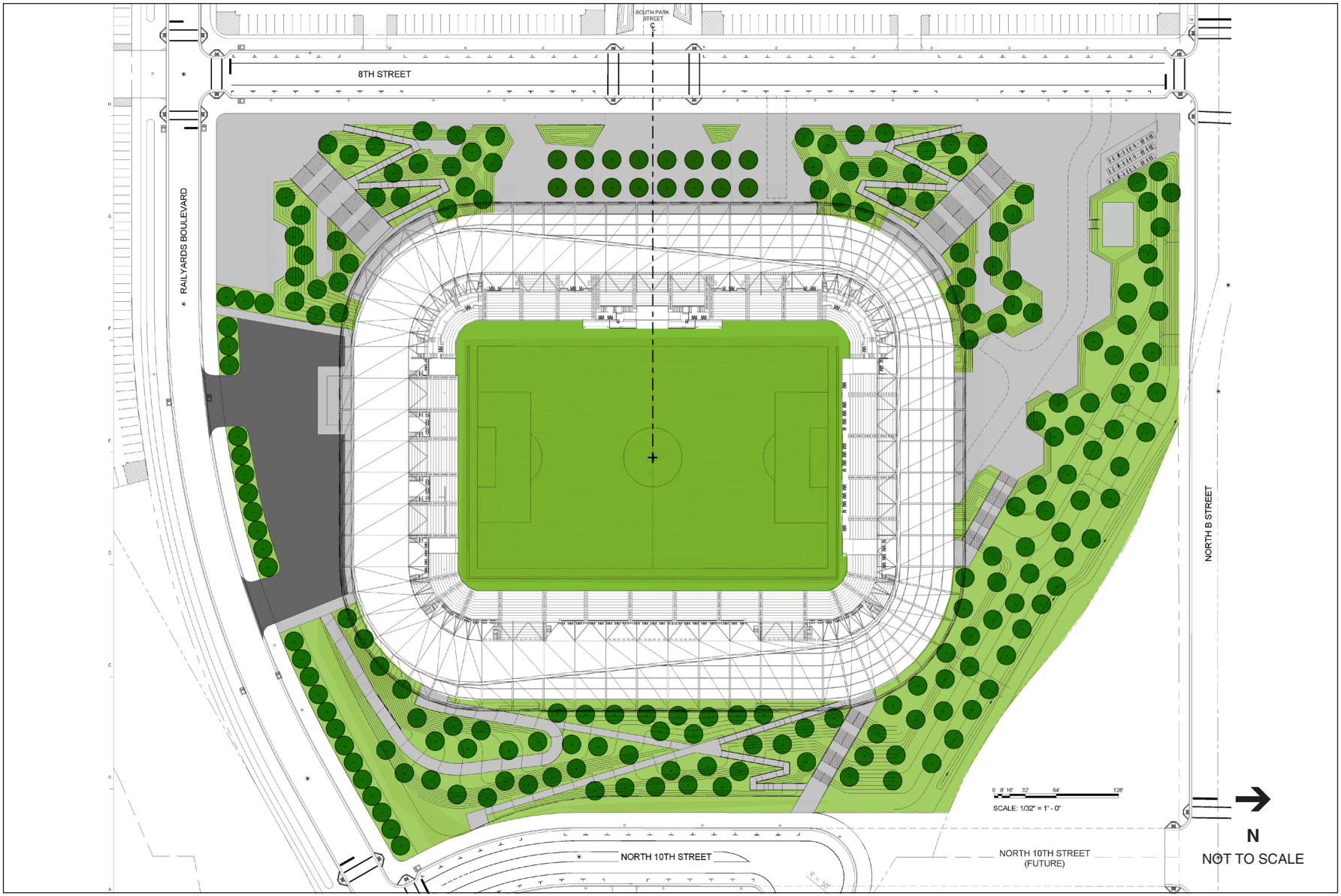
The proposed MLS Stadium would be located on an approximately 14.7-acre parcel (proposed Lot 52) near the eastern end of the RSP Area, north of Railyards Boulevard, between 8th Street and 10th Street, and south of embankment that forms the northern boundary of the RSP Area (see **Figure 2-28**, Major League Soccer Stadium Conceptual Site Plan).

Project Elements

The seating bowl of the MLS Stadium would include general seating, standing room decks, and premium seating opportunities, including suites. The seating areas would be accessed via a concourse area that would surround the seating bowl. The Stadium would also include the following features:

- Clubs for supporters and premium ticket holders;
- A kitchen for food preparation;
- Home and visiting team locker rooms, and officials locker rooms;

[10] For the purposes of this SEIR, it has been assumed that the existing 11,500 capacity Bonney Field, located approximately four (4) miles northeast of the project site at CalExpo in the City of Sacramento, and the current home of the Sacramento Republic, United Soccer League team, may continue to operate in the future.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-28

Major League Soccer Stadium Conceptual Site Plan

- Media facilities, including press rooms, radio and television booths;
- Security facilities, including a security command center;
- First aid room;
- Stadium operations offices;
- Stadium maintenance and storage areas;
- Loading docks and other support areas;
- Ticketing areas;
- Concession and small retail stores;
- Restrooms;
- Restaurants, bars, and other food and beverage services; and
- Open space plaza areas surrounding the stadium.

Table 2-9 provides an overview of the preliminary program that has been established for the proposed MLS Stadium.

Projected Number and Schedule of Events

The proposed MLS Stadium would be a venue for a variety of 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 MLS team in reaching the playoffs, the number of touring concert acts each year, and the relative success of the stadium operators in booking events. **Table 2-10** provides an estimate of the type and number of events that could be expected during successful operation of the proposed Stadium. It is estimated that the proposed Stadium would be booked for a total of 37 event days each year, with annual attendance of approximately 748,000 persons.

Different types of events typically are presented on different days and at different times. Events at the Stadium would occur on weekday evenings or weekends. Based on past experience at other similar stadia in similar-sized markets around the country, it is estimated that the most frequent highly attended events would be MLS soccer games. For purposes of a conservative analysis, it has been assumed that those matches would be attended by full-capacity crowds with 25,000 ticketed attendees. Other matches would be attended at varying rates with playoff games and U.S. National Team matches assumed to be sellouts. Assuming an average of one playoff game in any given year, the estimates suggest that over half of the annual attendance at the proposed Stadium would be for Sacramento MLS regular season matches. Typically weekday and Saturday soccer matches would start at approximately 7:30 pm to 8:00 pm and conclude between 10:30 pm and 11:30 pm. Earlier starting times could occasionally occur, for example, due to the requirements of national broadcasts, but would be infrequent and are not reasonably predictable at this time.

TABLE 2-9.
MLS STADIUM
PRELIMINARY PROGRAM

Stadium Component	Example Uses	Net Square Footage
Seating and Circulation		
Seating Areas	General seating, supporters seating, standing room decks, club seating, loge box seating, suites	161,500
Circulation	Main concourse; escalators, loge bars, elevators	93,000
Field Level		
Field Club	Lounge and bar areas, concessions, restrooms, storage	11,000
Kitchen/Commissary	Food storage and preparation, offices	8,500
Team Facilities and Locker Rooms	Home team locker room; training and treatment rooms; coaches lockers; laundry facilities; storage; visiting team locker room; officials locker room, performer dressing rooms and lounges	18,000
Media Facilities	Press conference and interview rooms, workrooms, lockers	5,000
Stadium Operations, Maintenance, and Support	First aid, fire command, stadium operations offices, stadium maintenance (security guard, building maintenance office and storage, groundskeeping office and storage), loading dock, storage	13,000
Security/Police Facilities	Security command center; waiting/booking area; holding cells, storage and lockers	2,500
Main Concourse		
Concessions	Concessions, storage and service areas	17,700
Ticketing	Ticketing areas, offices, storage	1,700
Retail	Team store, satellite retail stores, office, storage	3,400
Club Space	Lounge and bar areas, concessions, restrooms, storage	14,000
Other Useable Spaces	Lobbies, restrooms, elevators	17,900
Suite and Press Level		
Suites	17 suites, outdoor party suites, lounge areas, lobbies, restrooms, storage	20,000
Media and Press Facilities	TV and radio booths, coaches/players family suite, media support rooms, press lobby, restrooms, storage	8,500

Source: Legends, 2015; Sacramento Soccer and Entertainment Holdings, 2015.

Other components of the attendance profile for the Stadium would include concerts or cultural events (estimated to be seven concert/cultural events with total annual attendance of approximately 144,000) and other community events (estimated to be five events with total annual attendance of 20,000). The only events anticipated to be larger than sold-out soccer games would be Tier 1 concert/cultural events involving highly popular touring acts or other large events that could attract a crowd of up to 27,000 attendees, including use of field standing or seating. Typically concert events start at approximately 7:00 pm and conclude at approximately 11:00 pm or later. It is currently not expected that the Stadium would house any other professional sports teams.

TABLE 2-10.
SACRAMENTO MLS STADIUM
ESTIMATED ANNUAL EVENT ATTENDANCE

Event Type	Daily Attendance	Average Annual Events	Event Duration (days)	Total Days	Weekday 7:30am – 5:00pm	Weekday 5:30pm-11:30pm	Weekend	Annual Attendance
MLS Regular Season	25,000	17	1	17	0	2	15	425,000
MLS Special Game(s)	20,000	1	1	1	0	1	0	20,000
MLS Playoff Game(s)	25,000	1	1	1	0	0	1	25,000
CONCACAF/Cup Games	17,500	2	1	2	0	1	1	35,000
U.S. National Team Matches	25,000	1	1	1	0	0	1	25,000
Other Soccer Events	18,000	3	1	3	0	2	1	54,000
Concert/Cultural Event – Tier I	27,000[1]	2	1	2	0	0	2	54,000
Concert/Cultural Event – Tier II	18,000	5	1	5	0	0	5	90,000
Community Events	4,000	5	1	5	0	3	2	20,000
Total	**20,200**	**37**		**37**	**0**	**9**	**28**	**748,000**

NOTE:

1. The only events anticipated to be larger than sold-out soccer games would be Tier 1 concert/cultural events involving highly popular touring acts or other large events that could attract a crowd of up to 27,000 attendees, including use of field standing or seating.

SOURCE: Sacramento Soccer and Entertainment Holdings, Inc., 2015.

On rare occasions certain events may be held that would exceed the ticketed capacity of the proposed Stadium. In these cases, the facility could accommodate approximately 1,000-2,000 additional attendees in standing-room-only spaces in the Main 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, MLS All-Star games, a national political convention, or extremely rare major concerts. In the event that one of these infrequent events was to be planned for the proposed Stadium, the Stadium operator would coordinate with the City on event traffic management, crowd management, as well as other related event planning and any necessary permits or other approvals. Because of the infrequency of these events, they are not evaluated further in this SEIR.

Stadium Employment

Stadium employment would include permanent employment associated with the operations of the Stadium and the Sacramento MLS team, as well as temporary employment to support events throughout the year. Stadium event employment is presented in **Table 2-11**.

Permanent

The future MLS team would have 65 to 70 permanent employees, including about 30 staff who would work full time at the MLS Stadium site, including maintenance, security, and ticket sales.

On the day of a match, about 55 staff would be at the MLS Stadium including about 15 staff associated with team operations, including players, coaches, trainers and scouts.[11]

Temporary/Event-Related

The MLS Stadium would generate numerous temporary, event-related jobs as presented in Table 2-11. To support major events at the proposed MLS Stadium, such as a MLS matches, approximately 460-475 temporary employees would be needed in a variety of jobs, including ushers, food service, ticketing, security, janitorial, and similar positions. For larger events, such as Tier I concerts, temporary event-related employment is estimated to be about 500. For medium-sized events, including MLS special games, CONCACAF/Cup matches, other soccer events or Tier II concerts, temporary event-related employment is estimated to range from approximately 400 to 450 jobs. For smaller community events, temporary event employment is estimated to be approximately 100 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 MLS Stadium for several hours or longer after events.

[11] Wrigley, Ben, Conventions, Sports & Leisure International, Personal communication to Brian Boxer, ESA, December 22, 2015.

TABLE 2-11.
SACRAMENTO MLS STADIUM
ESTIMATED EVENT EMPLOYMENT

Event Type	Daily Attendance	Police	EMT	Box Office	Ticketing	Ushers	Security	Concessions	Cleaning	Other	Total
MLS Regular Season	25,000	25	10	10	30	50	75	200	40	20	**460**
MLS Special Game(s)	20,000	22	10	10	25	44	65	175	35	15	**401**
MLS Playoff Game(s)	25,000	25	10	10	30	50	90	200	40	20	**475**
CONCACAF/Cup Games	17,500	30	10	10	25	44	100	175	35	15	**444**
U.S. National Team Matches	25,000	25	10	10	30	50	75	200	40	20	**460**
Other Soccer Events	18,000	30	10	10	25	44	75	175	35	15	**419**
Concerts - Tier I	27,000	35	14	10	35	50	100	200	45	20	**509**
Concerts - Tier II	18,000	25	12	10	25	44	80	175	35	20	**426**
Community Events	4,000	6	4	6	6	12	20	30	10	8	**102**

Source: Sacramento Soccer and Entertainment Holdings, Inc., 2015.

Stadium Design

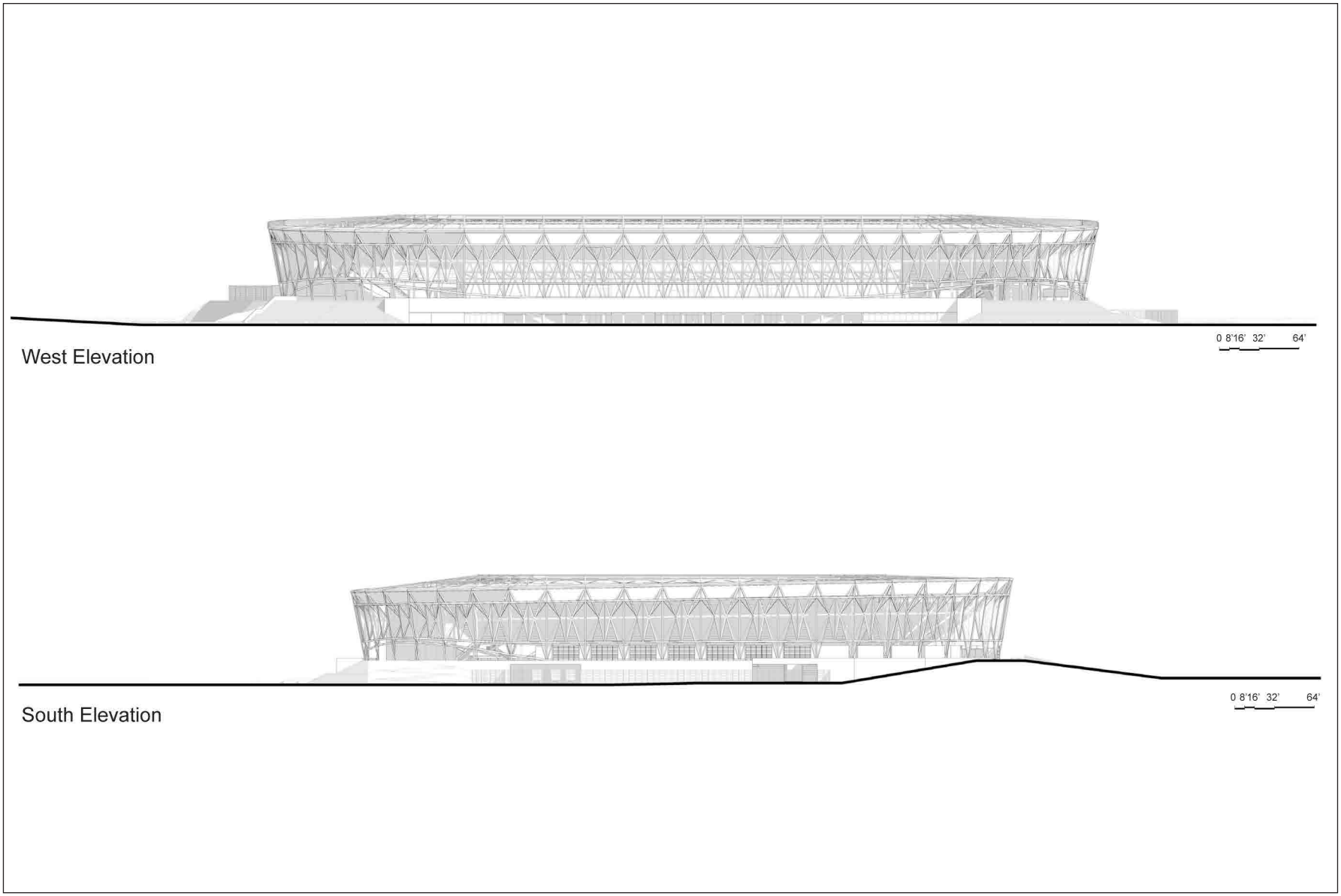
The proposed MLS Stadium would be a rectangular structure with rounded corners, approximately 645 feet in length and 515 feet in width (the roof parapets would extend an additional 15 feet on each side). A canopy roof would encircle the Stadium, providing shade and rain protection for attendees in the Stadium. The parapet of the roof of the Stadium would rise approximately 90 feet above the west entry plaza positioned at an elevation approximately equal to 8th Street (see **Figure 2-29**, Stadium West Elevation, Stadium South Elevation) with a further rise to the top of roof at 95 feet above the west entry plaza. The parapet of the roof of the Stadium would rise approximately 70 feet above the secondary east entry plaza (see **Figure 2-30**, Stadium East Elevation, North Elevation).

The primary entrances to the Stadium would be located on the west side of the structure, with a secondary entrance on the east side of the building. The proposed Stadium would have a two general admission entrances facing 8th Street and an entry plaza on the west, one general admission entrance to the east stands facing a north plaza, and an additional general admission entrance facing 10th Street on the east. There would be separate entrances for employees on the north and south sides of the Stadium, and media and VIP entrances on the west side of the Stadium from the entry plaza. A separate supporter's entrance would be located on the northwest corner of the Stadium.

The proposed MLS Stadium would be a two-level structure. The Field level would be located approximately at the planned grade of the Entry Plaza and 8th Street (see **Figure 2-31**, Stadium Longitudinal Building Sections, Transverse Building Sections). The Field level would include the soccer pitch, general and supporter seating, locker rooms, clubs and lounges, kitchens, storage, media and press facilities, a security command center and related facilities, first aid, loading docks and marshaling areas, and other operations and support facilities (see **Figure 2-32**, Stadium Field Level Plan). The Field level would include approximately 57,200 gross sf of space and open seating areas.

The Main Concourse level would be located approximately 20 feet above the Field level. The Main Concourse would include the main entrances to the Stadium, horizontal circulation space, concession spaces, a team store and other retail spaces, a VIP lobby and ticketing facilities. The Main Concourse would include approximately 63,200 gross sf of conditioned space, as well as open seating areas. The lower seating bowl would descend from the Main Concourse level to the soccer pitch on the Field level (see **Figure 2-33**, Stadium Main Concourse Level Plan), with access to the upper seating bowl via vomitories at the main concourse level.

The Suite Level would include approximately 16,600 gross sf of conditioned space, and would include a total of 16 suites, two double suites, an owner's suite, and related lobbies, lounges, restrooms and storage areas (see **Figure 2-34**, Stadium Suite Level Plan).



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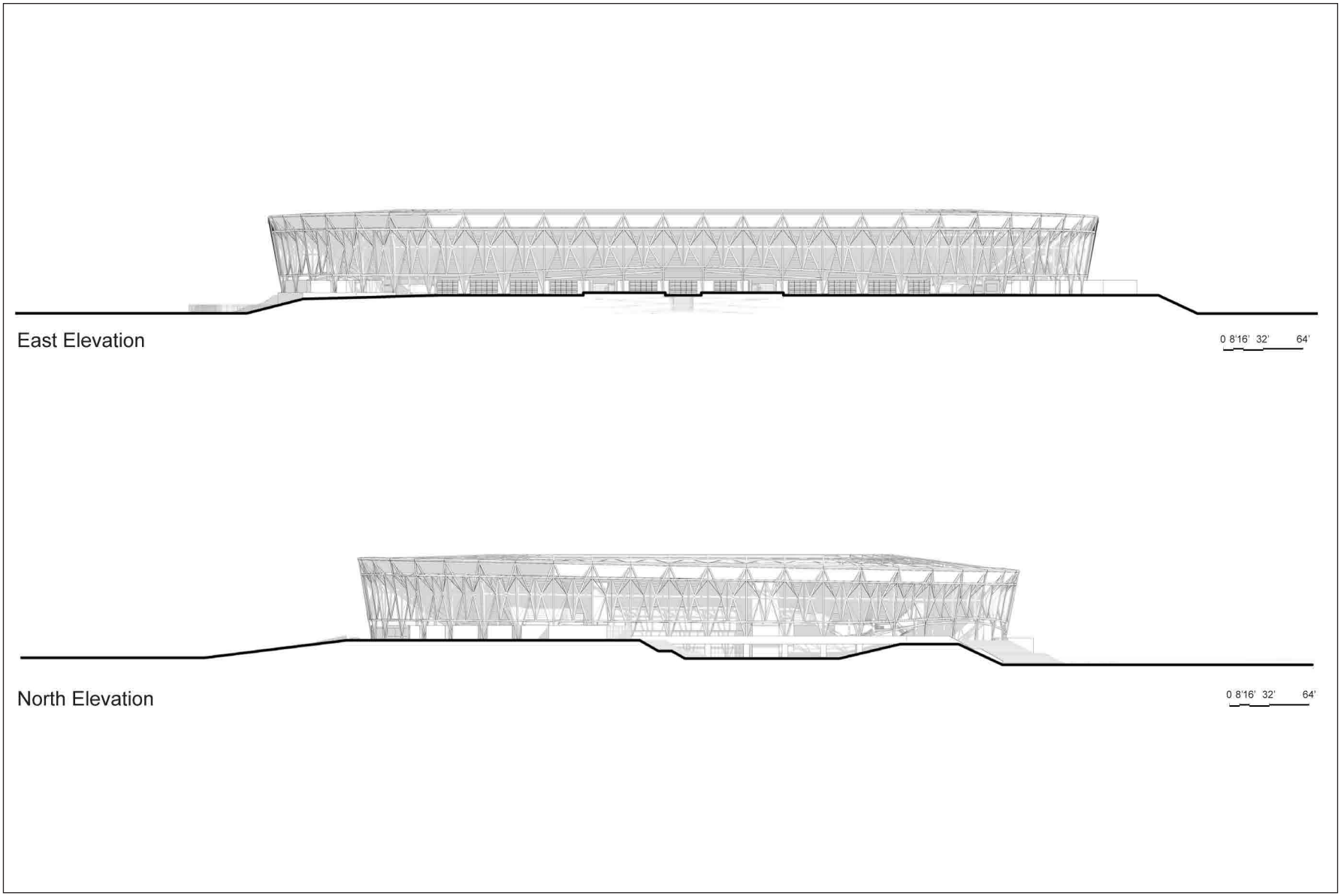
SOURCE: HNTB, September 2016; adapted by ESA, 2016

Figure 2-29

Stadium West (8th Street/Entry Plaza) Elevation, Stadium South (Railyards Boulevard) Elevation



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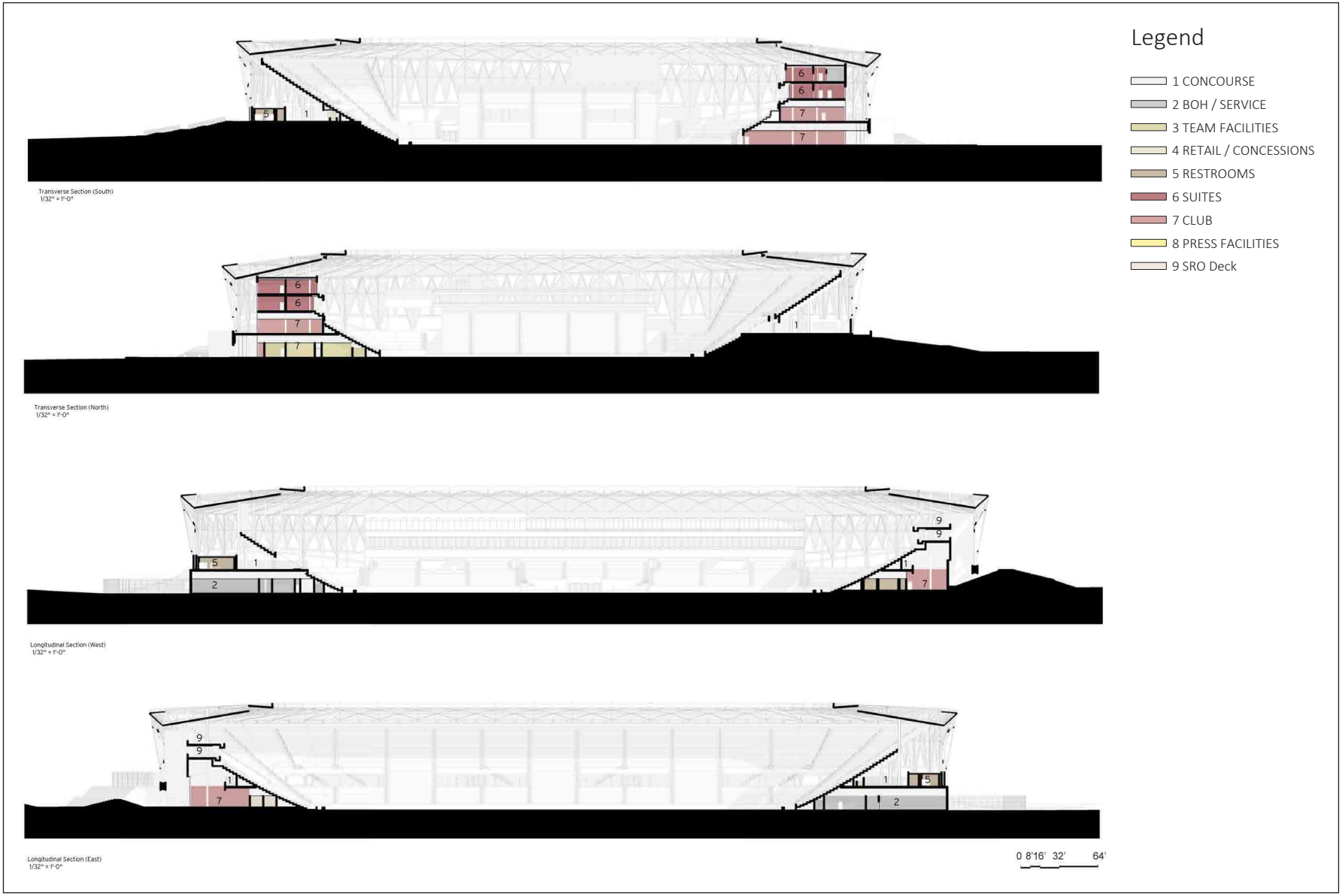
SOURCE: HNTB, September 2016; adapted by ESA, 2016

Figure 2-30

Stadium East (10th Street) Elevation, North Elevation



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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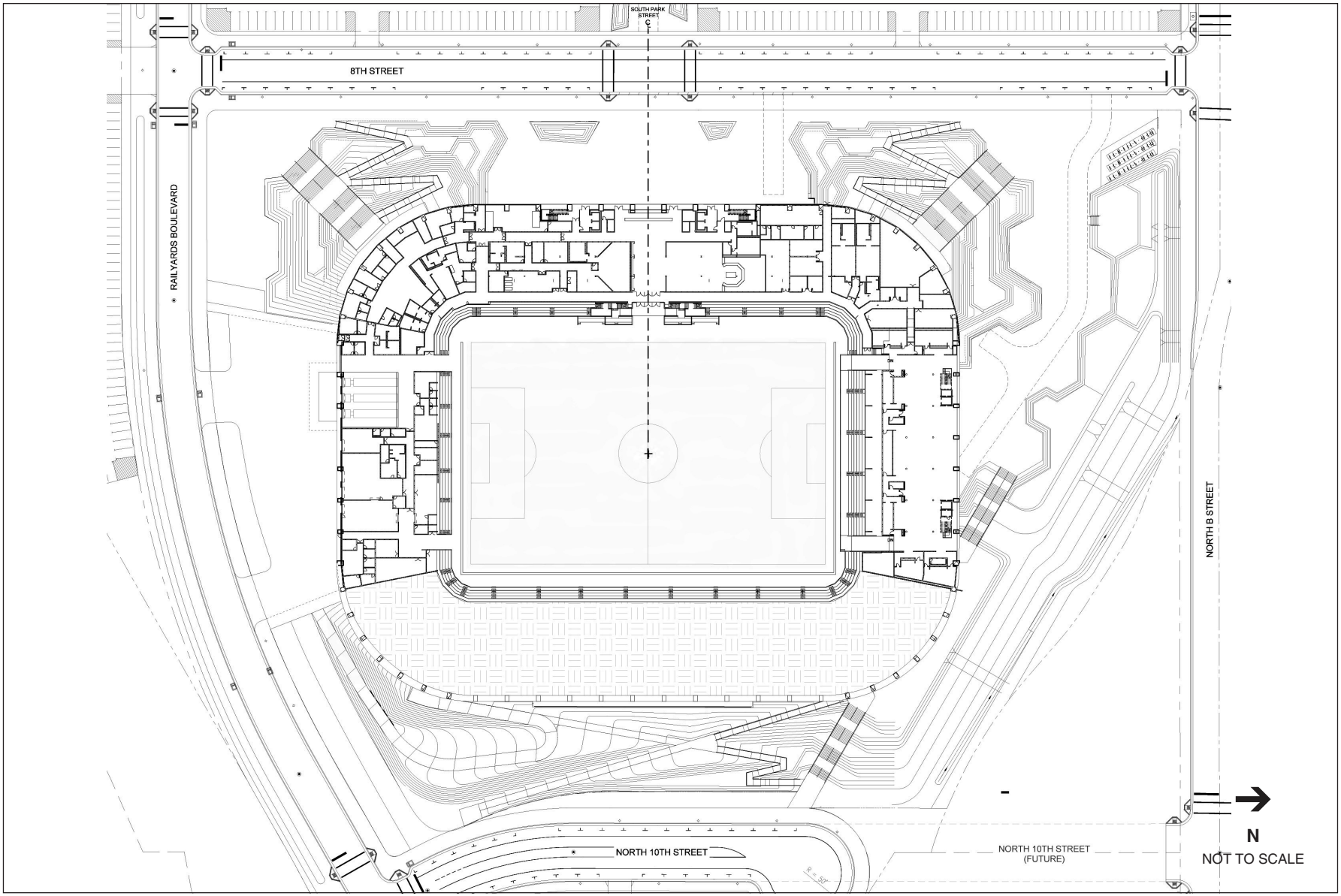
Figure 2-31

Stadium Longitudinal Building Sections, Transverse Building Sections



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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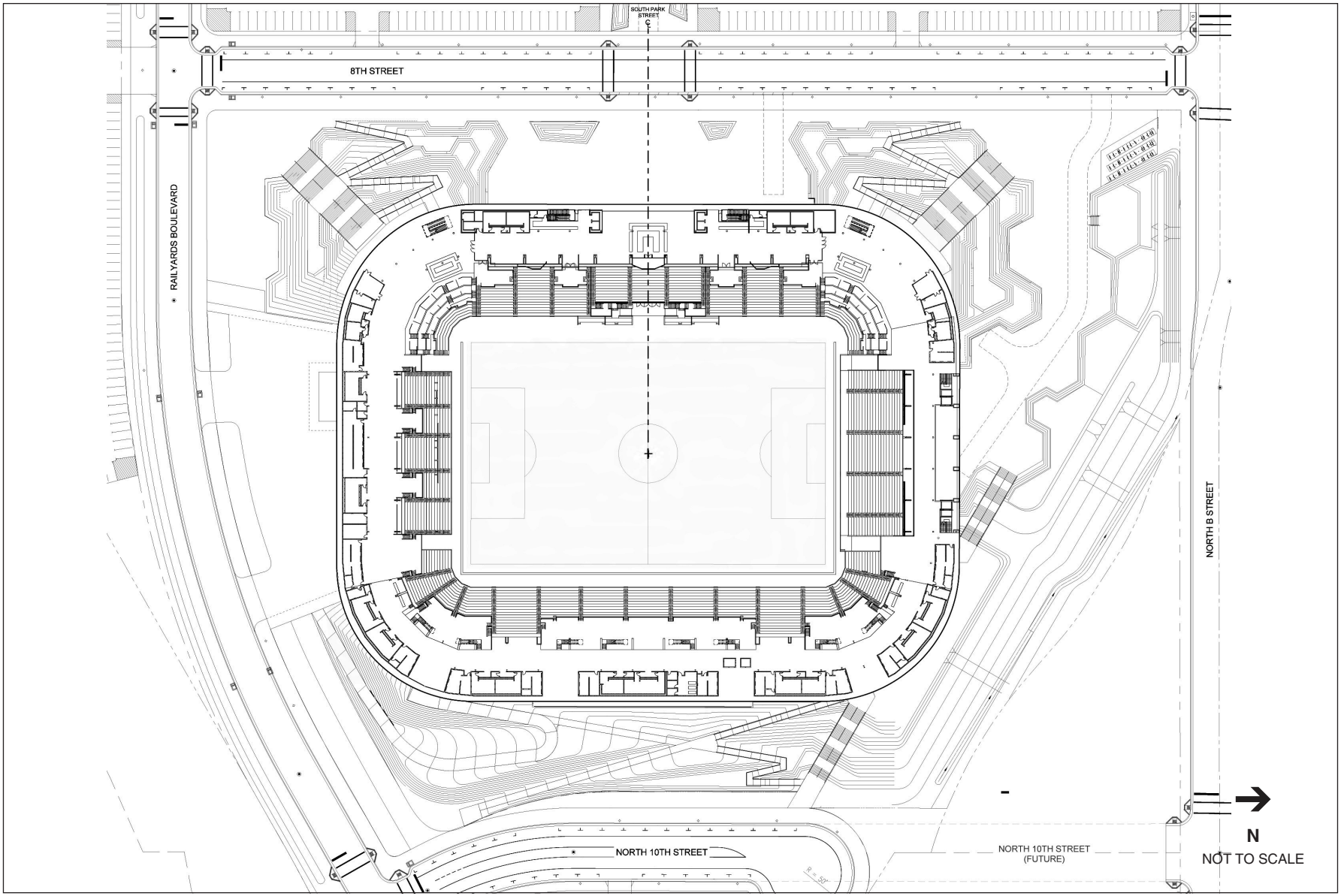
Figure 2-32
Stadium Field Level Plan



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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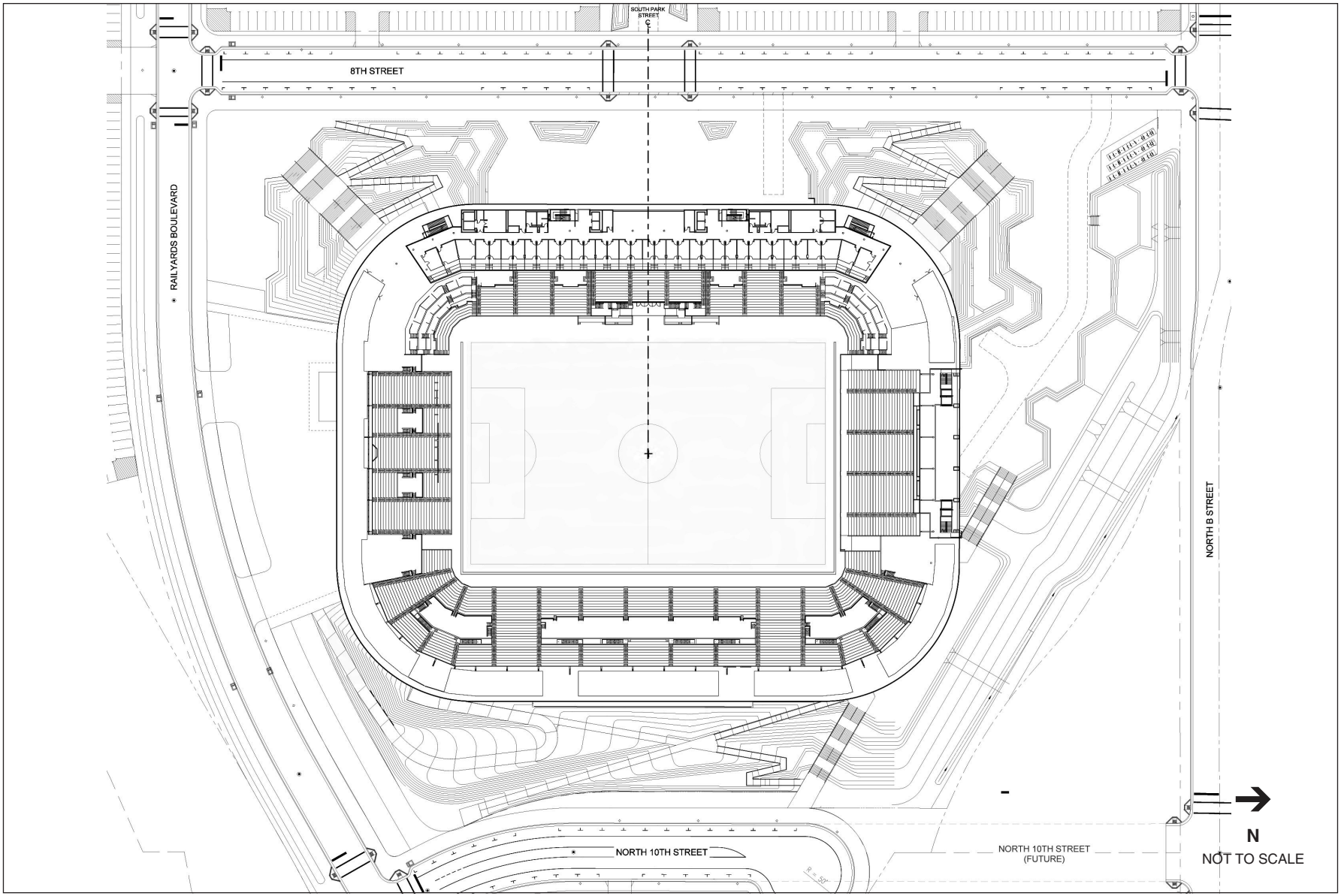
Figure 2-33

Stadium Main Concourse Level Plan



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-34
Stadium Suite Level Plan

The Press Level would be comprised of approximately 11,600 gross sf of conditioned space, including media rooms, television and radio booths, lobbies, lounges, suites for team use, and other related facilities (see **Figure 2-35**, Stadium Press Level Plan).

The roof of the Stadium would be made of metal deck and a transparent synthetic material, and would rise approximately an additional 5 feet above the height of the seating bowl.

Any satellite dishes would be located with the service yard at the south side of the Stadium. The number of satellite dishes and their exact placement is undetermined at this time.

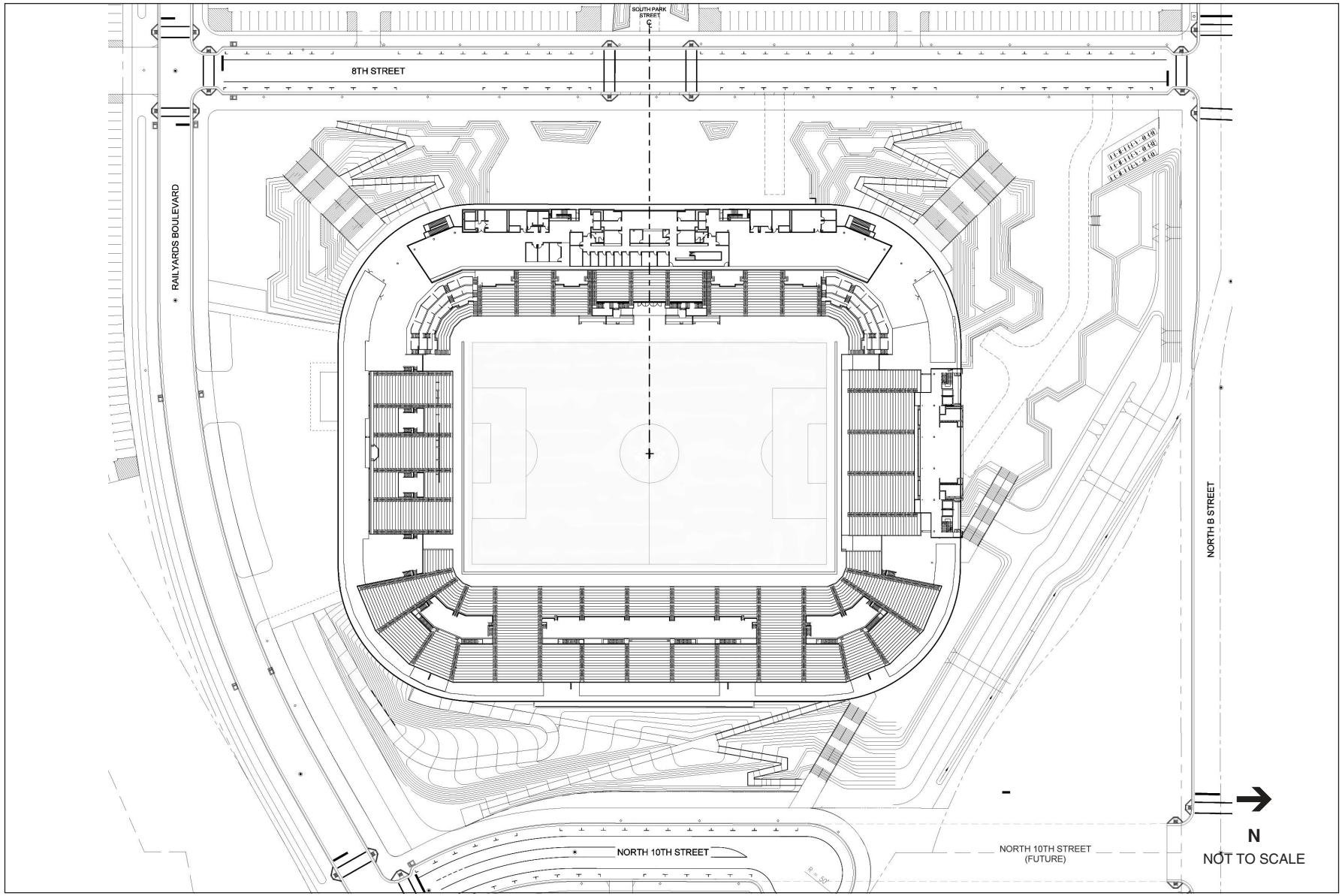
The Stadium would be made of up a concrete seating bowl surrounded by an integrated façade and canopy structure comprised of a range of textures and materials, including metal, glass, fabric, and translucent synthetic panels while also providing open views into the seating and field areas. The continuous open air canopy would provide shade and rain protection. Distinctive lighting and signage would be included to accentuate the design of the building and provide nighttime viewing and visibility.

Open Space

The primary entrances on the western and eastern sides of the Stadium would be accessed via open air entry plazas (see **Figure 2-36,** Stadium Plaza Plan). For visitors arriving from the north and/or west across 8th Street or from the south across Railyards Boulevard, their arrival at the Stadium would pass through the west or north entry plazas (located at approximately the same elevation as 8th Street) before ascending to the main concourse level via stairs and ramps at the southwest and northwest corners of the Stadium, or by using escalators and elevators along the west side of the Stadium. Together, the west and north entry plazas would provide up to approximately 2.9 acres of open space.

The Stadium west entry plaza is anticipated to be actively used space that may include retail and ticketing storefronts, retail kiosks, small-scale performance venues, seasonal events, musical and cultural events, and gardens. It is anticipated that the entry plaza area would be occasionally used for small outdoor concerts or cultural or athletic events, including but not limited to events associated with the Sacramento MLS team. For some events, a portion of the entry plaza in front of the Stadium entrances could be secured to create an integrated 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 Stadium while outside in the entry plaza area.

An open air plaza located on the north side of the Stadium at approximately the top elevation of the adjacent existing north levee would provide additional general seating access, as well as providing a dedicated Supporter Section entry. Vehicular access would make the north plaza useable for food trucks.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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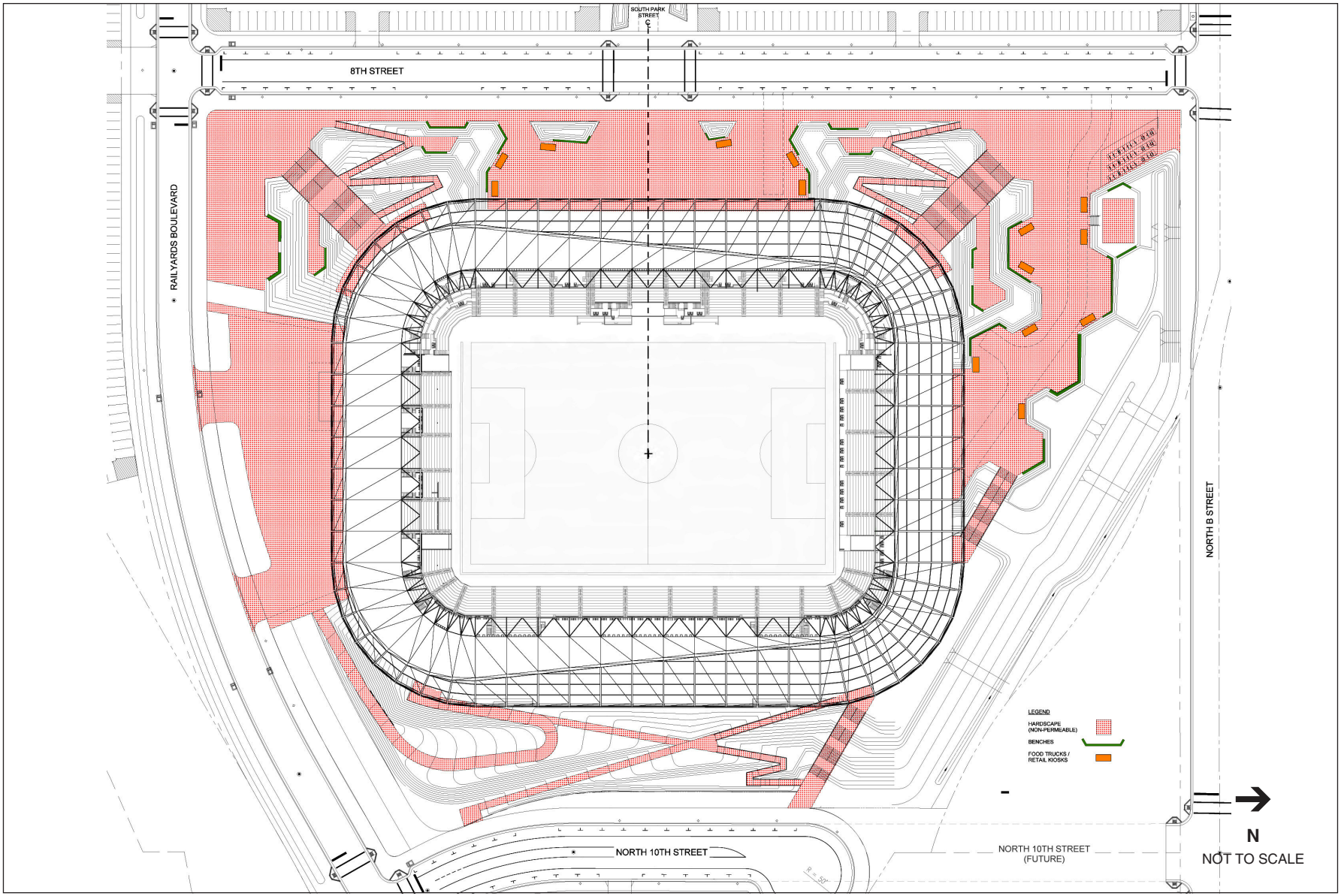
Figure 2-35
Stadium Press Level Plan



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-36
Stadium Plaza Plan

A ticketed perimeter would encompass the entire Stadium site area west and north of the Stadium, allowing for activation of the plaza spaces for pre- and post-event activities, as well as music festivals, concerts and community events. These outdoor entry plazas could be equipped with video screens and speakers, which would allow patrons to watch and hear the ongoing events while experiencing the outdoor spaces (see **Figure 2-37**, MLS Stadium Amplified Sound Plan).

A secondary east entry plaza off of 10th Street would serve those visitors arriving from the east across 10th Street, but no activation of 10th Street or the east entry plaza is anticipated. The east entry plaza would be up to approximately 1.35 acres in size.

An integral element of the Stadium would be several open plazas intended to provide seamless flow in and out of the facility, pedestrian circulation around the Stadium, and pedestrian connectivity to 8th Street and 10th Street, and Railyards Boulevard. As depicted on Figure 2-36, Stadium Plaza Plan, approximately 160,000 sf (3.67 acres) of open space would be included in the plaza areas surrounding the Stadium.

The Stadium 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 possibly water features.

Signage and Lighting

Signage

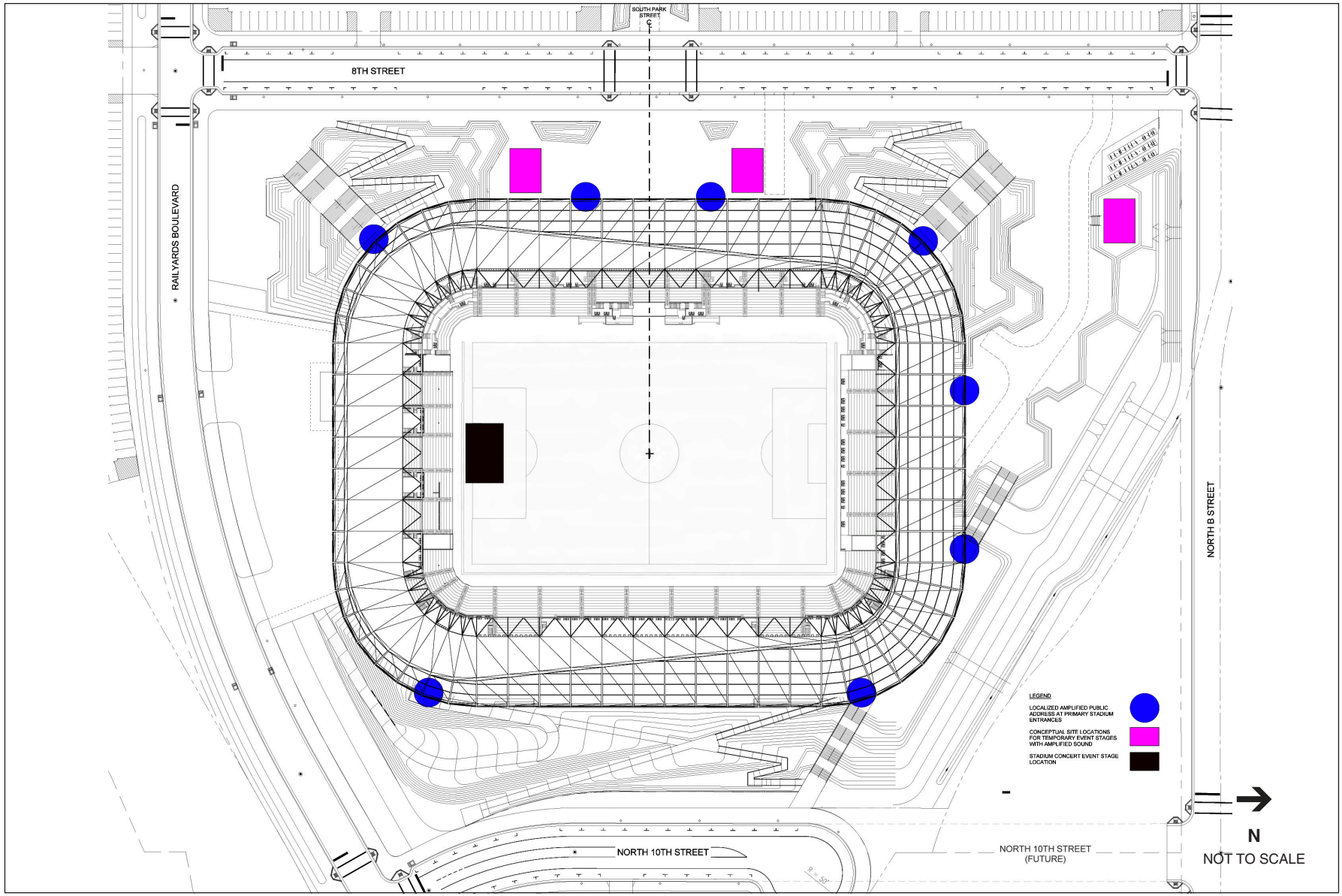
Stadium signage would include team and league signage, naming and sponsorship signage, directional and way-finding signage, and scoreboard/digital display signage (see **Figure 2-38**, Stadium Signage Plan). All signage would comply with regulations defined in the Sacramento City Code (Title 15), Building and Construction, Chapter 15.148 – Signs.

Stadium naming sponsor signage would likely be located on the east and west elevations of the Stadium spanning approximately 200 feet across near the top of the building façade, with the possibility of additional naming signage visible from above on the roof canopy also spanning approximately 200 feet (see **Figure 2-39**, Stadium Naming Sponsor Signage Elevations).

The primary entries at the southwest and northwest corners of the proposed Stadium and at mid-plaza would likely display naming sponsorship signage, possibly digital.

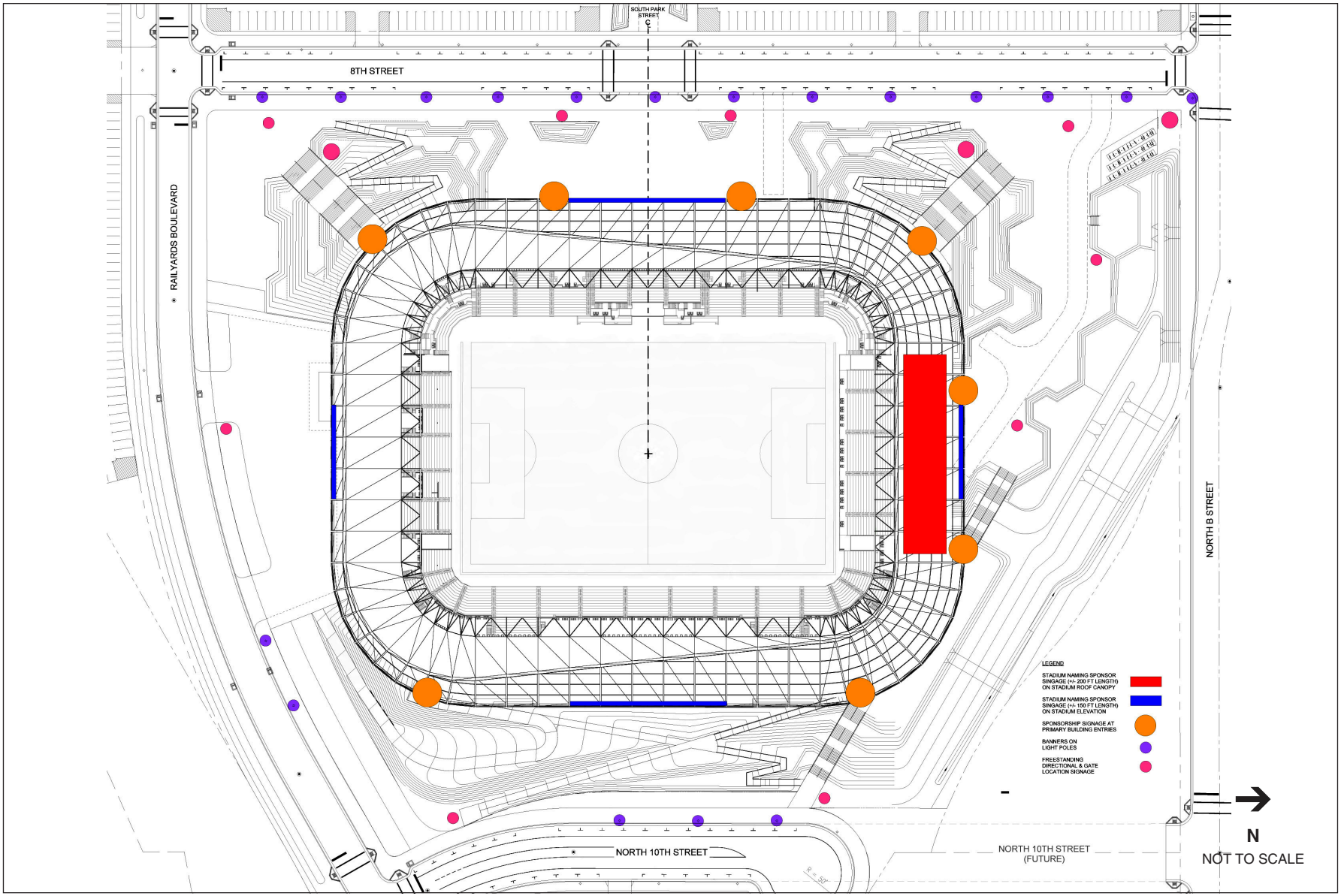
Three large signage pylons located in the west entry plaza, possibly 20 feet to 30 feet tall, would designate named entry plazas. These pylons might display both digital and static signage.

Inside the Stadium, visible from the seating bowl but also partially visible between solid elements of the exterior façade, there would be four large video display boards, two each at the north and south ends of the Stadium, as well as ribbon boards circling the entire seating bowl located above the vomitory openings from the main concourse.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

Figure 2-37
MLS Stadium Site Amplified Sound Plan



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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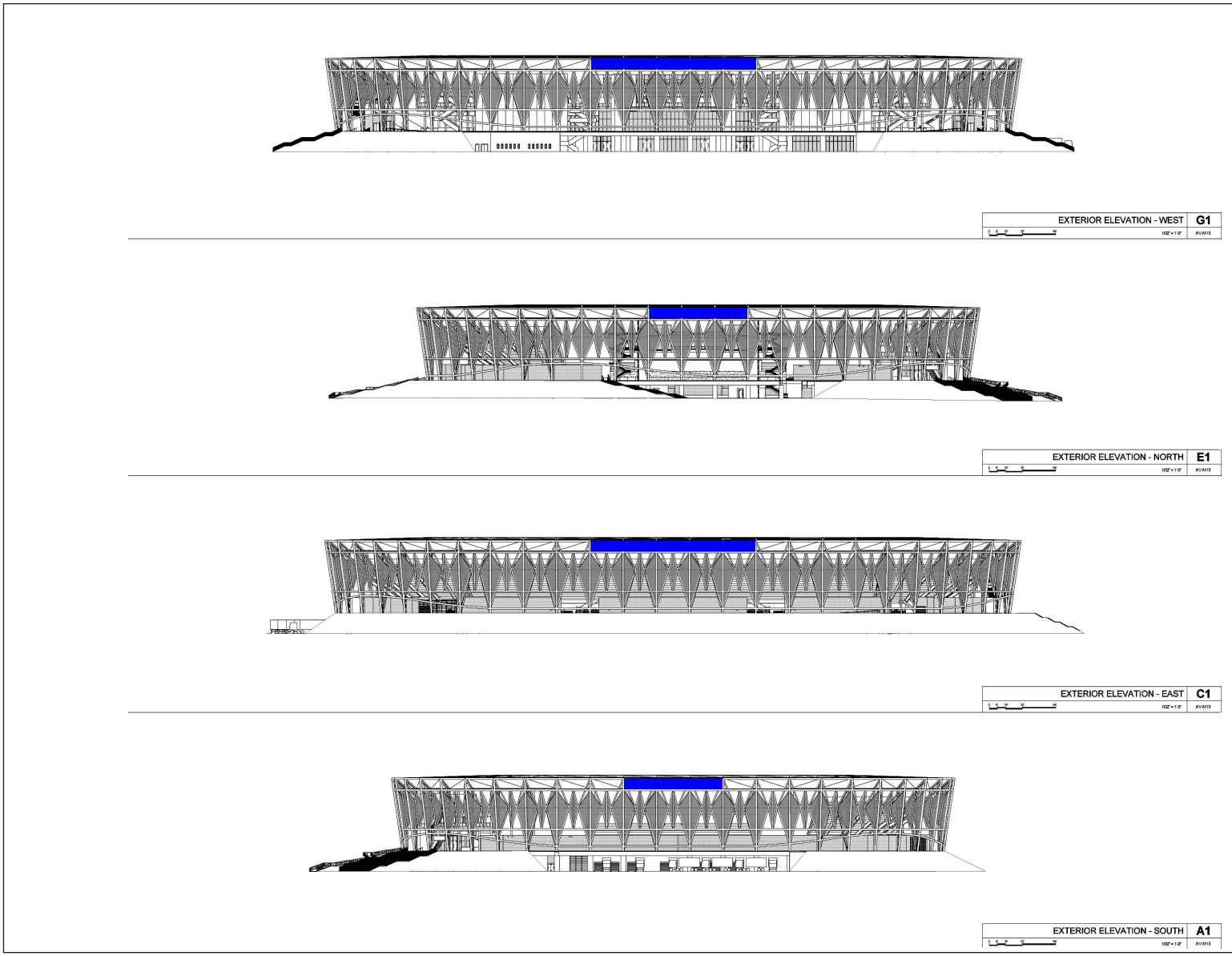
Figure 2-38
Stadium Signage Plan



SOURCE: HNTB 2016

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Figure 2-39

MLS Stadium Naming Sponsor Signage Elevations

Lighting

Lighting for the Stadium would be comprised of event field lighting, exterior Stadium lighting (i.e., building perimeter lighting and site lighting), emergency lighting, and digital signage (see **Figure 2-40**, Stadium Lighting Plan).

The event lighting is proposed to be outdoor LED-type floodlights with internal reflector systems to control spill light and glare. The event lighting would be integrated into the roof canopy structure and directed at the pitch (field). Lighting levels in the seating bowl would gradually taper off from the maximum light intensity levels on the playing field. High-intensity field lighting would primarily be required for large events during evening hours such as a late afternoon or evening sporting event. Allowing for monthly maintenance of the field lighting, it is estimated that the event lighting would be used 45 times per year.

The Stadium would include outdoor security lighting along walkways, driveways, entrance areas and plazas in accordance with City code requirements.

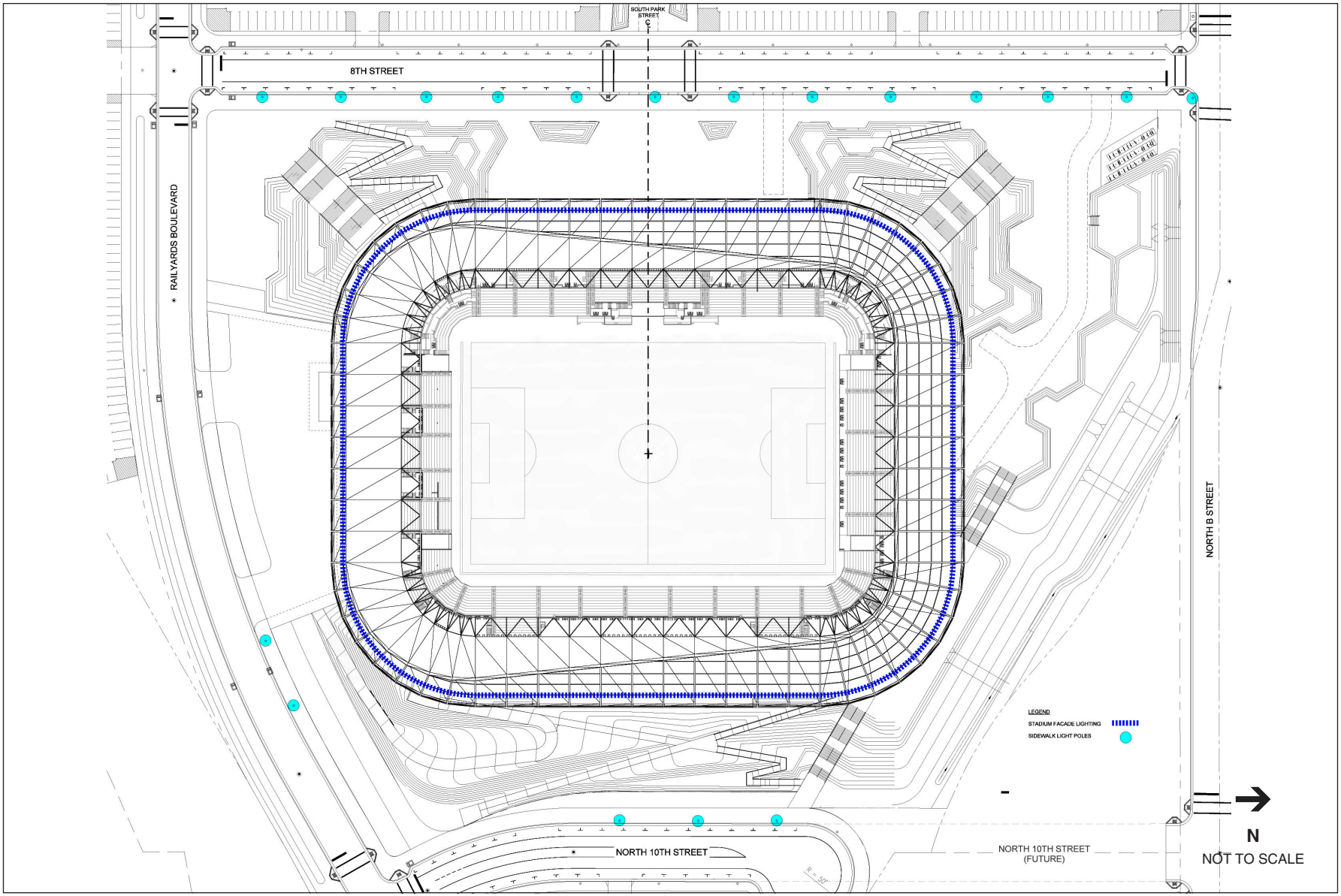
The walls of the proposed Stadium would be visually permeable and translucent. The exterior of the Stadium would be internally illuminated. Modern field lights are designed for specific directional light and reduction of spill light.

Security

The proposed MLS Stadium would feature a security command center that would include a waiting, booking, holding areas, lockers, and storage facilities. These facilities would be managed by full-time staff providing 24-hour surveillance and security for the Stadium. During events additional part-time security staff would be provided at the Stadium and these facilities by guest services and club security personnel, as well as through a third-party security company. These security staff would be the first responders to disturbances, and would provide supplemental assistance to Sacramento PD.

Sustainability

The proposed MLS Stadium would be designed and constructed to achieve LEED-equivalent energy and environmental design to the extent feasible. Although the details of the design are not yet complete and, thus, many of the design details that would be measured to achieve the LEED equivalent energy and environmental design have yet to be determined, **Table 2-12** presents the targets that the applicant has established to be met through project design.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-40
Stadium Lighting Plan

TABLE 2-12.
SACRAMENTO MLS STADIUM 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: HNTB, 2015.

LEED equivalency may be achieved through varying levels of performance related to the sustainability factors identified in Table 2-12. Depending on final designs, the proposed Stadium may exceed some targets and fall short of others. The types of strategies that are being investigated to achieve the targets include:

- Emphasis on quality transit and alternative mode use, including bicycle facilities, green vehicles;
- Site design that will facilitate rainwater management, reduce heat island effects, reduced light pollution, and reduced water use;
- Water efficiency measures that reduce indoor and outdoor water use, including use of low-flow fixtures and water metering;
- Systems to optimize energy performance, including energy metering, demand response, maximizing use of shade structures and wind resources on the site, use of LED and sensor lighting, and potential use of solar panels for on-site energy generation;
- Optimizing use of green and raw materials, low emission cleaning products, composting and food donation, and collection and storage of recyclables;
- Enhanced indoor air quality strategies, including use of low-emitting materials, efficient thermal comfort systems, and maximizing use of natural light; and
- Construction methods that minimize outdoor and indoor air pollution and construction waste.

Bicycles

It is anticipated that bicycle access to the proposed Stadium would be provided at multiple locations around the Stadium including from 8th Street, Railyards Boulevard, and 10th Street. The proposed Stadium 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 Stadium Bicycle Plan is depicted in **Figure 2-41**, MLS Stadium Bicycle Plan.

Approximately 24 long-term employee secured bike parking spaces would most likely be provided within the loading dock area or service yard located at the south end of the Stadium. Short-term patron bicycle parking spaces would most likely be provided near the field level entries at the northwest and southwest corners of the Stadium.

For events with sufficient demand, the MLS Stadium 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. As is presented on Figure 2-41, bicycle valet parking would be accommodated at one or more locations on the Stadium site. It may start with a small valet space at one location. For larger events and depending on weather, likely three bike valet locations would be set up for events serving bike traffic arriving at the site from the southwest, west and northwest.

If feasible, based on project design and space utilization, the proposed Stadium 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 proposed Stadium near 8th Street and South Park Street, or at another location around the Stadium. A Bikeshare docking station near the proposed Stadium could be coordinated with the anticipated Bikeshare station at the Sacramento Valley Station.

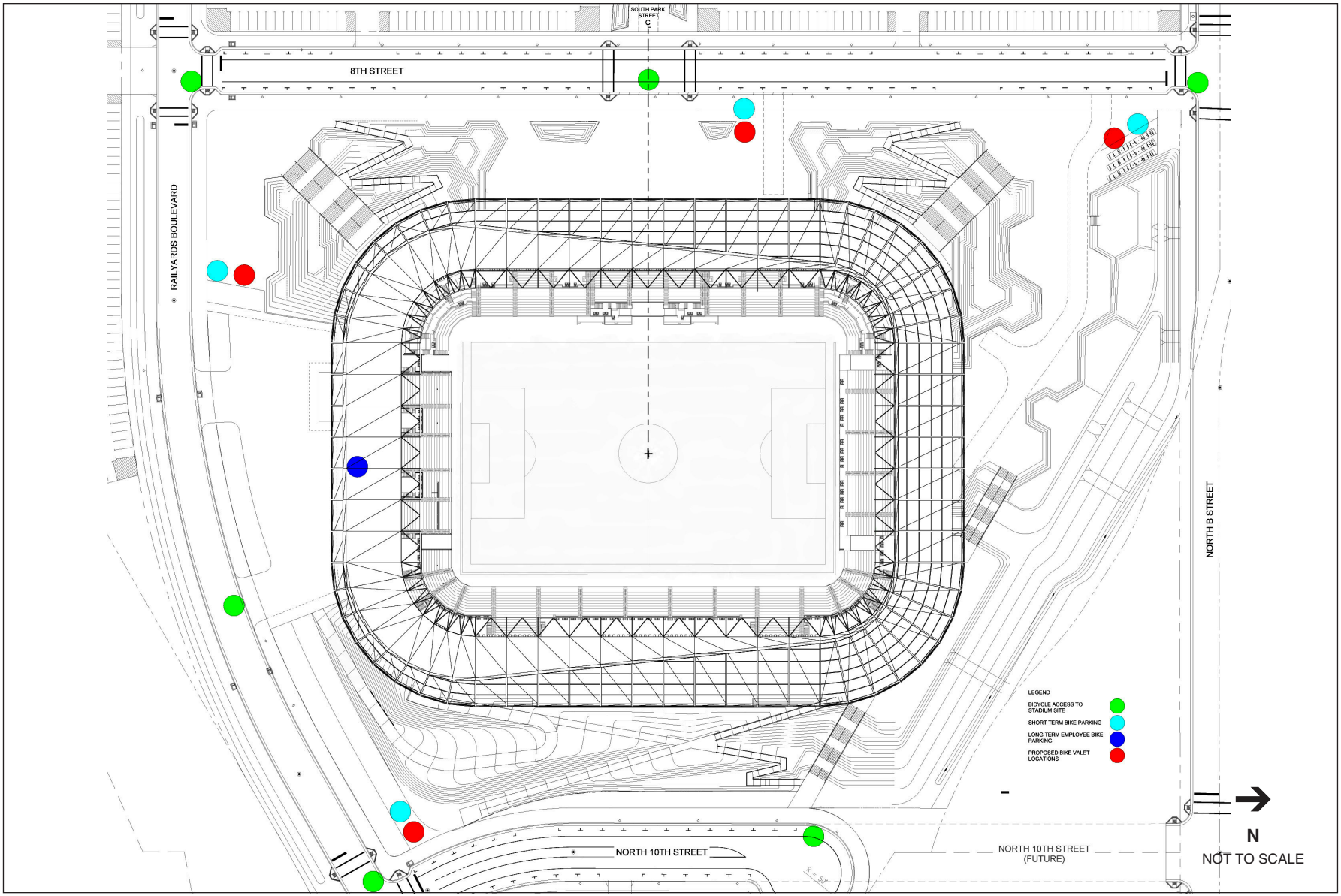
Vehicular Circulation and Drop-offs

During pre- and post-event conditions, it is expected that vehicles would approach the Stadium from the west via Railyards Boulevard and from the north via 8th Street and/or 10th Street (after 10th Street is constructed through to North B Street. After Railyards Boulevard is connected to 12th Street, vehicles would also approach via the one-way connector.

It is anticipated that the primary vehicular drop-off locations would be on 8th Street, with secondary drop-offs on 10th Street after it is connected to North B Street. VIP drop-offs would also occur on the east side of 8th Street.

Transit

It is anticipated that a new RT light rail line (Green Line) station would be provided on 7th Street between Railyards Boulevard and South Park Street. In the early years it is expected that this would be located on the east side of 7th Street; after the Green Line is extended and expanded to be double-tracked, it is expected that northbound trains would stop on the east side of 7th Street and southbound trains would stop on the west side of 7th Street. A major east-west pedestrian-way would be provided in the alignment of South Park Street to allow transit riders direct pedestrian access to the Stadium site.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-41
MLS Stadium Bicycle Plan

In coordination with RT, bus stops would be located at nearby locations on 8th and 10th streets, and Railyards Boulevard. These stops would be either on the Stadium parcel or across the street, depending on conditions.

A stop for Paratransit would be provided on the east side of 8th Street, in front of the main entry plaza, providing close access for Paratransit riders to VIP elevators that would be located on the west side of the Stadium.

Loading and Delivery

Loading and Delivery

Loading and service delivery trucks would access the proposed Stadium from Railyards Boulevard on the south side of the site. A total of three truck loading bays and docks would be provided near the southwest corner of the Stadium.

Truck and emergency vehicle access to the field (pitch) would be accomplished by an accessway located near the southeast corner of the Stadium, also accessed from Railyards Boulevard. During events, an emergency vehicle would be stationed at this location for easy access to the pitch and departure from the site via Railyards Boulevard, 8th or 10th Street.

Prior to, during, and after events, media trucks would be parked on the southern end of the Stadium, between the truck loading bays and the field access entrance.

Event Parking

Event attendees and Stadium employees who drive to the proposed Stadium would park their vehicles in surface lots and parking structures located in the vicinity of the site, including within the RSP Area, in the River District, and in downtown Sacramento.

As described above, it is proposed that parking in the RSP Area would be provided initially in temporary surface lots covered with an all-weather surface (likely a shale or gravel layer) or paved joint use lots (see Figure 2-14, Illustrative Temporary Surface Parking Plan). Over time, the parcels containing these temporary surface lots would be developed consistent with the proposed RSPU, with parking transitioned to parking structures that may be used by RSP Area employees during the day and event attendees and employees during evening and weekend events.

Parking would also be provided within the River District on existing paved parcels as well as undeveloped parcels that may be graded and prepared as temporary surface lots covered with an all-weather surface or paved, improved lots or structures.

Lastly, it is expected that some event attendees and employees may use existing parking lots and structures located in the downtown area, particularly those that exist in or near the County government center, along I or J streets, or in and around Old Sacramento.

Event Transportation Management Plan

The proposed Stadium would include an Event Transportation Management Plan (ETMP), a management and operating plan designed to facilitate multi-modal travel to and from events at the Stadium in a safe and efficient manner. The ETMP would be adapted and refined by the Stadium 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 Stadium 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, ongoing development activities in and around the RSP Area, and planned transportation improvements that may be implemented in the vicinity.

The ETMP would provide for the following:

- Transportation control strategies, including provision of an on-site Transportation Management Center (TMC) in the Stadium (could occur in the Stadium Security Office), designation of a Traffic Control Officer (TCO) supervisor who would staff the TMC and manage event day traffic controls, and the location of TCO's who would direct vehicular, transit and pedestrian traffic under various event scenarios. The transportation control strategies would also address transit boarding at the nearby planned 7th Street & South Park Street 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.

The Draft ETMP is included in Appendix J.2.

Construction and Phasing

Construction of the proposed Stadium and related entry plaza and open spaces would occur over an approximately year and a half period. The initiation of construction would be tied to the awarding of an MLS team to Sacramento by Major League Soccer. Depending on the timing of this event, construction could start as early as fall 2016 and conclude in winter 2018. There would be numerous overlapping construction phases, as is presented in **Table 2-13**.

TABLE 2-13.
SACRAMENTO MLS STADIUM PRELIMINARY CONSTRUCTION PHASING PLAN

	Construction Time Period		
Construction Phase	**Time Increment**	**Start Date**	**Finish Date**
Grading	2 weeks	10/1/2016	10/15/2016
Dewatering	1 month	10/15/2016	11/15/2016
Foundations/Footings	2 months	11/1/2016	1/1/2017
Building Construction	9.5 months	12/15/2016	10/1/2017
Sitework/Landscaping/Paving	2.5 months	11/1/2017	1/15/2018

SOURCE: Legends, 2015.

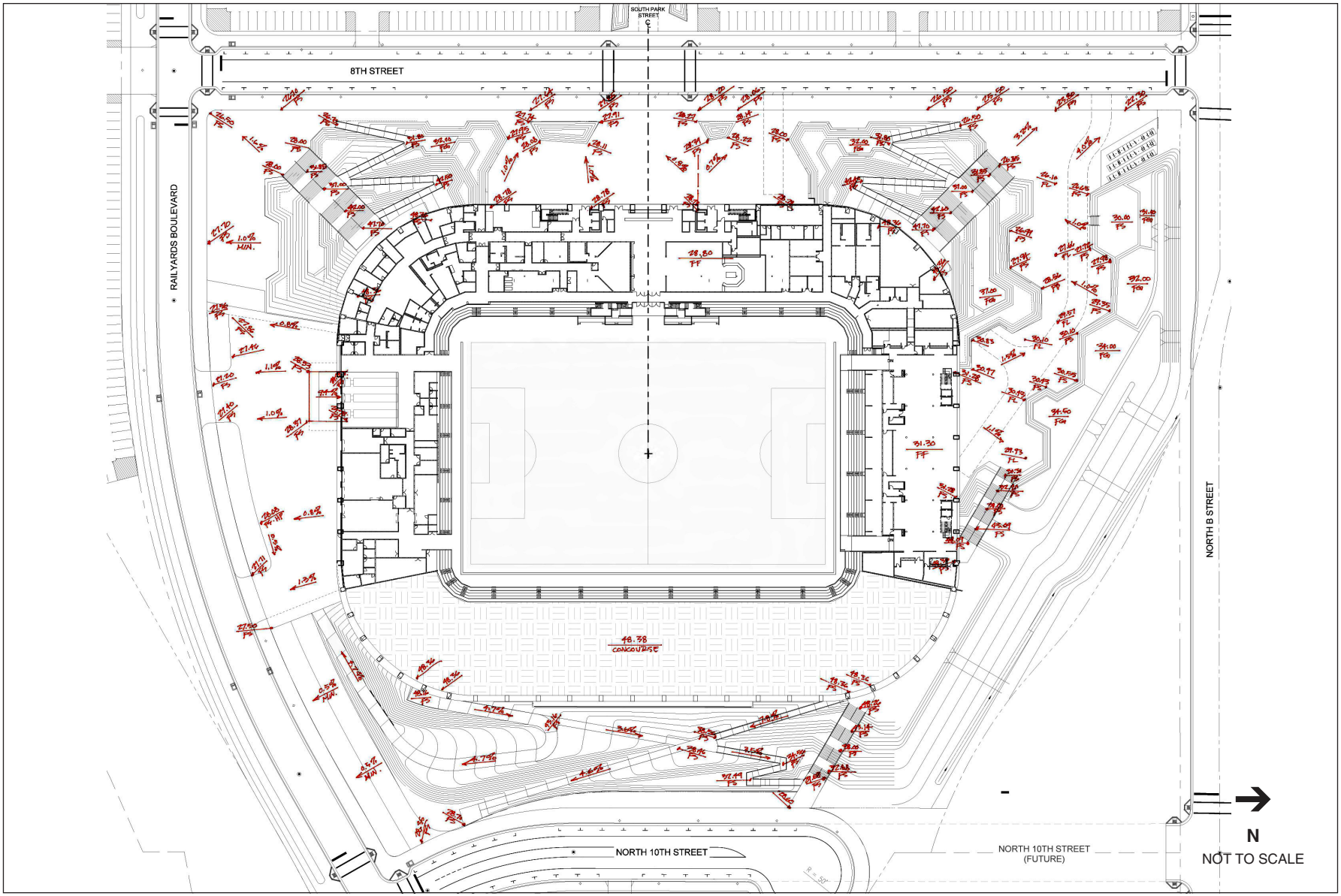
Excavation and Grading

The construction would be initiated with a clear & grub within an overall grading phase, which would involve earth movement and hauling on an exposed site of approximately 14.7 acres during a two week period (see **Figure 2-42**). It is currently estimated that about 148,000 cubic yards of earth and structural fill would be added to the project site, an average of about 3,300 cubic yards per day for 45 days of hauling. During this phase, construction employment would average about 20 workers, with a peak of 30 workers.

Depending on final foundation design and the need for subbase settlement, soils beneath imported fill could be over-excavated to a depth of approximately four (4) feet below the existing grade and re-compacted in place to achieve suitable base prior to placement imported fill. The actual need to over-excavate and re-compact (to achieve compaction requirements) and the actual depth of excavated soils would be a function of the selected foundation methodology and design.

Prior to placement of imported engineered fill, the site surface would be cleared and grubbed of all unsuitable material, including vegetative matter, industrial waste, debris, and miscellaneous items. Imported soil would be placed in final state and location where the subsurface has been over-excavated and re-compacted to meet structural stability, or may be placed in a temporary state to surcharge the subsurface beneath. In either case, imported soils, either in temporary of final stage, would be monitored or surveyed for settlement using settlement hubs. Settlement would be considered to have achieved satisfactory equilibrium when the difference in successive readings over a reasonable time determined by a geotechnical engineer is determined to have been achieved.

Final site grades are depicted on Figure 2-42, illustrating the variation in final elevations. The process of soil handling, placement, and compaction would require the use of conventional equipment as determined by the general contractor. All soil handling activities would be conducted in accordance with the Railyards Soil and Groundwater Management Plan.



SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 2-42
Stadium Grading Plan

Soil handling activities near the mainline tracks would be conducted in accordance with regulations and procedures that determine such activities, including appropriate health and safety concerns, appropriate flagging, and consideration of subsurface stability.

Construction

Foundations

Two options would be considered to support the Stadium structure: deep foundations that develop support from end bearing and friction in the relatively dense and stiff soils below the zone of the liquefiable soils, or shallow foundations bearing on areas where ground improvements have been completed to mitigate soil liquefaction. Each option is discussed below.

Deep Foundations

For deep foundations the size and type appropriate for the proposed Stadium structure would depend on the magnitude and distribution of structural loads and the final structural configuration. Deep foundations consist of two major types: driven piles and drilled, cast-in-place concrete piles. Each type can be further classified as displacement or non-displacement.

If driven piles are used, driven displacement piles would be preferable for the loose and soft soils beneath this site. A wide variety of driven pile types are available, such as cast-in-place concrete piles (concrete poured inside a steel shell driven with a mandrel), steel pipe piles, and pre-cast concrete piles.

An alternative to driven piles would be drilled, cast-in-place concrete piles. As with driven piles, drilled, cast-in-place concrete piles are available in a wide range of diameters. The type and diameter of drilled, cast-in-place concrete pile would depend on the foundation layout and loads. Due to the variable subsurface conditions that underlie the site, a comprehensive pile testing program would be appropriate to verify design capacities and pile tip depths.

Shallow Foundations

Light structures for retail space, concession areas, and similar facilities may be supported on shallow spread footing foundations. If structures are supported on shallow foundations without ground improvement, then significant settlements must be anticipated in a large earthquake.

Pile installation would comply with relevant requirements of the Railyards Soil and Groundwater Management Plan. Final pile tip elevations would be reviewed to ensure compliance with DTSC requirements.

The final design of pile types, depths, spacing, size, and other related parameters, including method of pile driving and or installation, would be determined once design has been completed. A pilot pile installation program would be implemented prior to final determination of deep foundation parameters.

Should pile installation be utilized, based on final project and foundation design, it is anticipated that the piles would be advanced to a depth approximately 80 feet below surface, where gravel layers are likely to be encountered, to achieve design requirements. Pile installation and related activities would be designed and implemented to meet requirements of the Railyards Soil and Groundwater Management Plan.

The foundations/footings phase of construction would involve the pre-drilling and auger displacement of up to approximately 71,500 linear feet of concrete foundation piles throughout the Stadium footprint area during approximately 60 days for the foundation operation. It is estimated that approximately 3,400 cubic yards of concrete would be delivered to the site and pumped into pre-drilled caissons to form the footings that would support the proposed Stadium foundation. During this phase, construction employment would average about 50 workers, with a peak of 75 workers.

Building Erection and Other Construction

The construction phase would involve the erection of steel, concrete and other construction elements, as well as interior and exterior finish work. Construction would take place over a period of about nine and a half (9.5) months. Stadium erection would involve the use of numerous cranes, loaders, welders, generators, concrete pumpers, and similar construction equipment. Interior and exterior finish work 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 200 workers with a peak of about 650 workers.

Exterior sitework, landscaping, and paving would be undertaken over a period of about two and a half (2.5) months. During this final phase, construction employment would average 25 workers with a peak of 50 workers.

Dewatering

Given the proposed grading of the site, groundwater is not anticipated to be encountered within the upper 10 feet below the field level. Since the proposed Stadium concourse level and various amenities are anticipated to be above the field level, groundwater is not expected to affect these features. As such, the extent and need for temporary construction dewatering, if any, would primarily depend on foundation design and foundation constructability methods and requirements of the proposed facility.

Should dewatering be required, a comprehensive analysis of groundwater conditions beneath and surrounding the facility would be performed. The completed groundwater analysis would determine groundwater quality beneath the proposed facility and within the surrounding vicinity based on historical and current data obtained from existing monitoring wells and newly installed temporary dewatering observation wells that would be installed prior to commencement of

construction. Foundation design, depth, location, lateral extent, along with constructability methods selected to install foundation systems would determine volume, flow rates, zone of extraction, and types of well points used to accomplish such dewatering. To limit impact, dewatering would only be conducted when and where needed to facilitate foundation construction, and would be halted and/or terminated when such need is not present. The type of well point system, screen depth, size and type of pumps, would be selected with the primary goal to reduce extraction and discharge to the extent necessary to meet construction requirements. Other feasible measures, such as construction scheduling and phasing, would be used when possible to achieve the intended objectives of minimum impact and efficient and cost effective construction.

Discharge of extracted groundwater would be directed to the combined sanitary sewer or to the separated stormwater system. The determination of which system to be used would be based on flow rate analysis in collaboration with City of Sacramento Department of Utilities to ensure that discharged water remains within acceptable capacity and quality for either systems. Discharge to the combined system would occur in accordance with a permit from Sacramento Regional County Sanitation District and City of Sacramento approval. Discharge to the separated systems would occur in accordance with a permit from the Central Valley Regional Water Quality Control Board (CVRWQCB)– NPDES Point Source Permitting Section. In either system discharge, an agreement with the City of Sacramento Department of Utilities would be secured prior to discharge.

It is anticipated that groundwater may have to be treated prior to discharge into either of the two receiving systems. A temporary groundwater treatment facility would be installed within the footprint of the proposed project to meet discharge flow rate and quality requirements. The treatment system would also be permitted by Sacramento Metropolitan Air Quality Management District, in the event the treatment system requires such permit.

Temporary dewatering and discharge would be closely coordinated with ongoing UPRR remediation activities and mandated requirements and with property owners surrounding the proposed project. All activities would be conducted in accordance with the requirements of the recorded Railyards Land Use Covenant, the Railyards Soil and Groundwater Management Plan, and operation and management requirements set for all Railyards facilities. Prior to discharge, approval would be secured from the DTSC, the lead agency regulating Railyards clean activities by UPRR. DTSC coordinates its approval with CVRWQCB under CVRWQCB's jurisdiction over groundwater.

Temporary discharge of accumulated stormwater due to rainfall would occur independently from the temporary extraction of groundwater for purposes of dewatering. The temporary discharge of precipitation stormwater would be implemented in accordance with an approved Storm Water Pollution Prevention Plan dedicated for the project construction phase.

Subsidence monitoring would be conducted by observing pre-defined points at the site and within the surrounding vicinity. The observation and recordation of potential changes in elevations that

may be potentially caused by subsidence, if any, would be accomplished by surveying the identified points and comparing the survey results to previous readings during the duration of dewatering activities. A baseline of all identified points would be established before dewatering commences.

Circulation

Project Site

During construction, the entire project site would be fenced off. Construction fencing would be placed around the entire perimeter of the proposed Stadium site.

Truck Routes

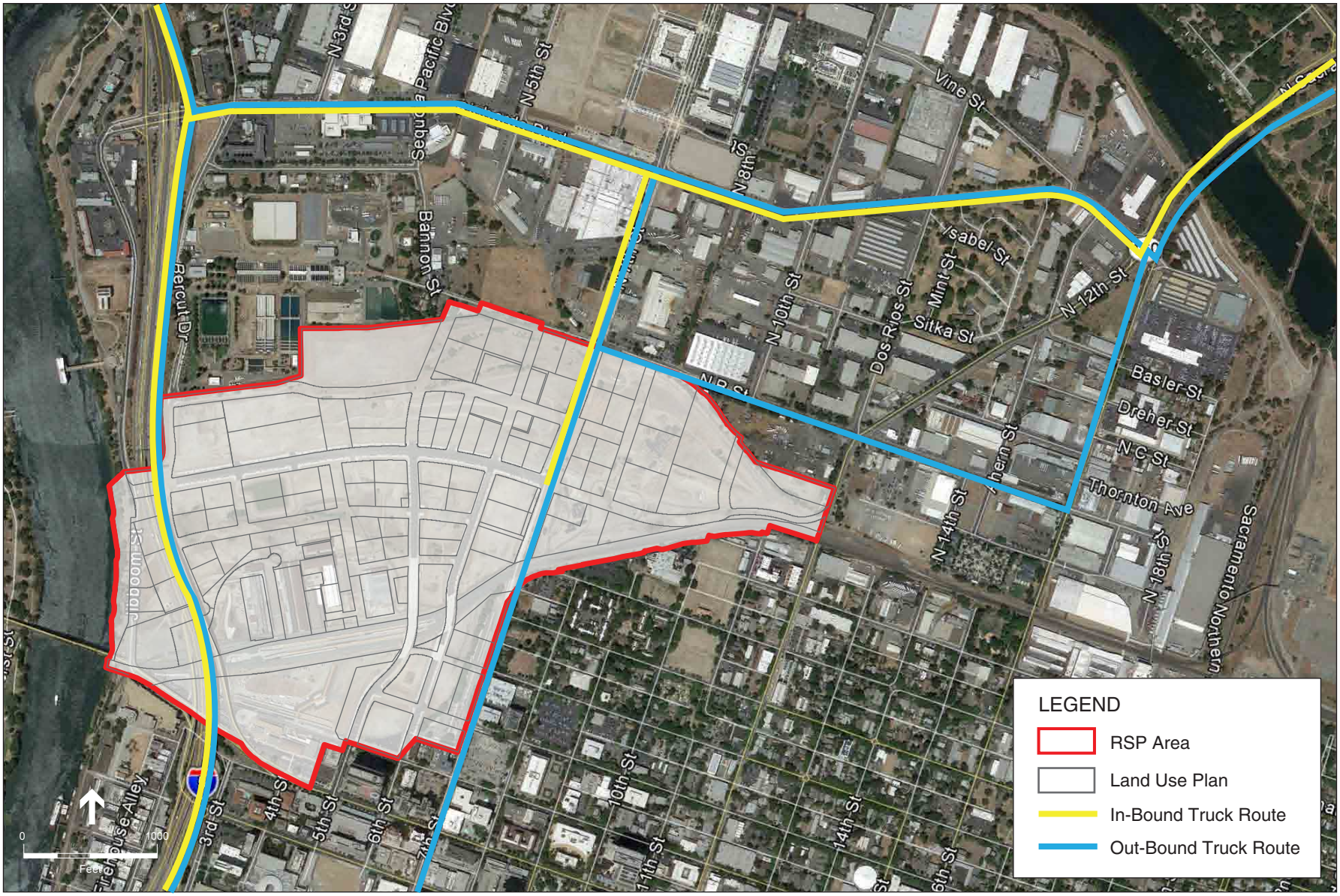
As depicted on **Figure 2-43**, MLS Stadium Construction Truck Routes, inbound truck trips would access the project site from northbound or southbound I-5, or from southbound SR 160 via Richards Boulevard and 7th Street. Outbound trucks headed to I-5 would depart the site on northbound 7th Street, to Richards Boulevard. Trucks heading toward SR 160 could travel north on 7th Street to either North B Street or to Richards Boulevard. Some trucks may depart the site on southbound 7th Street, either traveling toward West Sacramento via Capitol Mall and Tower Bridge, or to I-5 via the I Street onramp or south on 7th Street to the P Street onramps.

2.5.3 Pump Station and Stormwater Outfall

Stormwater drainage for the proposed RSPU would be collected, treated, and generally conveyed within the RSP Area from east to west. The stormwater would discharge into the Sacramento River, on the western edge of the RSP Area, via a new pump station and outfall system, in accordance with all stormwater permitting requirements.

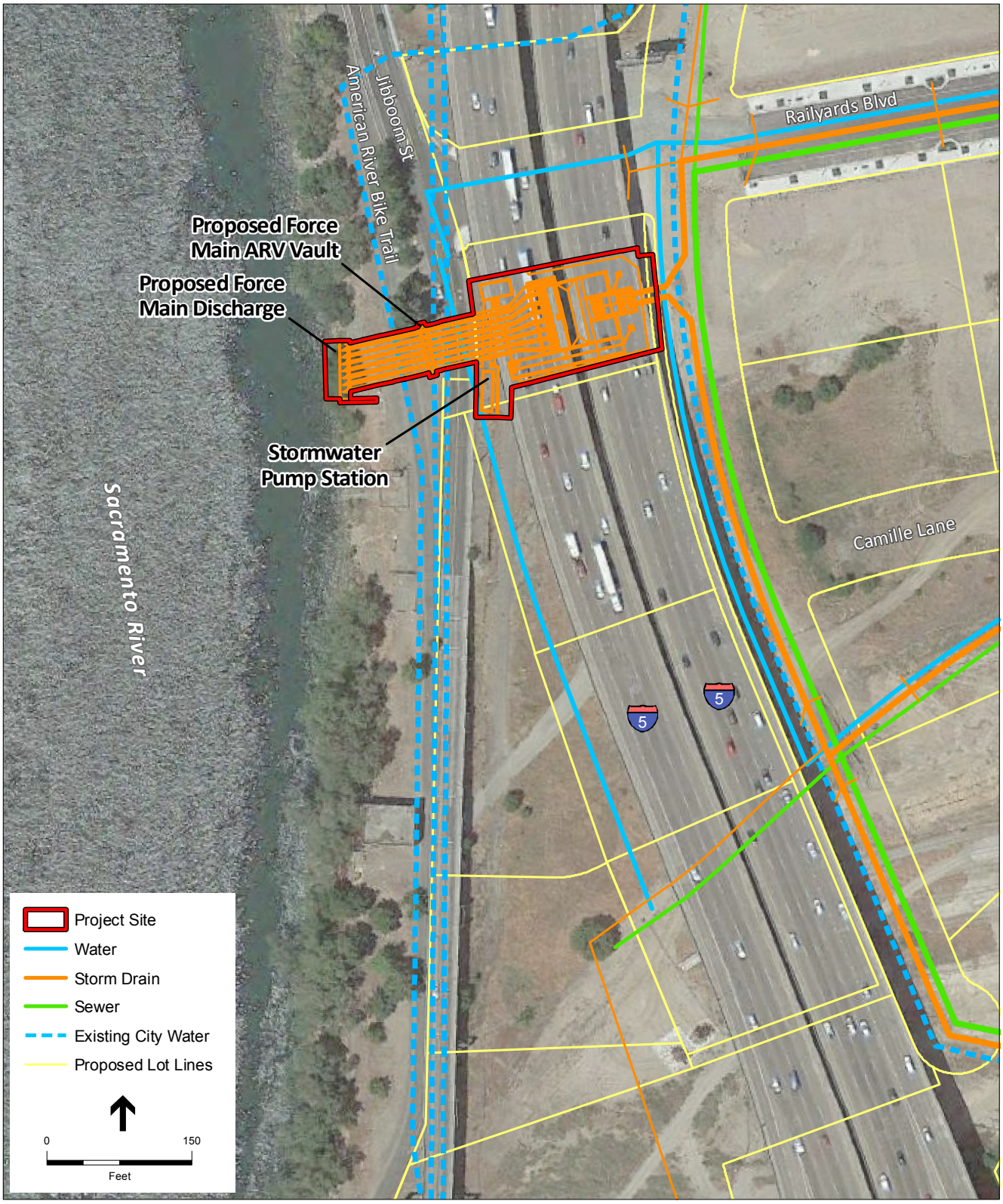
The proposed pump station would be located under the I-5 viaduct immediately south of Railyards Boulevard (see **Figure 2-44**, Pump Station and Outfall Site). The runoff from the proposed RSP Area would be collected in 60-inch and 72-inch storm drain pipes that would discharge to the pump station wet well. The proposed pump station wet well structure would be 105 feet long and 120 feet wide, most of which would be located underground. A mechanical trash rack at the entrance to the wet well would intercept debris that is not captured by upstream controls. Automatic rakes on the trash racks would deposit any debris into containers for removal.

The wet well would be located approximately 50 feet from the existing landside toe of the Sacramento River East Levee at a depth of 30 feet below existing grade (see **Figure 2-45**, Stormwater Pump Station and Outfall Plan). The total volume capacity of the wet well would be 100,000 cubic feet. The above-ground features would include a small building for the electrical switchgear and controls, an emergency generator, pump motors, and trash rack grates. The pump station site would include two access points with 26-foot gates for maintenance access. A 7-foot high masonry wall would be constructed around the pump station site for security and to visually screen the site from the adjacent roads. Power would be supplied to the site from a 480-volt underground feed.



SOURCE: Google, 2016; ESA, 2016

Figure 2-43
MLS Stadium Construction Truck Routes

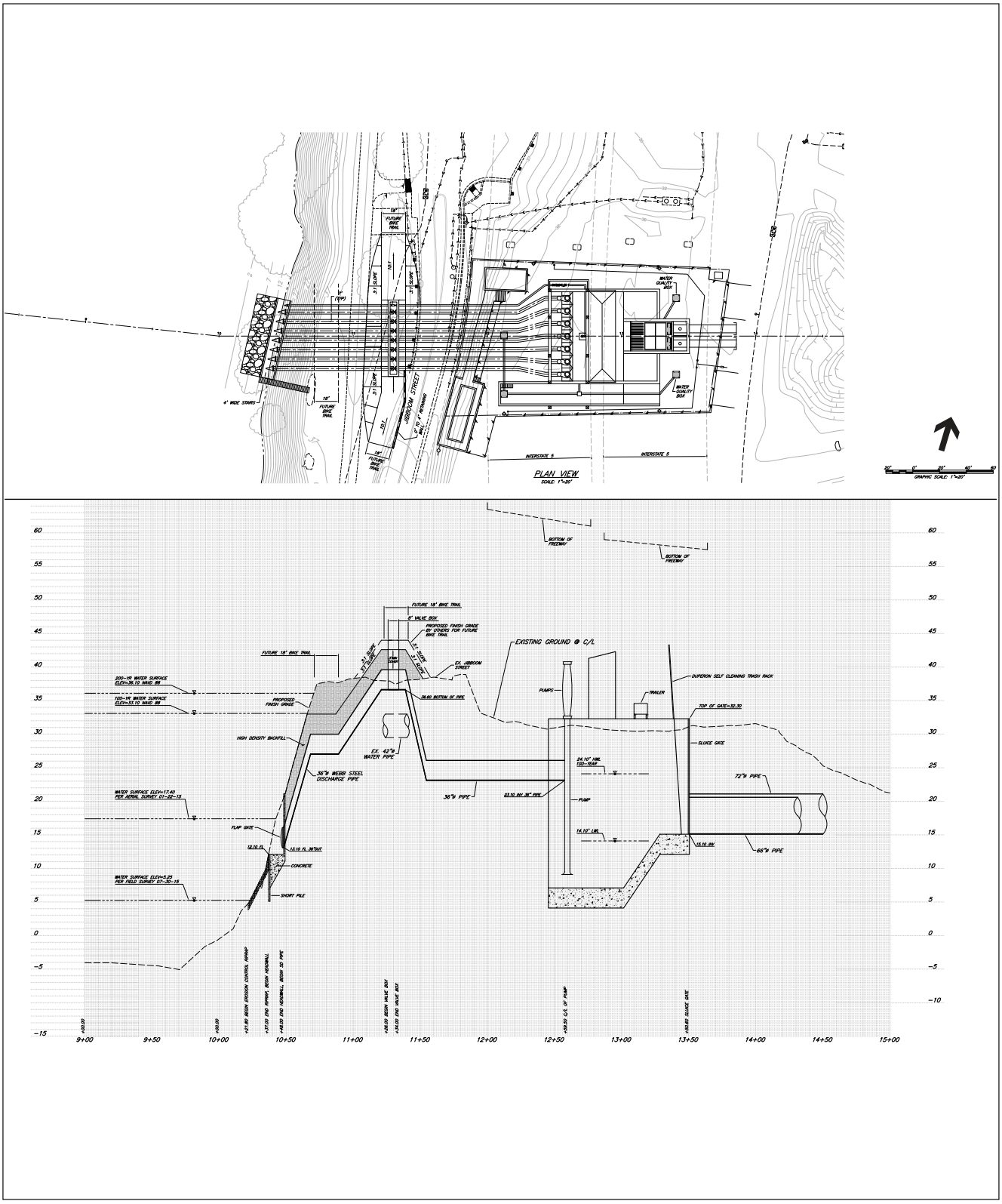


SOURCE: Google, 2015; Kimley Horn, 2015; City of Sacramento, 2015; ESA, 2016

Sacramento Railyards Specific Plan Update . 150286

Figure 2-44

Pump Station and Outfall Site



SOURCE: Kimley-Horn 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 2-45

Stormwater Pump Station and Outfall Plan

The 100-year peak design flow for the proposed pump station would be approximately 200,000 gpm (450 cfs). The pump station would include two 200 cfs pumps, two 100 cfs pumps, and a 1 cfs sump pump for low flows, for a total flow capacity of 600 cfs. The design head (the capacity of the pumps to lift the water to a certain height) for the pumps would be 25 feet. The pump station would be able to pump a minimum of 400 cfs with any single pump out of commission. The five vertical turbine pumps would discharge into seven discharge force mains and ultimately into the Sacramento River.

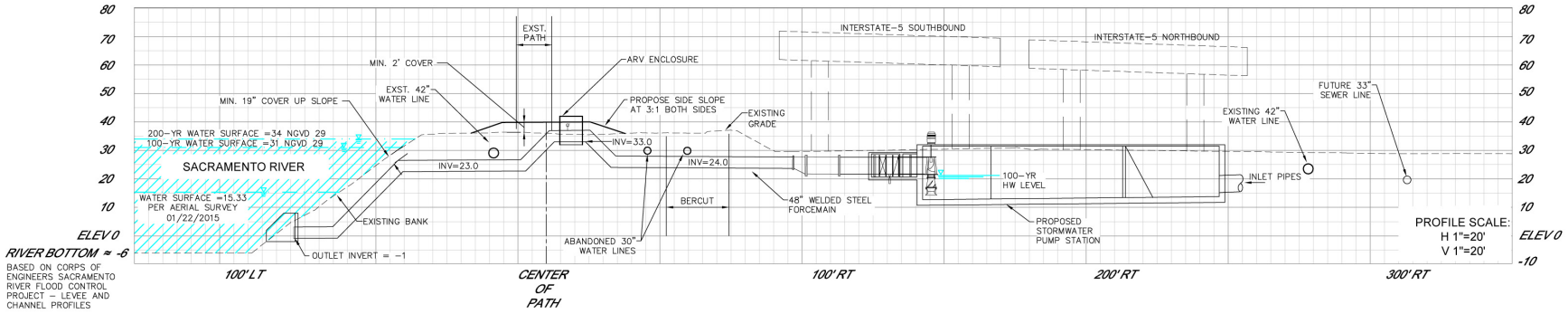
The discharge force mains would include seven (7) 36-inch pipes and one (1) 12-inch pipe laid in parallel formation over the levee to a concrete-encased outfall structure along the riverbank (see **Figure 2-46,** Stormwater Outfall and Pump Station Sections). A vertical bend with air release valves at the high point would be constructed with the inverts of the pipes just above the 200-year water surface elevation of 36.1 feet (National American Vertical Datum, or NAVD 88). Backwater flow would be prevented with an isolation/vacuum breaker vault that would be constructed at the waterside hinge point of the levee.

The pipes would discharge at a headwall that would be located in the river, and which would be designed to minimize hydraulic impact to the flow in the river. The pipe inverts at the discharge headwall would be located at an elevation of 13.10 feet (NAVD 88), which would typically be above the summer water surface to allow for maintenance, but submerged during higher flows in the winter (see Figure 2-46).

The headwall would be part of a concrete outfall structure that would be 60 feet long and 11 feet wide. The top of the headwall would be at an elevation of 21.10 feet (NAVD 88) and the floor at 11.10 feet (NAVD 88) (see **Figure 2-47**, Stormwater Headwall Front View). Structural components including piling would extend an additional 7 feet below the surface of the river bank. Wing walls on the sides of the outfall structure would be sloped to match the river bank. 15 feet of erosion control riprap (1/4 ton) would be placed below the outfall structure in a layer approximately 1-foot deep. A four-foot wide staircase would be constructed on the south side of the outfall structure to allow for maintenance and inspection access from the top of the bank.

Construction of the pumping station, pipes and outfall will involve excavation with heavy machinery. An approximately 70-foot wide trench will be cut into the levee up to a depth of 15 feet below the existing ground surface. To provide equipment access during construction, an additional 10 feet on either side of the trench will be cleared and temporarily impacted. Once the pipes and other infrastructure are installed the area will be backfilled. At the high-point of the outfall pipes, where the isolation/vacuum breaker vault is located, the top of the levee will be raised approximately 5 feet to allow for appropriate clearances. At the river, a sheet pile cofferdam will be installed using vibratory pile driving to isolate the area of the pipe outfalls, headwall structure and riprap during construction and installation. After construction these sheet piles will be cut off at surface level and provide permanent containment for the riprap.

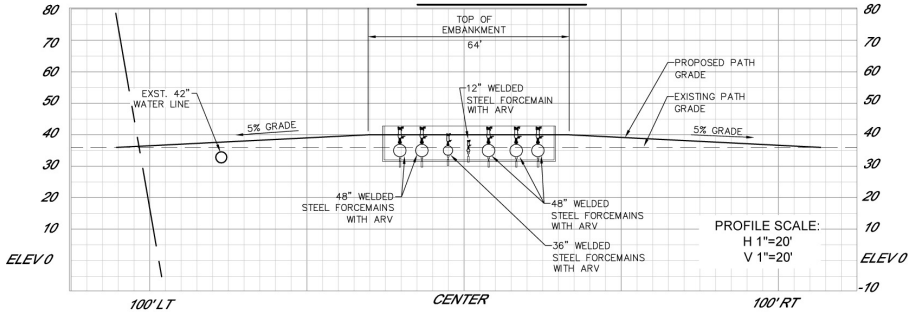
SECTION A-A



ELEVATION REFERENCE

	NAVD 88	CITY DATUM NGVD 29
200 YR WATER SURFACE	36.5	34.0
100 YEAR WATER SURFACE (FEMA)	33	31

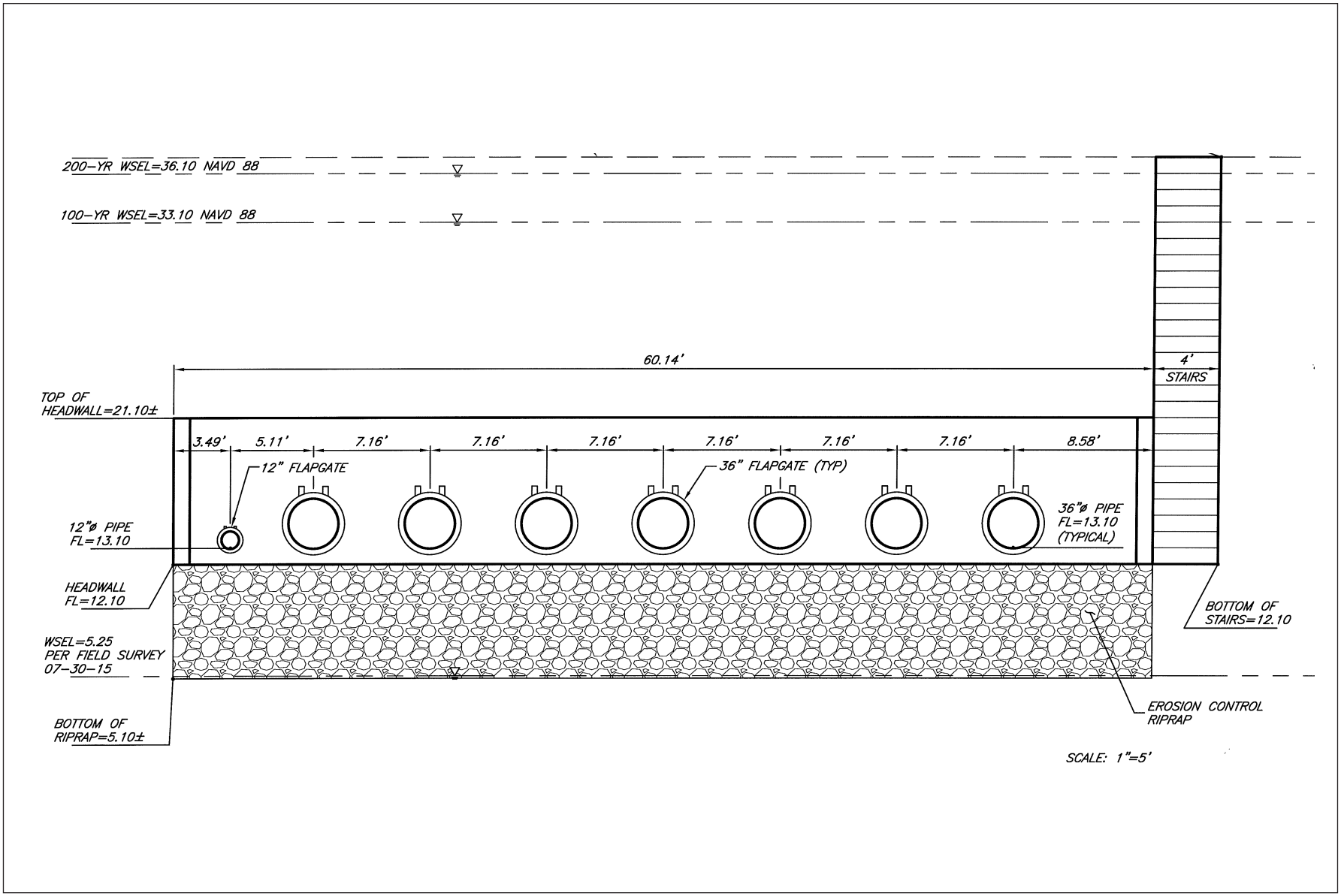
SECTION B-B



SOURCE: Kimley-Horn 2015

Figure 2-46

Stormwater Outfall and Pump Station Sections



SOURCE: Kimley-Horn 2015

Figure 2-47
Stormwater Headwall Front View

The outfall structure and rip-rap would permanently impact 0.04 acres of riverine habitat with an additional 0.02 acres temporarily disturbed during construction. Excavation for and installation of the outfall pipes and pump station would permanently impact 0.01 acres of Valley Foothill Riparian habitat as well as 0.74 acres of Developed and Vacant areas. Temporary access impacts adjacent to the outfall pipes would include 0.001 acres of Valley Foothill Riparian and 0.06 acres of Developed and Vacant areas. After installation of the outfall pipes, the trench would be backfilled with high-density fill to stabilize the slope and maintain the integrity of the levee. All disturbed areas would be stabilized and replanted as appropriate. Post-construction maintenance activities would be limited to the outfall structure and rip-rap areas, approximately 0.04 acres.

CHAPTER 3
Land Use, Population and Housing

3.1 Introduction

This chapter of the SEIR provides an overview of the land use and planning issues that may arise in connection with planning, construction, and operation of the proposed Railyards Specific Plan Update (RSPU). 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 an EIR shall discuss "any inconsistencies between the Proposed Project and applicable general plans and regional plans." Potential inconsistencies between the proposed projects and the Sacramento 2035 General Plan, the Central City Community Plan (CCCP), and the City's Planning and Development Code (PDC) are discussed in this chapter. Notwithstanding the conclusions reflected in this document, the final determination of project consistency with the City's 2035 General Plan, including the CCCP, 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.

The City does not consider inconsistency with plan policies or codes to necessarily be indicative of significant environmental impacts. To the extent that significant environmental impacts would occur as a result of policy inconsistencies, they are disclosed in the environmental impact sections of Chapter 4 of this SEIR. Thus, 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 (e.g., residences, parks). 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 RSPU's development assumptions and analyzes projected population and housing growth in relation to city projections.

Because the 2007 RSP EIR analyzed environmental impacts related to land use (see 2007 RSP EIR, section 6.7), this chapter discusses the analysis and conclusions of the 2007 RSP EIR and incorporates those findings into the land use evaluation in this chapter. The 2007 RSP EIR also included a consistency analysis, and those determinations are discussed in this SEIR. Adverse physical effects on the environment that could result from implementation of the proposed project, including the changes to land use addressed in this chapter, are evaluated and disclosed in the appropriate technical sections of this SEIR.

3.2 Land Use

The evaluation included in this section was developed based on project-specific features and data provided in the City of Sacramento 2035 General Plan, City of Sacramento 2035 General Plan Master Environmental Impact Report, SACOG's Preferred Blueprint Scenario and Metropolitan Transportation Plan/Sustainable Communities Strategy, and the 2007 Railyards Specific Plan EIR.

Notice of Preparation Comments

A Notice of Preparation (NOP) for preparation of this Subsequent Environmental Impact Report (SEIR) was circulated for public review beginning on June 26, 2015. During the public comment period, three letters were received which commented on land use issues related to the RSPU. The comments addressed the following issues:

- Accounting for planned development in the City of West Sacramento for cumulative impact analysis.
- Concern that a medical and sports complex is incongruent with the approved RSP.
- Concern regarding loss of proposed housing and the need for neighborhood-serving retail.

Issues Addressed in the 2007 RSP EIR

The 2007 RSP EIR evaluated the compatibility of the RSP with existing and planned land uses adjacent to the SPA, whether the RSP would physically divide an established community, and whether the RSP would result in land use conflicts due to placement of incompatible land uses. Impact 6.7-1 of the 2007 RSP EIR evaluated whether the proposed RSP would physically divide an established community. The 2007 RSP EIR noted that the proposed RSP would provide new connections between existing neighborhoods and would therefore have no impact related to division of an established community.[1] Like the 2007 RSP, the proposed RSPU would include new connections between existing neighborhoods and would not be expected to physically dive an existing community. The conclusion of the 2007 RSP EIR would remain unchanged with the proposed RSPU.

[1] City of Sacramento. 2007. *Railyards Specific Plan Draft Environmental Impact Report*. SCH No. 2006032058. p. 6.7-4.

Impact 6.7-2 of the 2007 RSP EIR evaluated whether the 2007 RSP would result in short-term or long-term land use conflicts due to incompatible uses. During periods of construction, sensitive receptors in and around the plan area could experience short-term, temporary impacts from noise, dust, and construction traffic. As was the case in the 2007 RSP EIR, construction impacts related to these areas are analyzed within their respective analysis sections of this SEIR. The analysis in the 2007 RSP EIR acknowledged that long-term incompatibilities could occur, but that the uses proposed by the RSP were generally compatible with the existing urban setting and would result in a less-than-significant impact. Additionally, the impact analysis stated that building design for future development within the plan area would be subject to project-specific analysis, which would, in turn, determine if specific development would result in land use incompatibilities. While not in the form of an impact discussion including a significance conclusion, consistent with the City's current approach and structure of EIRs, the issue of land use conflicts and incompatible uses is discussed below in Section 3.2.3 below.

3.2.1 Environmental Setting

The land use setting was described on pages 6.7-1 through 6.7-3 of the 2007 RSP Draft EIR. The environmental setting is largely the same with some localized changes since certification of the 2007 RSP EIR and the following discussion updates the 2007 RSP EIR setting.

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 mountain range 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 Railroad (UPRR) also transects Sacramento. Daily Amtrak service is provided from the Sacramento Valley Station (SVS) at the southern end 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.

The Railyards Specific Plan Area (RSP Area) is located within the City of Sacramento's Central City community, between the downtown Central Business District (CBD) and the River District, near the confluence of the American and Sacramento rivers. The approximately 244-acre RSP Area[2] is immediately north of the CBD; north and west of the Alkali Flat neighborhood; north and northeast of Old Sacramento; east of the Sacramento River and I-5; south of the Sacramento River Water Treatment Plant (SRWTP), Water Street, North B Street and its adjacent commercial and industrial uses.

[2] The boundaries of the RSP Area are identical to the boundaries of the Railyards Specific Plan adopted in 2007.

The RSP Area is located in the CCCP area and Downtown area of the City of Sacramento. The CCCP includes the area bounded by the American River on the north, Broadway on the south, the Sacramento River on the west, and Alhambra Boulevard on the east. I-5 runs north-south through the RSP Area, near the western edge of the of the RSP Area near the Sacramento River. As it crosses the RSP Area, I-5 is elevated above the existing UPRR line and vacant lands of the RSP Area. The RSP Area is comprised of 9 Assessor's Parcel Numbers, including 002-0010-023, -044, -049, -052, -054, -056, -060, -062, and -063.

Railyards Specific Plan Area

The project site is currently designated Urban Center High, Urban Neighborhood High, Parks and Recreation, and Public/Quasi-Public on the adopted Land Use and Urban Form Diagram included as part of the City of Sacramento 2035 General Plan.[3] The project site is within a Center that is "expected to develop for commercial and employment uses (without housing) and/or mixed-use projects that integrate housing with retail, office, community facilities and other uses."[4]

The PDC includes the Sacramento Railyards Special Planning District (SPD) that encompasses the entire RSP Area; the Railyards SPD is defined in chapter 17.440 of the PDC. The Railyards SPD includes the following zones: Office/Residential Mixed Use (ORMU), Residential/ Commercial Mixed Use (RCMU), Residential Mixed Use (RMU), Transportation Corridor (TC), and Heavy Industrial (M-2). The chapter 17.440.040 (5B) states that "The Sacramento railyards specific plan envisions a dynamic, 24 hour mixed-use urban environment that provides a full range of complimentary uses in each land use designation. To realize this goal, the RCMU-SPD, ORMU-SPD, RMU-SPD, TC-SPD, and M-2-SPD zones are intended to allow for any type of urban function."

As part of the 2007 RSP, the project site includes a Sports and Entertainment Facility Overlay located on approximately four blocks east and west of 7th Street, between Railyards Boulevard and the railroad tracks. In the 2007 RSP, the overlay straddled both the West End District and the East End District. Under the proposed RSPU, the overlay would be eliminated but a sports and entertainment stadium is identified on land proposed to be designated C-3, entirely within the East End District. The proposed stadium use would be on a block bound by Railyards Boulevard to the north, the railroad tracks to the south, 8th Street to the west, and 10th Street to the east.

At the time of the 2007 RSP EIR, the buildings in the Central Shops District were primarily empty, with the exception of the Erecting Shop and the Boiler Shop, which are leased by the California State Railroad Museum (CSRM). The CSRM continues to use the two buildings for repairs and maintenance of trains. Since certification of the 2007 RSP EIR, the RSP Area has been subject to extensive environmental remediation. Soil remediation of the RSP Area is

[3] City of Sacramento. 2014. Sacramento 2035 General Plan Land Use and Urban Form Diagram. June 26, 2014.

[4] City of Sacramento. 2015. *Sacramento 2035 General Plan*. p. 2-12. March 3, 2015.

anticipated to be largely complete by the end of 2016, with groundwater remediation processes continuing on into the future.

In the Depot District, the SVS is located at 4th and I streets and provides stops for Sacramento Regional Transit light rail and Amtrak passenger rail and buses. Acquired by the City of Sacramento in 2006, the SVS is currently undergoing renovations as part of the Sacramento Intermodal Transportation Facility (SITF) project. The goal of the SITF is to provide user-friendly connections between all modes of transportation – train, light rail, bus, bicycle, pedestrian, taxi and automobile with future planning for California High Speed train into the RSP Area.[5] Phase 1 of the renovation included track relocation and construction of new passenger platforms was completed in late 2013. Phase 2 renovations are currently underway, including restoration and rehabilitation of the historic depot building.

At the time of the 2007 RSP EIR, the RSP Area included UPRR tracks, generally following the southern boundary of the RSP Area, that were used for freight and passenger trains. Since that time, the tracks have been relocated north of their original alignment as part of Phase 1 of the SITF project and as envisioned in the 2007 RSP EIR.[6]

Since the certification of the 2007 RSP EIR, new roadways have been constructed within the RSP Area. In the western side of the RSP Area, Railyards Boulevard has been constructed from just east of I-5 to its intersection with 7th Street. In the southern portion of the Depot District, 5th Street and 6th Street have been constructed north of their former terminus at H Street, crossing newly constructed bridges over the UPRR tracks, and now terminating at the newly-constructed Railyards Boulevard in the West End District.

KP Medical Center

The proposed KP Medical Center is planned on a site located in the northwest corner of the RSP Area, east of Bercut Drive, west of the planned extension of 5th Street, and south of the SRWTP. Railyards Boulevard borders the KP Medical Center site on the south. The KP Medical Center site was previously remediated and is now a vacant lot with some clean fill remaining on the property. The fill is planned to be removed and used to form the final configuration of Vista Park, north of the KP Medical Center site.

MLS Stadium

The proposed MLS Stadium site is located east of 7th Street in the eastern half of the RSP Area. The site is mostly vacant with some piles of soil, construction materials and debris stored in the area. This debris will be removed in early 2016 as part of the remediation of the RSP Area.

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5 City of Sacramento. 2015. Sacramento Valley Station – Background Information. Available: http://sacramentovalleystation.com/background-information/. Accessed November 24, 2015.

6 City of Sacramento. 2007. *Railyards Specific Plan Draft Environmental Impact Report*. SCH No. 2006032058. Figure 3-11, p. 3-41.

Stormwater Outfall

The proposed Stormwater Outfall site is located west of Jibboom Street directly adjacent to the Sacramento River. A paved bicycle and pedestrian path separates Jibboom Street from the Outfall site. The Outfall site is a steep bank sloping down to the water and includes some trees and minimal groundcover on its face. The Outfall structure would be connected via underground pipes to a wet well and pump station located under the elevated structure of I-5, south of Railyards Boulevard.

Surrounding Land Uses

The River District

The River District lies directly north adjacent to the project site. At the time of the 2007 RSP EIR, this area was known as the Richards Boulevard Area, which at the time was subject to the Richards Boulevard Area Plan (RBAP). The River District Specific Plan and EIR were approved in February 2011, and superseded the prior RBAP.

The River District consists of approximately 748 acres of mostly developed land, including a mix of residential, industrial, retail/wholesale, and office uses. A number of community and social service facilities are located in the River District, including Loaves and Fishes, the Salvation Army, Union Gospel Mission, and Volunteers of America Bannon Street Shelter.

The SRWTP is located directly adjacent to the northern border of the project site. This facility includes numerous buildings and open ponds for water treatment. Some of the buildings within this site are historic structures and are discussed in greater detail in Section 4.4, "Cultural Resources," of this SEIR.

The North B Street corridor between Bannon Street and North 16th Street is characterized by primarily industrial uses. Two single-family residences are located at the western end of North B Street (near the intersection of Bannon, Water, and North B streets), and are zoned as RMU-SPD. Parcels adjacent to these two residences include a corporation yard and vacant parcels.

The Volunteers of America Residential Family Shelter is located on Bannon Street just north of North B Street. This shelter provides temporary housing for families with children and teenagers. The facility also provides support services including transportation to and from school, permanent housing referrals, and educational and job-search information.[7] As viewed from Bannon Street, the site includes one main building and a private playground area. The site is zoned R-3A-SPD for multi-family residential use.

[7] Housing.com. 2016. Volunteers of America Residential Family Shelter. Available: http://www.shelterpress.com/homeless-shelters/families/volunteers-america-residential-family-center.html. Accessed January 20, 2016.

Located just north of the Volunteers of America shelter is the Union Gospel Mission. The Mission provides meals and clothing for the homeless. The Mission site includes temporary housing and an in-house drug and alcohol rehabilitation program.[8] As viewed from Bannon Street, the site includes multiple buildings within the Mission property. The parcel is zoned R-3A-SPD for multi-family residential use.

The Sims Metal Management metals and electronics scrap yard and recycling facility borders the project site and sits between the project site and North B Street starting west of North 10th Street. The Sims Metal facility extends east to North 12th Street.

In July 2007, the City of Sacramento certified the Final EIR for the Township 9 project. The Township 9 site is located in the River District, north of Richards Boulevard and south of the American River.[9] The Township 9 project will construct between 2,350 and 2,981 dwelling units, 146,194 square-feet (sf) of neighborhood-serving commercials, and up to 839,628 sf of office use (only if the number of dwelling units is at the low end of the estimate).[10] The project will also include approximately 27 acres of urban parks and plazas, parkways, and natural open space along the American River.[11] At the time of the 2007 RSP EIR, the Township 9 project site included buildings used for cold storage, concrete storage and delivery, a livestock feed supplier, hay-bail compression and delivery, and a warehouse.[12] Since that time, the on-site buildings have been demolished and construction has begun on the Township 9 development. The Township 9 Green Line light rail station was completed and opened for service in mid-2012. The 180-unit Cannery Place Apartments project was completed in late 2014.

Alkali Flat

The Alkali Flat residential neighborhood is south and east of the project site, generally north of F Street and east of 7th Street. Alkali Flat is also an adopted historic district, characterized by its late 19th/early 20th century Victorian homes. The portion of the Alkali Flat neighborhood adjacent to the project site includes vacant lots, office buildings, and Victorian residences (some of which have been divided into apartments). Additional multi-family apartment buildings are in the area southeast of the project site. Industrial uses are south of the eastern edge of the project site, primarily north of D Street and east of 7th Street.

Since certification of the 2007 RSP EIR, the Crystal Creamery located at 10th and D streets has been closed and demolished. In 2014, the City approved The Creamery Development Project that

8 Union Gospel Mission. 2015. Union Gospel Mission History. Available: http://www.ugmsac.com/#!about-ugm/csb0. Accessed on December 15, 2015.

9 City of Sacramento. 2007. *Township 9 (PO6-047) Draft Environmental Impact Report*. SCH No. 2006072077. P. 2-1.

10 City of Sacramento. 2007. *Township 9 (PO6-047) Draft Environmental Impact Report*. SCH No. 2006072077. Pp. 2-6 through 2-11.

11 City of Sacramento. 2007. *Township 9 (PO6-047) Draft Environmental Impact Report*. SCH No. 2006072077. P. 2-11.

12 City of Sacramento. 2007. *Township 9 (PO6-047) Draft Environmental Impact Report*. SCH No. 2006072077. P. 4-1.

will construct 117 single-family, three-story detached homes. Construction began on the development in 2015. As of December 2015, three model homes have been constructed.

Mansion Flats

Mansion Flats is a mostly residential neighborhood located east of the Alkali Flat neighborhood. Mansion Flats is bound by 12th Street on the west, 16th Street on the east, the UPRR tracks on the north, and I Street on the south. This area is characterized by late 19th/early 20th century Victorian home, some of which have been converted for commercial or office use. Some industrial uses are in this area, mainly along the northern edge adjacent to the railroad tracks. The southern edge of Mansion Flats becomes increasingly commercial, with small businesses and eating and drinking establishments. In addition, several cultural facilities are located in Mansion Flats, including the Wells Fargo Music Circus theater and the historic Governor's Mansion.

Central Business District

The CBD borders the project site to the south and consists primarily of office and commercial uses with some residential units. The CBD includes many government buildings, including the Robert T. Matsui United States Courthouse located at I Street and 5th Street, the Gordon D. Schaber Sacramento County Courthouse at H Street and 9th Street, and Sacramento City Hall located on I street between 9th and 10th streets. The CBD is also home to the Sacramento Entertainment and Sports Complex (ESC), which includes the Golden 1 Center currently under construction along the north side of L Street between 5th and 7th streets. The approved entitlement for the ESC also includes approval for a total development of 350,000 sf of retail/commercial, 475,000 sf of office, 250 hotel rooms, and 550 residential units.[13] Part of that approval includes the Downtown Commons mixed-use tower, a 16-story building which will include a 250-room hotel, 69 condominium units, and 428,000 sf of office and retail space

Chinatown Mall

Located between I and J streets and 3rd and 5th streets, the Chinatown Mall area was largely populated with Chinese immigrants during the Gold Rush.[14] The area includes the Confucius Church of Sacramento temple, office buildings, residential buildings (including the 187-unit Wong Center senior residential facility and the 82-unit Ping Yuen Apartments), association halls, and a Chinese language school.

Old Sacramento

Old Sacramento is an eight-block, 28-acre State Historic Park and National Historic Landmark District located adjacent to the southwest corner of the RSP Area. Uses within Old Sacramento are primarily visitor-serving commercial uses, but also including offices, residences, parking, and

[13] City of Sacramento. December 2013. *Sacramento Entertainment and Sports Center & Related Development Draft Environmental Impact Report.* SCH No. 2013042031. P. 2-38.

[14] Yee Fow. 2016. Sacramento's Chinatown Mall. Available: www.yeefow.com/index.html. Accessed January 21, 2015.

cultural/museum uses. The CSRM is located at the northern end of Old Sacramento and adjacent to the existing rail lines that enter the RSP Area from the west.

West Sacramento

The City of West Sacramento is located across the Sacramento River from the project site. Uses in West Sacramento across the river from the project site include paved and unpaved trails along the river with residential development to the west. The area across the river from the RSP Area is known as the Washington Specific Plan area, 194-acres that extends from A Street south to West Capitol Avenue. Uses within the Washington Specific Plan area include residential, industrial, commercial, and public uses. While some new development has occurred within this area since adoption of the Washington Specific Plan in 1996, including the notable Ziggurat building and CalSTRS Headquarters high-rise, there is a substantial amount of development capacity within the Washington Specific Plan area. At buildout, the Washington Specific Plan area is planned to accommodate approximately 2,100 residential units, 250,000 sf of retail space, 2.6 million sf of office space, and over 400 hotel rooms.[15]

The Bridge District (Triangle) Specific Plan (BDSP) is located within West Sacramento, south of the Washington Specific Plan area. Originally adopted in 1993, the BDSP was amended in 2009 to provide a framework for land development that would be responsive to market conditions. The BDSP area includes the Raley Field baseball stadium and the Ironworks and Park Moderns residential developments. While some building has occurred within the BDSP area, there is still a substantial amount of undeveloped land within the BDSP area. Ultimate development capacity of the BDSP includes approximately 4,000 residential units, five million sf of commercial space and 500,000 sf of retail space.[16]

Cumulative Land Use Setting

Under cumulative conditions, projects discussed above as currently under construction would be built-out according to approved plans. Projects that would be completed under cumulative conditions include The Creamery at Alkali Flat project, the Golden 1 Center and associated development in Downtown Commons, and Township 9.

In November 2015, the Sacramento Municipal Utility District (SMUD) released the final initial study/mitigated negative declaration (IS/MND) for the proposed Station A Substation Rebuild and Relocation Project. This project would involve the installation of new electrical equipment, relocation of existing underground transmission and distribution lines, and decommissioning of portions of the equipment located at the existing substation. The site is located at 6th and H streets and is within the RSP Area (Block 52b). Work for this project would likely begin in May 2017

15 City of West Sacramento, 1996. Washington Specific Plan, Table 1, May 15, 1996.

16 City of West Sacramento, 2009. Bridge District Specific Plan, Volume 1, Vision, Plan and Procedures, Table 1, page 44. November 18, 2009.

and be completed in December 2018.[17] Final removal of old equipment would occur sometime around 2025 and would take approximately two months.[18]

Sacramento Housing and Redevelopment Agency (SHRA) has received grants to aid in the transformation of the 218-unit Dos Rios public housing project. The proposed Twin Rivers Neighborhood Transformation Plan (NTP) is located within the River District and is bordered by Richards Boulevard to the north, Dos Rios Street to the west, and North 12th Street to the southeast. The proposed NTP envisions a 486-unit mixed-income, mixed-use community that will result in vastly improved living conditions for current residents.[19] The 486 rental units will offer a diverse range of housing types to be constructed both on- and off-site, with public housing, affordable, and market-rate units being indistinguishable from one another.[20] As of December 2015, this project is still in the planning stages and is currently undergoing environmental review pursuant to CEQA and NEPA.

In 2011, the Judicial Council of California certified the EIR (SCH No. 2011012045) prepared for a proposed new criminal courthouse. While the EIR examined two potential sites, the Judicial Council ultimately chose Lot 41 within the RSP Area as the preferred site.[21] The site is the city block bound by 5th Street, 6th Street, G Street, and H Street. The new courthouse will provide 44 courtrooms within 405,000 sf, and will be up to 16 stories tall. Architectural designs and preliminary plans are being developed, with completion anticipated for mid-2019, depending on construction funding.[22]

The City of Sacramento is currently processing an application for development of the Vanir Tower project at 601 J Street. The project would construct an approximately 377-foot tall (26 stories) commercial office building with ground floor commercial space for restaurants and a bank.

Located at the corner of J Street and 4th Street, the California Fruit Building is a 10-story structure that was the tallest building in Sacramento when it was completed over a century ago. The building has been undergoing renovation since 2014.

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17 Sacramento Municipal Utility District. 2015. *Sacramento Municipal Utility District Station A Substation Rebuild and Relocation Project, Initial Study and Mitigated Negative Declaration*. SCH No. 2015102008. p. 24. October 2015.

18 Sacramento Municipal Utility District. 2015. *Sacramento Municipal Utility District Station A Substation Rebuild and Relocation Project, Initial Study and Mitigated Negative Declaration*. SCH No. 2015102008. p. 24. October 2015.

19 Sacramento Housing and Redevelopment Agency. 2014. *River District – Railyards Choice Neighborhoods Transformation Plan*. p. 1-5. January 2014.

20 Sacramento Housing and Redevelopment Agency. 2014. *River District – Railyards Choice Neighborhoods Transformation Plan*. p. 1-5. January 2014.

21 Judicial Council of California. 2011. News Release: Sacramento Railyards Preferred Site for New Criminal Courthouse. April 12, 2011.

22 Judicial Council of California. 2016. Sacramento County, New Sacramento Criminal Courthouse, Overview. Available: http://www.courts.ca.gov/facilities-sacramento.htm#tab3703. Accessed January 26, 2016.

Another historic building proposed for renovation is the Travelers Hotel building on the southwest corner of J Street and 5th Street. The building was finished in 1914 and is being renovated for retail, office, and restaurant uses.

The landmark Marshall Hotel at the northwestern corner of L Street and 7th Street is the site of an approved project to construct a Hyatt Place hotel. The site is directly adjacent to the Golden 1 Center currently under construction.

Another major development that would be constructed under cumulative conditions is the Sacramento Commons project within the CBD. Sacramento Commons encompasses 10.13 acres on portions of a four block area from 5th Street to 7th Street and N Street to P Street. The site is currently developed with 409 residential rental units and neighborhood-serving retail. The proposed Sacramento Commons project would construct between 1,171 and 1,267 new dwelling units, additional neighborhood-serving commercial area, and possibly a 300-room hotel.[23] Construction was assumed to last up to six years and could start in 2016.[24] The Sacramento City Council approved the project in July 2015.

As part of the California High Speed Train (HST) project, the California High Speed Rail Authority anticipates a northern terminus station to be constructed in downtown Sacramento, though the exact location of any station(s) have not yet been determined. One potential station location is within the RSP Area as part of the intermodal station that currently serves Amtrak and Sacramento Regional Transit light rail.[25]

3.2.2 Regulatory Setting

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.

State

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

[23] City of Sacramento. 2015. *Sacramento Commons Draft Environmental Impact Report*. SCH No. 2014042032. Pp. ES-1 – ES-2.

[24] City of Sacramento. 2015. *Sacramento Commons Draft Environmental Impact Report*. SCH No. 2014042032. P. 4.2-16.

[25] California High Speed Rail Authority. 2011. California High-Speed Rail Authority Releases New Business Plan Addressing Phase 1 Construction and Initial Operation of High-Speed Trains — and Plans for Phase 2 Begin to Take Shape. Available: http://hsr.ca.gov/Programs/Statewide_Rail_Modernization/Project_Sections/merced_sacramento.html.

Local

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

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.

Based on the principles of the Blueprint, SACOG's 2016 Metropolitan Transportation Plan/ Sustainable Communities Strategy (MTP/SCS) is a plan for improving regional transportation. The 2016 MTP/SCS pro-actively links land use, air quality, and transportation needs. Goals include shortening commute times, reducing traffic congestion, lessening dependence on automobiles, improving air quality, reducing greenhouse gas emissions, reducing distances traveled between jobs and housing, and providing for housing choices more aligned with the changing demographic. While the MTP/SCS is not a land use plan, it does include assumptions for land use and development trends. The RSP Area is designated as a Center and Corridor Community as shown in the MTP/SCS.[26] Land uses in Center and Corridor Communities are typically higher density and more mixed than surrounding land uses. They typically have more compact development patterns, a greater mix of uses, and a wider variety of transportation infrastructure compared to the communities surrounding them.

City of Sacramento 2035 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 referred to as 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,

[26] Sacramento Area Council of Governments. February 18, 2016. *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy*. Figure 3.2.

subdivision map, nor public works project may be approved unless the City finds that it is consistent with the adopted general plan.

At the time of the 2007 RSP EIR, the applicable Sacramento General Plan had been most recently updated in 1994.[27] Since that time, Sacramento's General Plan has been updated twice (2009 and 2015). The Sacramento 2030 General Plan was adopted March 3, 2009. The current version, the Sacramento 2035 General Plan, was adopted on March 3, 2015.

The 2035 General Plan, like its predecessors, is a long-term policy guide for the physical, economic, and environmental growth within the City. The 2035 General Plan's goals, policies, and implementation programs define a roadmap to achieving Sacramento's vision to be the most livable city in America. Many of the goals and policies contained within the 2035 General Plan are substantially similar to those in the prior versions. Underlying the vision and connecting it to the roadmap are six themes that thread throughout the General Plan:

- Making Great Places,
- Growing Smarter,
- Maintaining a Vibrant Economy,
- Creating a Healthy City,
- Living Lightly-Reducing Our "Carbon Footprint," and
- Developing a Sustainable Future.

In implementing these themes, the 2035 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.

Existing General Plan Land Use Designations

Currently, the RSP Area is designated Urban Center High, Urban Neighborhood High, Parks and Recreation, and Public/Quasi-Public by the City of Sacramento 2035 General Plan.[28] The project site is within a Center that is "expected to develop for commercial and employment uses (without housing) and/or mixed-use projects that integrate housing with retail, office, community facilities and other uses."[29]

The Urban Center High designation provides for uses similar to downtown, including employment-intensive uses, high-density housing, and a wide variety of retail uses. Building

[27] City of Sacramento. 2007. *Railyards Specific Plan Draft Environmental Impact Report*. SCH No. 2006032058. p. 4-9.

[28] City of Sacramento, 2014. Sacramento 2035 General Plan Land Use and Urban Form Diagram. June 26, 2014.

[29] City of Sacramento. 2015, March 3. *Sacramento 2035 General Plan*. p. 2-12.

heights may vary from two to twenty-four stories, with characteristics similar to those in the CBD. Development standards within Urban Center High are as follows:

- Minimum Density: 24.0 Units/Net Acre
- Maximum Density: 250.0 Units/Net Acre
- Minimum FAR: 0.50 FAR
- Maximum FAR: 8.00 FAR
- Development Standards Note: Residential development that is part of a mixed-use building shall comply with the allowed floor area ratio (FAR) range and is not subject to the allowed density range.

The Urban Neighborhood High Density provides for single-use urban multifamily housing and predominantly residential urban mixed-use development in areas served by major transportation routes and facilities and shopping areas. Development standards within Urban Neighborhood High Density are as follows:

- Minimum Density: 61.0 Units/Net Acre
- Maximum Density: 250.0 Units/Net Acre
- Minimum FAR: 2.0 FAR
- Maximum FAR: 8.0 FAR

The Parks and Recreation designation includes greenways, large developed parks, and other areas used primarily for recreation. Typically, these areas are characterized by a high degree of open area and few structures.

The Public/Quasi-Public designation allows for governmental services, educational, cultural, and recreational facilities. Many of the Public/Quasi-Public uses are also allowed and located in other land uses and urban form designations.

Proposed General Plan Land Use Designations

Under the proposed RSPU, the RSP Area would consist of the following land use designations: Central Business District, Urban Center High, Employment Center Low Rise, Public/Quasi-Public, and Parks and Recreation (see Figure 2-5 Proposed General Plan Land Use Designations).

The Central Business District designation is Sacramento's most intense, and provides for mixed-use high rise development and single-use and mixed-use development within easy access to transit, including office, retail, services, multifamily residential, compatible public quasi-public and special uses, and public gathering places and plazas. Development standards within Central Business District designation are as follows:

- Minimum Density: 61.0 Units/Net Acre

- Maximum Density: 450.0 Units/Net Acre
- Minimum FAR: 3.0 FAR
- Maximum FAR: 15.00 FAR

The Employment Center Low Rise designation provides for employment generating uses that generally do not produce loud noise or noxious odors, such as office flex-space, retail and service uses, and the like. Development within Employment Center Low Rise is expected to achieve a minimum FAR 0.15 and a maximum FAR of 1.0.

The relevant goals and policies from the 2035 General Plan applicable to the proposed projects are discussed in **Table 3-1**, below.

Central City Community Plan

The CCCP is part of the City's General Plan, and provides a refinement of the goals and objectives of the General Plan to serve as a guideline for development specifically within the CCCP area. The 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 was first adopted by the City in May 1980, but was updated as part of the 2035 General Plan. The CCCP land use designation for the RSP Area is primarily CBD with some areas designated as Urban Neighborhood High and Parks.[30] Because the CCCP is part of the City's 2035 General Plan, CCCP policies applicable to the proposed project are discussed in Table 3-1.

Planning and Development Code

The City of Sacramento's PDC (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 PDC:

- 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.

[30] City of Sacramento. 2015. *Central City Community Plan*. Figure CC-2, p. 3-CC-7.

TABLE 3-1.
RAILYARDS SPECIFIC PLAN UPDATE
CITY OF SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 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.	
• **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*)	The proposed RSPU would alter the RSP adopted in 2007 by reducing the maximum number of new dwelling units and increasing the amount of office and retail space. The project site's location close to downtown and Sacramento's major transit hub would place new residents close to necessary services, and provide additional services and amenities for off-site residents near the project site. The proposed RSPU is consistent with infill growth by providing new residents, employment opportunities, and services in an area substantially surrounded by urban development.
• **LU 1.1.12 Expanded Industrial and Heavy Commercial.** The City may allow existing industrial and heavy commercial uses in areas designated as Centers or Corridors to continue or expand operations, provided that such uses operate compatibly with existing and future new residential, and commercial development in the area. (*RDR*)	The proposed RSPU would alter the approved 2007 RSP by replacing the 2007 land use designations with those included in the City's Planning and Development Code (PDC). The changes proposed by the RSPU would designate a large amount of the project site as Central Business District (C-3). Under the C-3 designation, a wide range of uses would be permitted by right or conditionally, including hotels, non-profit organizations, schools, manufacturing and servicing facilities, amusement centers, gas stations, medical facilities, high-voltage transmission facilities, and wells. Because of this wide range of permitted uses under the proposed RSPU, the proposed RSPU would be consistent with this policy.
Goal LU 2.1 City of Neighborhoods. Maintain a city of diverse, distinct, and well-structured neighborhoods that meet the community's needs for complete, sustainable, and high-quality living environments, from the historic downtown core to well-integrated new growth areas.	
• **LU 2.1.1 Neighborhoods as a Basic Unit.** Recognizing that Sacramento's neighborhoods are the basic living environments that make-up the city's urban fabric, the City shall strive through its planning and urban design to preserve and enhance their distinctiveness, identity, and livability from the downtown core to well integrated new growth areas. (*RDR/MPSP*)	The proposed RSPU would alter the approved 2007 RSP by reducing the number of new dwelling units and increasing the amount of office and retail space. These changes would support the distinctiveness, identity, and livability of existing and new neighborhoods by providing a varied mix of residential and non-residential uses around the existing rail station and historic shops.
• **LU 2.1.2 Protect Established Neighborhoods.** The City shall preserve, protect, and enhance established neighborhoods by providing sensitive transitions between these neighborhoods and adjoining areas, and by requiring new development, both private and public, to respect and respond to those existing physical characteristics buildings, streetscapes, open spaces, and urban form that contribute to the overall character and livability of the neighborhood. (*RDR*)	The proposed RSPU would alter the approved 2007 RSP by reducing the number of new dwelling units and increasing the amount of office and retail space. Adjacent and nearby residential neighborhoods include Alkali Flat, Mansion Flats, Chinatown Mall, Dos Rios Triangle, and Downtown. Development within the RSP Area would be compatible with adjacent neighborhoods through scaling and massing techniques.
• **LU 2.1.3 Complete and Well-Structured Neighborhoods.** The City shall promote the design of complete and well-structured neighborhoods whose physical layout and land use mix promote walking to services, biking, and transit use; foster community pride; enhance neighborhood identity; ensure public safety; are family-friendly and address the needs of all ages and abilities. (*RDR*)	While the proposed RSPU would provide for a lower maximum number of new dwelling units than the approved 2007 RSP, development within the RSP Area would provide a variety of housing and employment opportunities, as well as shopping, recreation, entertainment, and other services.

TABLE 3-1.
RAILYARDS SPECIFIC PLAN UPDATE
CITY OF SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
• **LU 2.1.4 General Plan Density Regulations for Mixed-Density Development Projects.** Where a developer proposes a multi-parcel development project with more than one residential density or FAR, the City shall, at the discretion of the Community Development Director, apply the applicable density or FAR range of the General Plan Land Use Designation to the net developable area of the entire project site rather than individual parcels within the site. Some parcels may be zoned for densities/intensities that exceed the maximum allowed density/intensity of the project site's Land Use Designation, provided that the net density of the project as a whole is within the allowed range. (*RDR*)	Under the proposed RSPU, maximum density and FAR would be consistent with the minimums and maximums established in the General Plan. Part of the intent behind the RSPU is to allow for increased flexibility for uses and densities within the RSP Area, and to move away from proscribed uses within the RSP Area.
• **LU 2.1.6 Neighborhood Centers.** The City shall promote the development of strategically located (e.g., accessible to surrounding neighborhoods) mixed-use neighborhood centers that accommodate local-serving commercial, employment, and entertainment uses; provide diverse housing opportunities; are within walking distance of surrounding residents; and are efficiently served by transit. (*RDR*)	Under the proposed RSPU, development within the RSP Area would include a variety of mixed use designations. Within the RSPU, there would be a medical center, a sports stadium, residential dwelling units, and a variety of office and commercial uses. This mix of uses would serve local residents, as well as provide services, recreation, and entertainment venues for the region.
• **LU 2.1.8 Neighborhood Enhancements.** The City shall promote infill development, reuse, rehabilitation, and reuse efforts that contribute positively (e.g., architectural design) to existing neighborhoods and surrounding areas. (*RDR*)	Like the approved 2007 RSP, the proposed RSPU would develop a mix of residential and non-residential uses on a large infill site adjacent to Sacramento's downtown core. The RSPU would retain the historic shops buildings on the site, and would allow development of mixed uses within the RSP Area. Changes from the approved 2007 RSP that are included in the proposed RSPU include the KP Medical Center and the MLS Stadium. These proposed changes would enhance existing neighborhoods by bringing new services, employment, and housing opportunities to the existing area.
Goal LU 2.3 City of Trees and Open Spaces. Maintain multi-functional "green infrastructure" consisting of natural areas, open space, urban forest, and parkland, which serves as a defining physical feature of Sacramento, provide visitors and residents with access to open space and recreation, and is designed for environmental sustainability.	
• **LU 2.3.1 Open Space System.** The City shall strive to create a comprehensive and integrated system of parks, open space, and urban forests that frames and complements the city's urbanized areas. (*MPSP*)	While the proposed RSPU would contain slightly less open space/park land compared to the approved 2007 RSP, it would include an approximately 10-acre Vista Park along the RSP Area's northern boundary and west of 5th Street. Additionally, there would be open space in areas between the KP Medical Center and MLS Stadium, as well as surrounding the historic Central Shops buildings.

TABLE 3-1.
RAILYARDS SPECIFIC PLAN UPDATE
CITY OF SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
• **LU 2.3.2 Adjacent Development.** The City shall require that development adjacent to parks and open spaces complements and benefits from this proximity by: o Preserving physical and visual access o Requiring development to front, rather than back, onto these areas o Using single-loaded streets along the edge to define and accommodate public access o Providing pedestrian and multi-use trails o Augmenting nonaccessible habitat areas with adjoining functional parkland o Extending streets perpendicular to parks and open space and not closing off visual and/or physical access with development o Addressing the operations, maintenance, and public safety needs of the Local Maintaining Agencies (LMA). (*RDR*)	The proposed RSPU would dedicate parks in the northwest corner of the site (Vista Park), along South Park Street east of 5th Street (Neighborhood Parks),and near the Sacramento River west of I-5, and would create open space areas within the Central Shops Historic District. Private open space easements would be granted for a greenway through the KP Medical Center site, from the terminus of Bercut Street westward to the existing bike trail along the Sacramento River, and along 7th Street south of Railyards Blvd. Access to the parks, open space areas, and easements would be maintained through direct pedestrian and/or vehicular connections from within the RSP Area. The RSPU Design Guidelines would guide development heights, setbacks, and landscaping for areas that front parks and open space areas to ensure visual connectivity and compatibility with surrounding uses. Please also see section 4.11, Public Services, for a further evaluation of parks and recreation facilities.
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.	
• **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 RSPU would modify the approved 2007 RSP by reducing the maximum number of dwelling units and increasing the amount of commercial, office, and retail development. Development within the plan area would include a variety of mixed uses, as well as an approximately 10 acre park and additional parks and open space throughout the RSP Area.
• **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 RSP Area contains the historic shops buildings, which provide a distinct feature to the RSP Area. Development of these buildings under the proposed RSPU would be substantially similar to that included in the approved 2007 RSP.
• **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 proposed RSPU would develop structures designed to be compatible with the Center and Urban designations, and to complement the existing downtown core and surrounding areas.
Goal LU 2.5 City Connected and Accessible. Promote the development of an urban pattern of well-connected, integrated, and accessible neighborhoods, corridors, and centers.	
• **LU 2.5.1 Connected Neighborhoods, Corridors, and Centers.** The City shall require that new development, both infill and greenfield, maximizes connections and minimizes barriers between neighborhoods, corridors, and centers within the city. (*RDR*)	The proposed RSPU, like the approved 2007 RSP, would help connect existing neighborhoods together by developing an infill site that would provide a transition between the downtown core to the south and the less-dense and more commercial areas north of the RSP Area.

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• **LU 2.5.2 Overcoming Barriers to Accessibility.** The City shall strive to remove and minimize the effect of natural and manmade barriers to accessibility between and within existing neighborhoods, corridors, and centers. (*MPSP/RDR*)	The existing RSP Area site is largely undeveloped. Under the proposed RSPU, additional roadway connections would be made through the RSP Area. By providing additional connections between areas currently separated by the undeveloped portions of the plan site, the proposed RSPU would remove existing barriers to accessibility and promote movement across the area.
Goal LU 2.6 City Sustained and Renewed. Promote sustainable development and land use practices in both new development, reuse, and reinvestment 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.	
• **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 RSPU would alter the approved 2007 RSP by reducing the maximum number of residential units while increasing the area available for commercial, retail, and office development. Also, the proposed RSPU would include the KP Medical Center and MLS Stadium, which would offer additional services, entertainment, and employment opportunities in close proximity to existing transit amenities.
• **LU 2.6.2 Transit-Oriented Development.** The City shall actively support and facilitate mixed-use retail, employment, and residential development around existing and future transit stations. (*RDR*)	Since approval of the 2007 RSP, the railroad tracks within the RSP Area have been realigned, the railroad station has been renovated, and a light rail station has been constructed. Development under the RSPU would allow for a mix of residential, commercial, office, retail, health care, and entertainment amenities in close proximity to existing transit stations.
• **LU 2.6.6 Efficiency Through Density.** The City shall support an overall increase in average residential densities throughout the city consistent with the adopted General Plan Land Use & Urban Form Diagram, as new housing types shift from lower-density, large lot developments to higher-density, small lot and multifamily developments as a means to increase energy efficiency, conserve water, and reduce waste. (*RDR*)	The proposed RSPU includes replacing the current zoning designations with special planning district zoning based on existing zones that are included in the City's PDC. The land uses that would be permitted under the RSPU would include a mix of high-density housing mixed with commercial, office, retail, health care, and entertainment uses.
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.	
• **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*)	Under the proposed RSPU, lots closer to the downtown core would allow high densities than those near the outer edges of the RSP Area. As such, buildings on edges away from the downtown core would be shorter, and closer in scale to provide a transition from the taller structures closer to the downtown core to the adjacent existing uses.
• **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 design guidelines included with the proposed RSPU include guidance for placement of structures, massing, orientation, and other elements that would help create the sense of community within the RSP Area.

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• **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: o Requiring extensive landscaping and trees along the freeway fronting elevation o Establish a consistent building line, articulating and modulating building elevations and heights to create visual interest o Include design elements that reduce noise and provide for proper filtering, ventilation, and exhaust of vehicle air emissions. (*RDR/MPSP*)	The proposed RSPU includes Design Guidelines that provide guidance for development within each of the land uses along the I-5 corridor. Elements included in the specific plan document include guidance regarding site planning, building orientation and spacing, and circulation.
• **LU 2.7.6 Walkable Blocks.** The City shall require new development and reuse and reinvestment 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*)	The proposed RSPU includes Design Guidelines that would provide direction for site planning, circulation, and building character. Additionally, the revised specific plan document includes guidance for pedestrian amenities and circulation.
Goal LU 4.1 Neighborhoods. Promote the development and preservation of neighborhoods that provide a variety of housing types, densities, and designs and a mix of uses and services that address the diverse needs of Sacramento residents of all ages, socio-economic groups, and abilities.	
• **LU 4.1.1 Mixed-Use Neighborhoods.** The City shall require neighborhood design that incorporates a compatible and complementary mix of residential and nonresidential (e.g., retail, parks, and schools) uses that address the basic daily needs of residents and employees. (*RDR*)	Under the proposed RSPU, there would likely be fewer residential dwelling units and a larger amount of non-residential development than anticipated under the approved 2007 RSP. The proposed RSPU includes a mix of land uses that would allow for flexibility when developing the RSP Area. The mix of land uses that would be permitted would include residential, commercial, retail, office, recreation, and entertainment uses.
• **LU 4.1.2 Neighborhood Amenities.** The City shall encourage appropriately scaled community-supportive facilities and services within all neighborhoods to enhance neighborhood identity and provide convenient access within walking and biking distance of city residents. (*RDR/MPSP*)	Under the proposed RSPU, land uses would allow a mix of development that could include office, commercial, retail, service, health care, recreation, and entertainment amenities in close proximity to existing and future residential units.
• **LU 4.1.3 Walkable Neighborhoods.** The City shall require the design and development of neighborhoods that are pedestrian friendly and include features such as short blocks, broad and well-appointed sidewalks (e.g., lighting, landscaping, adequate width), tree-shaded streets, buildings that define and are oriented to adjacent streets and public spaces, limited driveway curb cuts, paseos and pedestrian lanes, alleys, traffic-calming features, convenient pedestrian street crossings, and access to transit. (*RDR/MPSP*)	As part of the proposed RSPU, the specific plan document includes a goal (Goal C-3) and associated policies that would create a walkable street system.
• **LU 4.1.4 Traditional Grid.** The City shall require all new neighborhoods to be designed with traditional grid block sizes. (*RDR*)	As part of the proposed RSPU, the specific plan document includes a goal (C-2) and associated policies designed to extend the downtown grid to the RSP Area.

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• **LU 4.1.5 Alley Access.** The City shall encourage the use of well-designed and safe alleys to access individual parcels in neighborhoods in order to reduce the number of curb cuts, driveways, garage doors, and associated pedestrian/automobile conflicts along street frontages. (*RDR*)	As part of the proposed RSPU, the specific plan document includes guidance for circulation within the RSP Area. The specific plan states that several minor streets will stretch between the major roadways, providing greater internal connectivity within the site. They will also make some parcels more accessible, allowing for more service and parking entrances and fewer curb cuts on the major pedestrian-oriented streets. Additionally, the Design Guidelines for residential structures include guidance that parking access is preferably from alleys, but side-streets are also acceptable.
• **LU 4.1.6 Connecting Key Destinations.** The City shall promote better connections by all travel modes between residential neighborhoods and key commercial, cultural, recreational, and other community-supportive destinations for all travel modes. (*RDR/MPSP*)	The proposed RSPU includes Design Guidelines and a specific plan document that will guide development within the RSP Area. The key principles that form the basis of the goals and policies of the specific plan include providing a wide mix of uses, providing for transit connections, creating walkable areas, and extending existing bike pathways.
• **LU 4.1.7 Neighborhood Transitions.** The City shall provide for appropriate transitions between different land use and urban form designations along the alignment of alleys or rear lot lines and along street centerlines, in order to maintain consistent scale, form, and character on both sides of public streetscapes. (*RDR*)	As part of the Design Guidelines included in the proposed RSPU, massing and building configuration issues are discussed along with the principle that the public space of the street shall be defined on both sides by buildings forming a street-wall of a consistent height end defined articulation.
• **LU 4.1.8 Connections to Open Space.** The City shall ensure that new and existing neighborhoods contain a diverse mix of parks and open spaces that are connected by trails, bikeways, and other open space networks and are within easy walking distance of residents. (*RDR/MPSP*)	Like the 2007 RSP, the proposed RSPU would include parks and open space that would connect with existing open spaces areas adjacent to the project site.
• **LU 4.1.10 Family-Friendly Neighborhoods.** The City shall promote the development of family-friendly neighborhoods throughout the city that provide housing that accommodates families of all sizes and provides safe and convenient access to schools, parks, and other family-oriented amenities and services. (*RDR/MPSP*)	The proposed RSPU includes flexibility to develop a mix of uses, including residential, commercial, office, health care, and retail. Many of the non-residential uses are anticipated to include local-serving commercial amenities. Additionally, development under the RSPU would include parks and open space. Overall, the RSPU would include a mix of residential uses and amenities for those residential uses, making the RPSU a family-friendly area.
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.	
• **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 development within the RSP Area would be subject to the proposed RSPU and Design Guidelines which provide guidance for building placement and design as well as streetscapes.
• **LU 4.4.2 Building Orientation.** In buildings with nonresidential uses at street level, 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. (*RDR*)	The proposed RSPU and Design Guidelines documents include policies requiring buildings with non-residential uses on the ground floor to include pedestrian-oriented articulation.
• **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 Design Guidelines included in the proposed RSPU include guidance for building placement, design, orientation, and other elements that would ensure that buildings developed within the RSP Area would be of the size, scale, and design envisioned for the RSP Area.

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• **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 Design Guidelines included in the proposed RSPU include requirements that the buildings and streets be pedestrian-friendly and provide public space. Additionally, the RSP Area includes pedestrian connections between existing and planned transit, retail, commercial, office, and entertainment amenities.
• **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 proposed RSPU includes guidance to limit curb cuts for driveways and encourage alley access.
• **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 RSPU would allow for a wide range of uses, including buildings that could provide retail or commercial uses on the ground floor, with office or residential uses on upper floors.
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.	
• **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 RSPU would include transit amenities, a hospital and medical center, a historic district, a sports stadium, parks, and a mix of uses. The proposed land uses would allow for maximum flexibility to provide a mix of neighborhood-serving amenities along with regional destinations.
• **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 RSP Area includes the Sacramento Valley Station (SVS), which is a hub for Amtrak, Sacramento Regional Transit Light Rail, and local bus routes.
• **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 RSPU would allow for maximum flexibility in siting cultural, educational, or entertainment uses in the city center. Additionally, the proposed RSPU would include the MLS Stadium.
• **LU 5.1.4 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 RSPU would allow for vertical and horizontal mixed uses, and includes design guidelines related to ground-floor uses oriented for pedestrian access. The flexible zoning would allow for a mix of uses above ground-floor retail or commercial.
• **LU 5.1.5 Vertical and Horizontal Mixed-Use.** The City shall discourage low-intensity and auto-oriented uses around transit stations. (*RDR*)	Under the proposed RSPU, fewer residential dwelling units and a greater area of non-residential development would occur compared to the approved 2007 RSP However, the density of residential uses would range up to 450 units per acre. Given the site conditions and design guidelines, development under the proposed RSPU would not promote low-density residential or auto-oriented uses.

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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.	
• **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*)	Like the 2007 RSP, the proposed RSPU would provide a mix of uses including residential, commercial, retail, office, health care, entertainment, and parks and open space. The flexible zoning would allow for significant opportunities for employment, housing, shopping, entertainment, and recreation within the RSP Area.
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.	
• **LU 5.6.1 Downtown Center Development.** The City shall encourage development that expands the role of the CBD as the regional center for living, commerce, arts, culture, entertainment, and government. (*RDR*)	Under the proposed RSPU, there would likely be fewer residential dwelling units and a larger amount of non-residential development compared to the approved 2007 RSP. That said, there would still be between 6,000 and 10,000 residential units within the RSP Area. Additionally, flexible zoning would allow for a mix of commercial, retail, health care, entertainment, and recreational uses.
• **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 design guidelines included as part of the proposed RSPU include requirements for pedestrian-friendly amenities, parks and open space, and a mix of uses, all of which would promote the family-friendly nature of the downtown area.
• **LU 5.6.3 Mixed-Use Downtown Development.** The City shall support a mixed use, vibrant CBD by encouraging innovative mixed-use development resulting in development consistent with Sacramento's commitment to environmental sustainability. (*RDR*)	Under the proposed RSPU, there would likely be fewer residential dwelling units and a larger amount of non-residential development compared to the approved 2007 RSP.
• **LU 5.6.4 Building Height Transitions.** The City shall maintain height standards for the adjoining transitions areas around the CBD consistent with the General Plan vision for a higher-density Central City and sensitive transitions to surrounding neighborhoods. (*RDR*)	The design guidelines included with the proposed RSPU include height restrictions and requirements for transitioning to other uses away from the city center.
• **LU 5.6.6 Central City Development 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 development efforts in 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 land use plan of the proposed RSPU would provide connections to areas previously unconnected, including providing a direct link between the CBD and the River District.
Goal LU 8.1 Public/Quasi-Public. Provide for governmental, utility, institutional, educational, cultural, religious, and social facilities and services that are located and designed to complement Sacramento's neighborhoods, centers, and corridors and to minimize incompatibility with neighborhoods and other sensitive uses.	

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• **LU 8.1.1 Public Places.** The City shall create vibrant public places in Sacramento's neighborhoods, centers, and corridors that serve as gathering places. (*MPSP/SO*)	Key gathering places within the RSP Area would include the Central Shops District and the MLS Stadium. Also, the proposed RSPU would include public open spaces, parks, and trails for public use.
• **LU 8.1.2 Adequate Community Supporting Uses.** The City shall seek to ensure that all manner of public and private community-supportive facilities and services are located throughout the city to provide places that serve the varied needs of the community, provide for community meeting places, and provide community and neighborhood landmark buildings and places. (*MPSP/IGC/JP*)	While the proposed RSPU would include a major medical center and a sports and entertainment stadium, zoning would be flexible to allow for a wide variety of uses, including a mix of neighborhood-serving uses, as well as regional draws.
• **LU 8.1.13 Medical Centers.** The City shall work with owner of existing and planned medical centers to develop master plans that advance the City's economic development objectives, maintain definable medical districts, provide for compatibility with surrounding areas, and achieve cohesive and integrated land uses. (*RDR/IGC/JP*)	Development of the KP Medical Center within the RSP Area would provide a regional hospital and medical center within the downtown area.
Goal LU 8.2 Special Uses. Provide for the development of Special Uses (e.g., assembly facilities, live-work studios, and care facilities) that are included within several Land Use and Urban Form Designations.	
• **LU 8.2.1 Assembly Facilities and Event Centers.** The City shall encourage and support development throughout the city of assembly facilities for social, cultural, entertainment, sports, educational, and religious activities. (*RDR*)	In addition to the proposed MLS Stadium, the proposed RSPU would include flexible zoning designations that would allow for a variety of uses, including facilities for social, cultural, entertainment, sports, educational, and religious activities.
• **LU 8.2.5 Expanded Emergency Care Facilities.** The City shall support the efforts of the health care sector to provide expanded emergency health services throughout Sacramento, especially north of the American River. (*RDR/JP*)	The proposed KP Medical Center within the RSP Area would provide emergency services in an area currently without a large-scale emergency hospital. By locating the KP Medical Center within the RSP Area, improved access to emergency medical care would be provided for areas north of the American River, including Natomas and North Sacramento.
Goal LU 9.1 Open Space, Parks, and Recreation. Protect open space for its recreational, agricultural, safety, and environmental value and provide adequate parks and open space areas throughout the city.	
• **LU 9.1.1 Open Space Preservation.** The City shall place a high priority on acquiring and preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, public safety, water and agricultural resources protection, and overall community benefit. (*RDR/MPSP*)	Like the 2007 RSP, the proposed RSPU would provide a link to existing trails and open space west of I-5 along the Sacramento River.
• **LU 9.1.2 New Parks and Open Spaces.** The City shall ensure that sufficient parks, open space, water corridor parkways, and trails are planned throughout the city, to ensure adequate facilities are available to existing and future residents. (*RDR/MPSP*)	Like the 2007 RSP, the proposed RSPU would provide parks and open spaces, as well as trails and connections to existing trails.
• **LU 9.1.3 Connected Open Space System.** The City shall ensure that new development does not create barriers to the connections among the various parts of the city's parks and open space systems. (*RDR*)	The land use plan included with the proposed RSPU would include parks and open spaces, along with connections to existing trails, parks, and open spaces.
• **LU 9.1.4 Open Space Buffers.** The City shall use traditional, developed parks and employ innovative uses of open space to "soften" the edges between urban areas and the natural environment. (*RDR/MPSP*)	The Sacramento River is located along the western boundary of the RSP Area, Between developed areas and the Sacramento River, there is a network of parks and bike trails. The proposed RSPU would add additional connections to existing trails.

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Historic and Cultural Resources	
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.	
• **HCR 2.1.14 Adaptive Reuse.** The City shall encourage adaptive reuse of historic resources when the original use of the resource is no longer feasible. (*RDR/SO*)	Under the proposed RSPU, the historic shops would be reused for commercial and other compatible uses.
Economic Development	
Goal ED 3.1 Land, Sites, and Opportunity Areas. Retain, attract, expand, and develop businesses by providing readily available and suitable sites with appropriate zoning and access.	
• **ED 3.1.10 Civic Amenities.** The City shall support and encourage the development of civic amenities, entertainment venues, and convention opportunities that increase visitation, spending, and tourism in Sacramento. (*MPSP*)	The proposed projects include a hospital and medical center, a major sports stadium, and flexible zoning that would allow for a variety of uses. Additionally, reuse of the central shops would also promote and encourage visitors to the RSP Area and other locations in the City of Sacramento.
Mobility	
Goal M 1.2 Multimodal System. Increase multimodal accessibility (i.e., the ability to complete desired personal or economic transactions via a range of transportation modes and routes) throughout the city and region with an emphasis on walking, bicycling, and riding transit.	
• **M 1.2.4 Multimodal Access.** The City shall facilitate the provision of multimodal access to activity centers such as commercial centers and corridors, employment centers, transit stops/stations, airports, schools, parks, recreation areas, medical centers, and tourist attractions. (*MPSP/SO*)	The proposed RSPU would include a major medical center/hospital and sports stadium in close proximity to a variety of transit options, including Amtrak, Sacramento Regional Transit light rail, and bus routes. The SVS and the future SITF would provide a regional intermodal transportation station within the Depot District of the RSP Area.
Goal M 1.3 Barrier Removal. Improve accessibility and system connectivity by removing physical and operational barriers to safe travel.	
• **M 1.3.1 Grid Network.** To promote efficient travel for all modes, 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 is well-connected, both internally and to off-site networks preferably with a grid or modified grid-form. (*RDR*)	Similar to the 2007 RSP, the proposed RSPU would extend the downtown's grid circulation system through the RSP Area. Railyards Boulevard provides an east-west connection through the site linking a future Sacramento River bridge on the west to North 12th Street on the east. Additionally South Park Street and Camille Lane provide east-west connections within the RSP Area. 5th Street, 6th Street, and 7th Street provide the major north-south connections through the RSP Area, with supporting connections within the RSP Area provided at Bercut Drive, 8th Street, and 10th Street. The circulation plan creates a grid pattern similar to the grid pattern that exists in downtown Sacramento to the south of the RSP Area.

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Central City Community Plan Policies	
Land Use and Urban Design	
• **CC.LU 1.2 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 RSPU would provide flexible zoning to allow a variety of uses, including residential, commercial, retail, office, health care, recreation, and entertainment.
• **CC.LU 1.4 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*)	As discussed in Chapter 2, Project Description, the proposed RSPU would include approximately 3.8 million sf of office space, as well as an additional 510,000 square feet of medical office space.
• **CC.LU 1.5 Central Business District.** The City shall improve the physical and social conditions, urban aesthetics, and general safety of the Central Business District. (*MPSP*)	Conditions within the CBD would benefit from development of the RSPU because there would be more pedestrian activity in the area, more residents, and more visitors.
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.	Like the 2007 RSP, the proposed RSPU would preserve the historic shops buildings and allow for reuse that preserves their historical features and characteristics.
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*)	While the proposed RSPU would include a lower maximum number of dwelling units compared to the 2007 RSP, there would still be approximately 6,000-10,000 new residential units within the RSP Area. Additionally, flexible zoning would allow for development of a wide variety of mixed uses, including businesses and amenities designed to serve the neighborhood residents.
Mobility	
• **CC.M 1.2 Adequate Parking.** The City shall provide adequate off street parking to meet the needs of shoppers, visitors, and residents. (*MPSP/SO*)	Parking to serve development within the RSP Area would be evaluated during the design review and development plan process for each development within the RSP Area. Parking for new development would be required to meet the requirements and standards set forth in the PDC and the proposed RSPU.
• **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. (*SO/IGC*)	By adding new residents to the RSP Area, the proposed RSPU would likely increase ridership for transit. Increased ridership, in turn, would likely increase the frequency and number of transit stops within the RSP Area.

TABLE 3-1.
RAILYARDS SPECIFIC PLAN UPDATE
CITY OF SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
Special Planning Districts	
• **CC.SPD 1.1 Railyards.** The Sacramento Railyards Specific Plan proposes development of a transit-oriented mixed-use urban environment that would include between 10,000 and 12,100 dwelling units, 2.3 million sf of office, 1.3 million sf of retail, 1,100 hotel rooms, 491,000 sf of mixed-use flex space, 485,390 sf of historic/cultural uses, and 46 acres of open space on 244 acres bounded generally by the Sacramento River on the west, the City Water Treatment Plant and North B Street on the north, 12th Street on the east, and H Street between 5th and 7th streets. (*RDR*)	While the proposed RSPU would lower the maximum number of residential dwelling units and would provide for a larger amount of non-residential development compared to the approved 2007 RSP, the proposed RSPU would provide for a transit-oriented, mixed-use urban environment.

Existing Zoning

The project site is zoned Office/Residential Mixed Use (ORMU), Residential/Commercial Mixed Use (RCMU), Residential Mixed Use (RMU), Transportation Corridor (TC), and Heavy Industrial (M-2). These designations are based on the 2007 RSP.

The ORMU zone corresponds to the office/residential mixed use land use designation in the RSP. This zone allows for a broad range of office, residential, hotel, and supporting retail, with an emphasis on office and residential.

The RCMU zone corresponds to the residential/commercial mixed use designation in the RSP. This zone is designed to create an area that features a wide mixture of urban uses, with an emphasis on commercial uses with a residential component.

The RMU zone corresponds to the residential mixed-use designation in the RSP. This zone allows for a broad range of residential mixed uses, including high-density residential, neighborhood-serving retail uses, and restaurants, with an emphasis on residential.

The TC zone corresponds to the transportation use designation in the RSP. This zone is intended to regulate land uses around, within, above, and below public transportation corridors to ensure the development is consistent with the RSP. This zone allows for dense transit-oriented development, including retail, office, hotel, and residential uses.

The M-2 zone provides a place for manufacturing and other heavy industrial uses. Permitted uses within this zone include office, railroad right-of-way, equipment rentals and sales, hotel/motel, and restaurants.

Proposed Zoning

The PDC also includes designations that are proposed for use in the RSPU. As proposed, the following zones would be applied to the RSP Area:

- H-SPD. The Hospital (H) zone provides primarily for medical-type uses, such as hospitals, major medical facilities and convalescent homes, and for group care facilities for physically- and mentally-challenged persons. Offices, laboratories, and pharmacies are also permitted;

- C1-SPD. The Limited Commercial zone (C-1) provides for certain offices, retail stores, and commercial service establishments that are compatible with residential developments. This zone is intended to be applied to small lots that are surrounded by a residential neighborhood;

- C-2-SPD. The General Commercial zone (C-2) provide for the sale of goods; the performance of services, including repair facilities; office uses; dwellings; small wholesale stores or distributors; and limited processing and packaging;

- C3-SPD. The Central Business District zone provides for the most intense residential, retail, commercial, and office developments in the City;

- R-5-SPD. The High Rise Residential zone (R-5) permits dwellings, institutions, and limited commercial goods and services serving the surrounding neighborhood;

- T-C-SPD. The Transportation Corridor zone (T-C) is intended to regulate land uses within, above, and below public agency transportation corridors to ensure that development is consistent with the general plan, and to provide uniform standards for the development of ground rights and air rights within the corridor; and

- M2-SPD. The Heavy Industrial zone (M-2) permits uses that involve the manufacture or treatment of goods.

As described in Chapter 2, Project Description, these zoning districts are established in the PDC, but are proposed to be modified to be specific to conditions in the RSP Area, and are identified with the SPD modifier.

3.2.3 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 SEIR. 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

Railyards Specific Plan Update

As is described in Chapter 2, Project Description, the proposed RSPU would provide for development of the RSP Area with a mix of urban uses, including office, retail, mixed use, residential, hotel, museum and cultural, major medical facilities, a sports and entertainment stadium, public and other civic uses, and open space. The density and intensity of these uses would be comparable to those found in downtown Sacramento.

The RSP Area has long been isolated from downtown Sacramento by rail lines, embankments, and other features that were functional parts of the historic railroad activities that dominated the property for more than 130 years. In terms of compatibility, many of the edges and adjacent land uses around the RSP Area are not used for purposes that would be sensitive to changes, including the SRWTP, I-5, and the southern boundary west of 7th Street. The northern edge along the River

District is largely an industrial edge with the exception of two homes located near the intersection of North B Street, Bannon Street, and Water Street.

The southern edge of the RSP Area is adjacent to the Alkali Flat neighborhood and the Sacramento Chinatown Mall.

For the most part, the uses that would be developed along and in proximity to the Alkali Flat neighborhood would be comparable to uses in the downtown, with a mix of high-density residential, office, and retail uses. There is nothing inherent in these uses that would be incompatible with the residential and business uses in Alkali Flat. As is described in Section 4.1, Aesthetics, Light and Glare, and in Section 4.7, Noise, activities at the proposed MLS Stadium have the potential to affect homes and businesses in the Alkali Flat, Mansion Flats, and River District neighborhoods. Stadium light impacts and associated mitigation measures are addressed in Section 4.1, and noise impacts and recommended mitigation measures associated with events at the proposed Stadium are addressed in Section 4.7. Experience at other urban sports venues suggests the proposed Stadium uses are not incompatible with residential or commercial uses. As an example, in San Francisco, urban residential, retail, and office uses thrive immediately across the street from AT&T Park, which has 81 regularly scheduled baseball games per year and attendance capacity of over 40,000. As such, AT&T Park is much more active than the 25,000-capacity and 37 events per year anticipated at the proposed MLS Stadium. Numerous other examples exist in cities around the country. Thus, despite the potential for significant impacts on adjacent uses, these types of uses have been shown to function well together in an urban setting and are not considered incompatible.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the KP Medical Center and MLS Stadium would not be constructed. Full details regarding the RSPU Land Use Variant and its development potential can be found in Chapter 2, Project Description.

The RSPU Land Use Variant would replace the KP Medical Center and MLS Stadium with additional residential, office, retail, and flexible mixed uses. The area designated for the KP Medical Center would likely be used for commercial and mixed use development, which would provide a transition from the existing SRWTP. The area designated for the MLS Stadium would also provide for additional commercial and mixed use development within the RSP Area.

Development under the RSPU Land Use Variant would closely resemble the development plan included in the 2007 RSP. Therefore, implementation of the RSPU Land Use Variant would not be expected to result in land use incompatibilities beyond those identified in the 2007 RSP EIR.

KP Medical Center

The existing land uses adjacent to the KP Medical Center site consist of public roadways and the SRWTP. The existing Bercut Drive would extend along the KP Medical Center site south to the intersection of Railyards Boulevard along the southern boundary of the KP Medical Center.

A new road, South Park Street, would be constructed from Bercut Drive heading east to 5th Street, and would separate the KP Medical Center from the existing SRWTP to the north.

The KP Medical Center would be located on a now-vacant site that was historically used as part of an industrial railyard. The size and scale of the KP Medical Center, including the hospital building, office buildings, and parking garages, would be of an intermediate height between the taller buildings of the downtown Sacramento central business district, and lower building forms of the SRWTP and nearby structures in the River District. Planned uses on the blocks to the south of the KP Medical Center include a mix of office and retail on Blocks 6 and 7 between Bercut Drive and Stanford Street. On Block 4, between Stanford and 5th streets, it is anticipated that a mix of residential, office, and retail uses would be developed. West of 5th Street it is anticipated that residential uses would be built over ground-floor retail.

Activities in and around the KP Medical Center site would be comparable to the type of urban environment experienced around Sacramento's other urban medical centers, including the Sutter Sacramento Medical Center in Midtown, Mercy General Hospital in East Sacramento. UC Davis Medical Center which borders on the Elmhurst and Oak Park neighborhoods is a Level 1 Trauma Center, which creates a range of noise and activity issues that would not be experienced at the KP Medical Center. Potential air quality or noise impacts that could affect adjacent properties are evaluated in Section 4.2, Air Quality, and Section 4.10, Noise and Vibration, of this SEIR. The KP Medical Center would be bordered on the south and west by urban uses comparable to those in downtown Sacramento. On the north, the most proximate uses would be Vista Park and the SRWTP. It is not anticipated that type of activities that would go on at the KP Medical Center would be incompatible with nearby residential, office, retail, open space, or other types of urban uses that could be developed in the RSP Area.

MLS Stadium

The MLS Stadium would be located in the eastern half of the RSP Area, east of 8th Street and north of Railyards Boulevard. Existing uses adjacent to the MLS Stadium site include existing roadways and an embankment along the RSP Area northern boundary. Adjacent to the MLS Stadium site north of the embankment is the Sims Metal Management scrap metal yard and recycling center. North of North B Street in the River District there are light industrial warehouses and other commercial businesses. South of the MLS Stadium site, across the future Railyards Boulevard and the UPRR tracks, is the Alkali Flat neighborhood. Most proximate uses include the KCRA studio building, the Creamery at Alkali Flat residential project currently under construction, and the Lofts at Globe Mills affordable housing development. Impacts on existing uses related to light from the proposed Stadium are addressed in section 4.1, Aesthetics, Light and Glare. Impacts related to air quality emissions are evaluated in section 4.2, Air Quality. Impacts related to noise are evaluated in section 4.10, Noise and Vibration. Impacts related to traffic and transportation are evaluated in section 4.12, Transportation.

As discussed above in the evaluation of the proposed RSPU, despite the potential for significant impacts on some adjacent uses to the south in Alkali Flat, there is no evidence that the proposed MLS Stadium and the uses in Alkali Flat and nearby neighborhoods cannot function well together as occurs in cities around California and the country. Thus, while some disturbance may occur on days and evenings when events take place, the proposed MLS Stadium and uses in the Alkali Flat and nearby neighborhoods are not incompatible.

Planned future uses adjacent to the MLS Stadium would include areas zoned for C-3-SPD and C-2-SPD uses. It is currently anticipated that the blocks surrounding the MLS Stadium on the south and east, zoned C-3-SPD would be developed with a mix of office, retail, and residential uses. The C-2-SPD zone would be east of the MLS Stadium on Block 51. It is currently anticipated that Block 51 would be dedicated to potential use for a police and/or fire station, as well as parking for the MLS Stadium.

Potential impacts to new residents within the RSP Area, such as those that could be located in the areas zoned C-3 and R-5, are discussed in the respective environmental topics of this SEIR. The location of the MLS Stadium within the RSP Area would allow for a wide variety of transit options for the public coming to the site for events. The flexible zoning around the MLS Stadium site would allow for a variety of commercial businesses that could enjoy a symbiotic relationship with the MLS Stadium and provide patrons with a variety of nearby amenities. Because future adjacent uses would be required to be in compliance with the specific plan, it is not anticipated that there would be any potential land use incompatibilities involving the MLS Stadium and existing or planned adjacent uses.

Stormwater Outfall

The proposed Stormwater Outfall would be located along the bank of the Sacramento River in close proximity to existing bike trails and public roadways, and would be connected to a subsurface wet well and pump station located under the elevated section of I-5. As discussed in Chapter 2, Project Description, the existing alignment of Jibboom Street would terminate just south of the intersection with Railyards Boulevard. The stormwater outfall facilities would not require the permanent closure, replacement, realignment, or other modifications to the existing bike trails. Once constructed, the operations of the proposed Stormwater Outfall would be innocuous and largely unnoticeable. As the area around the Stormwater Outfall is fully developed, there would not be any incompatibilities with future uses.

Consistency with Adopted Plans, Policies, and Zoning

Sacramento Area Council of Governments Blueprint and MTP/SCS

Railyards Specific Plan Update

As described above, the goals 2016 MTP/SCS are to link land use and transportation facilities and programs in a way to provide long-term environmental and social benefits, including shortened commute times, reduced traffic congestion, less dependence on automobiles, improved air quality, reduced greenhouse gas emissions, reduced distances traveled between jobs and housing,

and housing choices more aligned with the changing demographic of the Sacramento region. While not a land use plan, the success of the MTP/SCS is based certain assumptions about land use and development. SACOG staff has indicated that the 2016 MTP/SCS assumed that by 2036 there would be an additional 9,900 residential units and 6,500 jobs in the RSP Area.

As is described in Chapter 2, Project Description, the proposed RSPU would provide for the development of dense residential and non-residential uses at the center of the region, in a location proximate to a multitude of transportation options, including light rail, passenger heavy rail, and buses. The network of roads and trails that would be built pursuant to the RSPU would facilitate non-motorized transportation, including walking and biking. The residential densities ranging from 100 to 210 units per acre, along with dense employment generating uses, would provide the opportunity for internalization that is projected to reduce overall trip generation by about 32%. The development pursuant to the proposed RSPU would be consistent with the land use, density, and intensity of development anticipated in the Center and Corridor Community type under the 2016 MTP/SCS, and the land use designations in the proposed RSPU would accommodate the 2016 MTP/SCS assumptions for the RSP Area.

Although the MTP/SCS is a transportation plan, not a land use plan, and "consistency" of a land use project is determined by SACOG, based on the City's review of the MTP/SCS it is clear that the proposed RSPU is consistent with and would promote the ability of SACOG and the region to achieve the goals established in the 2016 MTP/SCS.

In addition, SACOG evaluated the buildout of the RSPU and determined that the land use mix proposed in the RSPU would be consistent with the principles of the Regional Blueprint and the MTP/SCS. More specifically, SACOG's evaluation determined that the proposed RSPU would use an existing site to balance housing and employment in the Central City, an area that provides transportation choices, would provide housing that would meet the needs of all subsets of the population, would provide travel benefits of reduced VMT and increased walking, biking, and transit use, and would conserve natural resources and provide public-use open spaces in an urban setting.[31]

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would not include the proposed KP Medical Center or MLS Stadium. Instead of these two large-scale developments, additional residential and non-residential uses would be developed. In essence, the RSPU Land Use Variant would develop the site in a manner similar to that envisioned in the 2007 RSP. Without the KP Medical Center or MLS Stadium, the RSPU Land Use Variant would still be consistent with the principles of the MTP/SCS as it would develop the land at a high density with a wide variety of mixed uses. Additionally, development of the RSPU Land Use Variant would place a large number of new

[31] Mike McKeever, Chief Executive Officer, Sacramento Area Council of Governments, Letter to Scott Johnson, July 27, 2016.

residents, employment opportunities, and commercial amenities in close proximity to a variety of transit options and would facilitate the use of non-motorized forms of transport.

Although the MTP/SCS is a transportation plan, not a land use plan, and "consistency" of a land use project is not readily established, based on the City's review of the MTP/SCS it is clear that the RSPU Land Use Variant would promote the goals of the MTP/SCS and would not frustrate the ability of SACOG and the region to achieve the goals established in the 2016 MTP/SCS.

In addition, SACOG evaluated the buildout of the RSPU and determined that the land use mix proposed in the RSPU would be consistent with the principles of the Regional Blueprint and the MTP/SCS. More specifically, SACOG's evaluation determined that the proposed RSPU would use an existing site to balance housing and employment in the Central City, an area that provides transportation choices, would provide housing that would meet the needs of all subsets of the population, would provide travel benefits of reduced VMT and increased walking, biking, and transit use, and would conserve natural resources and provide public-use open spaces in an urban setting.[32]

KP Medical Center

The RSP Area is designated as a Center and Corridor Community in the 2016 MTP/SCS. Center and Corridor Communities are characterized by more compact development, higher density, mixed uses, and access to transit. The proposed KP Medical Center would locate a large hospital and medical facility in a key part of downtown Sacramento that would be highly accessible due to the variety of transit amenities within and around the RSP Area. Furthermore, the KP Medical Center fits the Center and Corridor Communities profile, as it located in an area planned for a wide variety of mixed uses, including residential units.

The development of the proposed KP Medical Center would replace Kaiser's existing Morse Avenue Sacramento Medical Center, approximately 6 miles to the northeast. By locating the its new medical center in the RSP Area, Kaiser's enrollees throughout the central and northern portion of the Sacramento community would have additional transit and transportation options that would reduce trip generation and trip lengths.

The proposed KP Medical Center would further promote the goals of the 2016 MTP/SCS through a design and operation that implements Kaiser's Green and Sustainability Initiatives and that is intended to achieve LEED Gold certification or equivalent, thereby reducing GHG emissions from the construction and operation of the facility.

As stated above for the proposed RSPU, although the MTP/SCS is a transportation plan, not a land use plan, and "consistency" of a land use project is not readily established, based on the City's review of the MTP/SCS it is clear that the proposed KP Medical Center would promote the

[32] Mike McKeever, Chief Executive Officer, Sacramento Area Council of Governments, Letter to Scott Johnson, July 27, 2016.

goals of the MTP/SCS and would not frustrate the ability of SACOG and the region to achieve the goals established in the 2016 MTP/SCS.

In addition, SACOG evaluated the buildout of the RSPU and determined that the land use mix proposed in the RSPU would be consistent with the principles of the Regional Blueprint and the MTP/SCS. More specifically, SACOG's evaluation determined that the proposed RSPU would use an existing site to balance housing and employment in the Central City, an area that provides transportation choices, would provide housing that would meet the needs of all subsets of the population, would provide travel benefits of reduced VMT and increased walking, biking, and transit use, and would conserve natural resources and provide public-use open spaces in an urban setting.[33]

MLS Stadium

The proposed siting of the MLS Stadium within the RSP Area is consistent with the Center and Corridor Community designation as it would provide a large-scale entertainment and sports venue within an area of planned mixed uses and plentiful transit connections. In addition, the proposed MLS Stadium would be connected to a dense pedestrian and bicycle network, and would provide bicycle valet service, that would facilitate walk and bike trips to and from events. Further, the proposed MLS Stadium does not involve the construction of permanent dedicated parking facilities, relying, rather, on shared parking that currently exists or will be developed for office and other non-residential uses in the Railyards, the River District, and/or downtown. Locating this large venue in a downtown location would help the region meet goals such as reducing vehicle miles traveled as the location would allow for a higher rate of transit use for patrons than comparable suburban locations.

The proposed MLS Stadium would further promote the goals of the 2016 MTP/SCS through a design that is intended to achieve LEED Gold certification or equivalent, thereby reducing GHG emissions from the construction and operation of the facility.

As stated above for the proposed RSPU, although the MTP/SCS is a transportation plan, not a land use plan, and "consistency" of a land use project is not readily established, based on the City's review of the MTP/SCS it is clear that the proposed MLS Stadium would promote the goals of the MTP/SCS and would not frustrate the ability of SACOG and the region to achieve the goals established in the 2016 MTP/SCS.

In addition, SACOG evaluated the buildout of the RSPU and determined that the land use mix proposed in the RSPU would be consistent with the principles of the Regional Blueprint and the MTP/SCS. More specifically, SACOG's evaluation determined that the proposed RSPU would use an existing site to balance housing and employment in the Central City, an area that provides transportation choices, would provide housing that would meet the needs of all subsets of the

[33] Mike McKeever, Chief Executive Officer, Sacramento Area Council of Governments, Letter to Scott Johnson, July 27, 2016.

population, would provide travel benefits of reduced VMT and increased walking, biking, and transit use, and would conserve natural resources and provide public-use open spaces in an urban setting.[34]

Stormwater Outfall

The proposed Stormwater Outfall would not be incompatible or inconsistent with, or otherwise frustrate achievement of the goals of the 2016 MTP/SCS because it would not involve any elements that would require any means of transportation.

City of Sacramento 2035 General Plan

Railyards Specific Plan Update

The RSP Area is proposed to be designated Central Business District, Urban Center High, Employment Center Low Rise, Parks and Recreation, and Public/Quasi-Public under the City of Sacramento 2035 General Plan.[35] The RSP Area is within a Center that is "expected to develop for commercial and employment uses (without housing) and/or mixed-use projects that integrate housing with retail, office, community facilities and other uses."[36] The Central Business District designation, that would cover a majority of the RSP Area, provides for uses similar to downtown, including employment-intensive uses, high-density housing, and a wide variety of retail uses. Building heights are unlimited, but are expected to exceed four stories, with characteristics similar to those in the CBD.

The proposed RSPU would provide for development consistent with the General Plan's identification of the RSP Area as a Center and the overall aspirations of the Central Business District and Urban Center High designations. In addition, as is described above in Table 3-1, the proposed RSPU would respond positively to a wide array of applicable goals and policies of the 2035 General Plan, without being substantially inconsistent with any other policies.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the RSP Area would be developed with a mix of uses similar to those described for the proposed RSPU. Such development would include a mix of residential, commercial, retail, office, and public uses, but would not include the KP Medical Center or the MLS Stadium that would be part of the proposed RSPU. Without the KP Medical Center or the MLS Stadium, the RSPU Land Use Variant would remain consistent with the 2035 General Plan as it would provide a high density mix of uses in close proximity to transit amenities in the downtown area.

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34 Mike McKeever, Chief Executive Officer, Sacramento Area Council of Governments, Letter to Scott Johnson, July 27, 2016.

35 City of Sacramento. 2014, June 26. Sacramento 2035 General Plan Land Use and Urban Form Diagram. June 26, 2014.

36 City of Sacramento. 2015, March 3. *Sacramento 2035 General Plan*. p. 2-12.

KP Medical Center

The RSP Area, including the KP Medical Center site, is within a Center that is "expected to develop for commercial and employment uses (without housing) and/or mixed-use projects that integrate housing with retail, office, community facilities and other uses." The proposed KP Medical Center is compatible with this designation as it provides employment and services to the Sacramento community, within and outside of the RSP Area. The 2035 General Plan includes specific goals and policies designed to support balanced growth throughout the City, and specifically includes policies that encourage the provision of health care facilities throughout the Sacramento community (policies LU 8.1.13 and LU 8.2.5).

Table 3-1 above identifies goals and policies applicable to the proposed RSPU, and includes a discussion of how the proposed RSPU, including the KP Medical Center, would be consistent with applicable policies, including LU 8.1.13 which encourages the City to work with owners of planned medical centers to advance the City's economic development objectives, maintain definable medical districts, provide for compatibility with surrounding areas, and achieve cohesive and integrated land uses. In addition, responding to policy LU 8.2.5, the proposed KP Medical Center would provide emergency services in an area currently without a large-scale emergency hospital. By locating the KP Medical Center within the RSP Area, improved access to emergency medical care would be provided for areas north of the American River, including Natomas and North Sacramento.

MLS Stadium

The RSP Area is within a Center identified as a future development of commercial, employment, and mixed uses. The placement of a major sports venue within this area of commercial and community amenities, future housing, and existing transit connections is compatible with the Center designation. Although the calculated FAR for the proposed MLS Stadium would be below the standards for the Central Business District land use designation, 2035 General Plan policy LU 1.1.11 recognizes that facilities such as the proposed MLS Stadium, where a substantial part of the project involves outdoor activities and spaces, can remain consistent with the General Plan while having an FAR below the established minimum. The 2035 General Plan includes specific goals and policies designed to support balanced growth throughout the City, and specifically includes policies that encourage the provision of assembly facilities and event centers throughout the City to support the social, cultural, entertainment, sports, and other needs of the community (policy LU 8.2.1).

Table 3-1 above identifies goals and policies applicable to the proposed RSPU, and includes a discussion of how the proposed RSPU, including the MLS Stadium, would be consistent with applicable policies, including particularly LU 8.2.1 that directs the City to encourage and support the development of assembly facilities, including sports and entertainment venues. The development of the proposed MLS Stadium would be consistent with this policy.

Stormwater Outfall

The stormwater outfall is required to meet the stormwater drainage needs of the RSP Area, and would not involve any land use changes or revisions as compared with the 2007 RSP.

Central City Community Plan

Railyards Specific Plan Update

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 RSP Area is primarily CBD with some areas designated as Urban Neighborhood High and Parks.[37] As presented in Table 3-1, the CCCP includes applicable policies that encourage the development of a mix of interrelated uses, preservation of the Central City's historically and architecturally significant buildings and structures, the inclusion of housing in mixed use developments, and a balance of provision of parking and support for transit use throughout the Central City.

The proposed RSPU would provide flexible zoning to allow a variety of uses, including residential, commercial, retail, office, medical, recreation, and entertainment. By add new residents to the RSP Area, the proposed RSPU would likely increase ridership for transit. Increased ridership, in turn, would likely increase the frequency and number of transit stops within the RSP Area. Like the 2007 RSP, the proposed RSPU would preserve the historic shops buildings and allow for reuse that preserves their historical features and characteristics. Thus, the implementation of the proposed RSPU would be consistent with the goals and policies of the CCCP.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the RSP Area would be developed with a mix of uses similar to those identified in the approved 2007 RSP. Such development would include a mix of residential, commercial, retail, office, and public uses, but would not include the KP Medical Center or the MLS Stadium. Without the KP Medical Center or the MLS Stadium, the RSPU Land Use Variant would remain compatible with the CCCP as it would provide a mix of uses that would help revitalize the downtown area, promote transit use, and protect the historic structures in the RSP Area.

KP Medical Center

The primary goal of the CCCP is to revitalize the Central City. Siting of the KP Medical Center within the RSP Area would be part of an overall plan for developing a vibrant, mixed use community within the RSP Area. Table 3-1 above includes applicable policies from the CCCP, as well as discussions regarding the compatibility with each policy of the proposed RSPU, including the proposed KP Medical Center. Development of the KP Medical Center would be consistent

[37] City of Sacramento. 2015. *Central City Community Plan*. Figure CC-2, p. 3-CC-7.

with the CCCP, as it would contribute to a mix of uses that would help revitalize the downtown area, promote transit use, and protect the historic structures in the RSP Area.

MLS Stadium

The MLS Stadium is compatible with the CCCP as it would help meet the goal of revitalizing the downtown area. By having a major sports venue located within a mixed use area, the MLS Stadium would help provide customers for nearby businesses, provides employment opportunities, and provides an entertainment venue for residents. Table 3-1 above includes applicable policies from the CCCP, as well as discussions regarding the compatibility with each policy of the proposed RSPU, including the proposed MLS Stadium. Development of the proposed MLS Stadium would be consistent with the CCCP as it would contribute to a mix of uses that would help revitalize the downtown area, promote transit use, and protect the historic structures in the RSP Area.

Stormwater Outfall

The stormwater outfall is required to meet the stormwater drainage needs of the RSP Area, and would not involve any land use changes or revisions as compared with the 2007 RSP.

3.3 Population and Housing

The evaluation included in this section was developed based on project-specific features and data provided by the United States Census Bureau's (U.S. Census) American Fact Finder, California Department of Finance (DOF) Population and Housing Estimates, SACOG's 2013-2021 Regional Housing Needs Assessment Plan,[38] City of Sacramento 2035 General Plan,[39] City of Sacramento 2035 General Plan Master Environmental Impact Report,[40] and 2007 Railyards Specific Plan EIR.[41]

Notice of Preparation Comments

An NOP for preparation of this Draft SEIR was circulated for public review beginning on June 26, 2015. During the public comment period, two letters were received which commented on employment and housing issues related to the RSPU. The comments addressed the following issues:

- Concern with insufficient employment generation within the RSPU.
- Concern with the reduction of housing units from the number of estimated housing units proposed in the 2007 RSP.

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38 Sacramento Area Council of Governments, 2012. Regional Housing Needs Plan 2013-2021. Adopted September 20, 2012.

39 City of Sacramento, 2015. *City of Sacramento 2035 General Plan*. Adopted March 3, 2015.

40 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015.

41 City of Sacramento, 2007. *Railyards Specific Plan Environmental Impact Report* (SCH No. 2006032058). Certified December 11, 2007.

Issues Addressed in the 2007 RSP EIR

The 2007 RSP EIR featured Population and Housing as a standalone chapter (Chapter 5.0), separated from Land Use. The chapter evaluated the population and housing changes that would be caused by development of the RSP. The chapter described the existing population and housing levels in the City of Sacramento, Sacramento County, and the Old Sacramento, Alkali Flat, and Richards Boulevard Area (since renamed and hereafter referred to as the River District) neighborhoods adjacent to the RSP Area. The chapter summarized 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.

The 2007 RSP EIR presented information demonstrating the general increase in population between 1980 and 2006, reporting a citywide population of 457,514,[42] with a population of the Central City area of 48,980 in 2006.[43] The 2007 RSP EIR reported that the City of Sacramento had a total of 182,045 housing units in 2005, of which 168,782 were occupied units and 13,263 were vacant.[44] Based on the number of occupied housing units, the employee per housing unit ratio was 1.3.[45] Another estimate by SACOG indicated an employee per housing unit ratio of 1.78 in 2005.[46] Ratios exceeding 1.0 indicate that many jobs are filled by employees not residing within the City, who likely commute greater distances from their homes to their jobs.

3.3.1 Environmental Setting

The environmental setting for population was described on pages 5-2 through 5-3 of the 2007 RSP Draft EIR, while the housing and jobs/housing relationship settings were described on pages 5-3 through 5-4 and 5-4 through 5-5, respectively. The environmental setting has changed since certification of the 2007 RSP EIR, and the discussion below updates the 2007 RSP EIR setting.

Population

Regional Population

The counties that comprise the SACOG and the greater Sacramento region, El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba counties, have experienced steady growth over the past 15

[42] California Department of Finance, Demographic Research Unit, http://www.dof.ca.gov, accessed June 16, 2006. As cited in City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report. SCH No. 2006032058. p. 5-2.

[43] Porras, Carlos, City of Sacramento Planning Department, personal communication, July 7, 2006. As cited in City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report. SCH No. 2006032058. p. 5-2.

[44] U.S. Census, American FactFinder, Selected Housing Characteristics, http://www.factfinder.census.gov, accessed May 30, 2007. As cited in City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report. SCH No. 2006032058. p. 5-3.

[45] An employee per unit ratio that exceeds 1.0 reflects the fact that there are more jobs than housing units within the City. An employee per unit ratio of 1.0 would mean that there is one job per housing unit.

[46] Sacramento Area Council of Governments, SACOG Projections, City of Sacramento, 3/15/01, http://www.sacog.org, accessed May 30, 2007. As cited in City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report. SCH No. 2006032058. p. 5-4.

years (see **Table 3-2**). The regional population increased a total of 24 percent between 2000 and 2015, from approximately 1,936,006 in 2000,[47] to 2,236,491 in 2007,[48] to 2,404,700 in 2015.[49] SACOG predicts the regional population to increase to 2,472,567 by 2020 and 3,078,772 by 2036.[50] On page 5-2 of the 2007 RSP EIR, data was cited that projected regional population of 2,677,831 by 2020.[51] This overall reduction in projected population growth demonstrates less growth in the region than was projected nearly a decade ago.

TABLE 3-2.
POPULATION AND HOUSING TRENDS, 2000-2015

	2000[1]	2007[1]	2015[2]	Change 2000-2015	%Change 2000-2015
Sacramento Region					
Population	1,936,006	2,236,491	2,404,700	468,694	24.2
Housing Units	765,936[3]	894,171[4]	948,072	182,136	23.8
City of Sacramento					
Population	407,018	452,711	480,105	97,123	18.0
Housing Units	163,957	185,729[5]	191,776	10,595	6.9

SOURCES

1. California Department of Finance. 2012. E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts. Revised November 9, 2012.
2. California Department of Finance. 2015. E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2015, with 2010 Benchmark. Released May 1, 2015.
3. U.S. Census Bureau, American Fact Finder, Housing Units, 2000 Summary File, Accessed April 9, 2016.
4. U.S. Census Bureau, American Fact Finder, Housing Units, 2005-2007 American Community Survey 3-Year Estimates, Accessed April 9, 2016.
5. U.S. Census Bureau, American Fact Finder, Housing Units, 2005-2007 American Community Survey 3-Year Estimates, Accessed April 9, 2016.

City of Sacramento Population

Between 2000 and 2015, the City of Sacramento experienced an 18 percent increase in population, a trend similar to the greater Sacramento region as a whole. According to the

47 California Department of Finance, 2012. E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts. Revised November 9, 2012.

48 California Department of Finance, 2012. E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts. Revised November 9, 2012.

49 California Department of Finance, 2015. E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Benchmark. Released May 1, 2015.

50 Sacramento Area Council of Governments. 2015. Draft Metropolitan Transportation Plan/Sustainable Communities Strategy. Page 22, Table 3.1. Drafted August 27, 2015.

51 Sacramento Area Council of Governments, Projection Data, 12-16-040, http://www.sacog.org, accessed June 16, 2006. As cited in City of Sacramento, 2007, Railyards Specific Plan Draft EIR, August 2007, p. 5-2.

California Department of Finance, the City's population was 407,018 in 2000,[52] 452,711 in 2007,[53] and 480,105 in 2015.[54]

The City's share of the total population in Sacramento County has decreased slightly since 2000, from 46.1 percent of the County[55] to 32.6 percent in 2015,[56] while the City's share of the state population has fluctuated slightly (1.2 percent in 2000 and 1.7 percent in 2015).

Sacramento Population Characteristics

The median age of Sacramento residents increased from 33 years in 2010[57] to 33.8 years in 2014.[58] The median age in Sacramento has remained younger than the statewide median age, which was 35.2 in 2010[59] and then rose to 35.6 in 2014.[60] The percentage of residents over the age of 18 increased from 75.1 percent (350,367 people) in 2010[61] to 75.8 percent (361,097 people) in 2014.[62] The percentage of seniors (ages 65 and older) between 2010 and 2014 increased from 10.6 percent[63] to 11.4 percent.[64] The aging of the population is a trend that is reflected statewide as the senior population increased from 11.4 percent in 2010[65] to 12.1 percent in 2014.[66]

52 California Department of Finance, 2012. E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts. Revised November 9, 2012.

53 California Department of Finance, 2012. E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts. Revised November 9, 2012.

54 California Department of Finance. 2015. E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Benchmark. Released May 1, 2015.

55 California Department of Finance. 2007. E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 1990-2000. August 2007.

56 California Department of Finance. 2015. E-4 Population Estimates for Cities, Counties, and the State, 2011-2015, with 2010 Benchmark. Released May 1, 2015.

57 U.S. Census Bureau, 2010. Profile of General Population and Housing Characteristics: 2010 – 2010 Demographic Profile Data. Geography: Sacramento city, California.

58 U.S. Census Bureau, 2014. ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates, Sacramento city, California.

59 U.S. Census Bureau, 2010. Profile of General Population and Housing Characteristics: 2010 – 2010 Demographic Profile Data. Geography: California.

60 U.S. Census Bureau. 2014. ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates, California.

61 U.S. Census Bureau, 2010. Profile of General Population and Housing Characteristics: 2010 – 2010 Demographic Profile Data. Geography: Sacramento city, California.

62 U.S. Census Bureau, 2014. ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates, Sacramento city, California.

63 U.S. Census Bureau, 2010. Profile of General Population and Housing Characteristics: 2010 – 2010 Demographic Profile Data. Geography: Sacramento city, California.

64 U.S. Census Bureau, 2014. ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates, Sacramento city, California.

65 U.S. Census Bureau, 2010. Profile of General Population and Housing Characteristics: 2010 – 2010 Demographic Profile Data. Geography: California.

66 U.S. Census Bureau, 2014. ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates, California.

Housing

Regional Housing Supply

While the economic recession of 2008 caused a downturn in housing values and new home construction across the Sacramento region, in line with general statewide and national trends, the region has recently experienced a period of economic growth. However, housing values across the region are considerably lower than in the Bay Area. As such, Sacramento continues to remain a more affordable housing option for people working and commuting to other regions in northern California.

Approximately 24,706 housing units were added in the City of Sacramento between 1990[67] and 2010,[68] a 14.9 percent increase. From 2010 to 2015, housing stock in the city increased by 865 housing units, or merely 0.4 percent. The housing vacancy rate for Sacramento decreased from approximately 8.5 percent in 2010 to 8.3 percent in 2015.[69]

Jobs-Housing Relationship

The jobs-housing relationship is used to describe the ratio of residences to jobs for a particular community or area. In areas with very low jobs-housing balance (i.e., few jobs for the number of households in the area), many workers need to commute out of their residence area to find work. In areas with very high jobs-housing balance (i.e., many jobs for the number of households in the area), jobs need to be filled by workers from outside the area. A jobs-housing balance of 1.0 reflects that there is one job available per household. All else being equal, areas with high or low jobs-housing balances are likely to generate longer commutes for workers. This is the most basic assumed relationship of the balance between jobs-housing balance and the need for travel.[70]

When assuming that the affordability of housing and the incomes of jobs in the local market are paired reasonably closely, if the quantity and proximity of housing units is proportionate to the quantity and proximity of jobs, the majority of employees would be able to work and reside in the same community. A more balanced relationship between jobs and housing can help reduce the amount of vehicle trips and overall vehicle miles traveled as a result of shorter commutes to employment within the same proximate residential areas. Such a reduction in vehicle trips and vehicle miles traveled would therefore have the potential to reduce levels of air pollutant emissions (including greenhouse gas emissions) and less vehicular congestion on area roadways and intersections. It is important that the determination of the jobs-housing relationship focuses

67 California Department of Finance, 2007. E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 1990-2000. August 2007.

68 California Department of Finance, 2015. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2015 with 2010 Census Benchmark. May 2015.

69 California Department of Finance, 2015. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2015 with 2010 Census Benchmark. May 2015.

70 Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Chapter 9, Economic Vitality. Page 220. February 18, 2016.

on whether housing in the community is affordable to local employees. The availability of an adequate housing supply, presenting a range of price levels that include prices that are reasonably affordable for local employees, can potentially reduce the commute mileage between homes and work sites.

The SACOG MTP/SCS evaluated the change in jobs-housing balance between 2008 (a somewhat normal year in the regional economy) and that projected for 2036 (see **Table 3-3**). Within the SACOG region, there were 969,838 jobs and 819,277 households in 2008, resulting in a jobs-housing balance of 1.18. By 2036, the SACOG MTP/SCS projects there will be 1,327,279 jobs and 1,140,202 households resulting in a jobs-housing balance of 1.16.[71]

TABLE 3-3.
JOBS AND HOUSEHOLDS, 2008 AND 2036

	"Base" Jobs[1]		Total Jobs		Households		Jobs-Housing Balance	
Geographic Area	**2008**	**2036**	**2008**	**2036**	**2008**	**2036**	**2008**	**2036**
SACOG Region	N/A	N/A	969,838	1,327,279	819,277	1,140,202	1.18	1.16
Sacramento County	N/A	N/A	626,155	831,171	511,402	699,811	1.22	1.19
Sacramento CBD/ Riverfront Employment Center	99,243	133,026	109,719	144,559	17,523	46,211	6.26	3.13
Railyards Specific Plan Area	N/A	N/A	0	6,500	0	9,900	0	0.66

NOTES:

1. "Base" jobs exclude retail and food service.
N/A = not available

Sources: Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Chapter 9, Economic Vitality. February 18, 2016.
Lizon, Kacey, Planning Manager, Sacramento Area Council of Governments, personal communication, April 14, 2016.

In 2008, Sacramento County had 626,155 jobs and 511,402 households, resulting in a jobs-housing balance of 1.22.[72] In 2036, the County is expected to have 831,171 jobs and 699,811 households, resulting in a jobs-housing balance of 1.19.[73]

Sacramento's employment base in 2015 was approximately 296,250, with 174,624households.[74] This generates a jobs/housing balance of 1.70, demonstrating that employees commute from other neighboring communities in the region to work within the city.

71 Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Chapter 9, Economic Vitality. Page 220. Table 9.5. February 18, 2016.

72 Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Chapter 9, Economic Vitality. Page 220. Table 9.5. February 18, 2016.

73 Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Chapter 9, Economic Vitality. Page 220. Table 9.5. February 18, 2016.

74 City of Sacramento. 2015. City of Sacramento, Economic Development Department: Key Demographics. Available: http://www.cityofsacramento.org/Economic-Development/Why-Sacramento/Demographics-and-Market-Information/Key-Demographics. Accessed April 7, 2016.

At a more granular level, the MTP/SCS defined the Sacramento CBD/Riverfront as an Employment Center. Employment centers are those areas with concentrations of at least 10,000 "base" jobs (i.e., including manufacturing, office, medical, educational, and service employment, and excluding "residential-serving" sectors like retail and restaurant uses), at an average density of eight or more jobs per acre. Additionally, employment centers are those where 80 percent or more of the uses within the center are employment, not residential.

The 2016 MTP/SCS assumed 9,900 residential units and 6,500 jobs in the RSP Area by 2036. This would result in a jobs/housing balance of 0.66 for the RSP Area.[75]

Homelessness

As described in the 2013-2021 Housing Element, the City maintains a commitment to combating homelessness throughout Sacramento through the provision of affordable housing and support services. To achieve these efforts, the City maintains a partnership with a variety of supporting organizations and agencies, such as the Sacramento County Department of Human Assistance (DHA), SHRA, Sacramento Steps Forward (SSF), and several local and resident-based groups. Based on a January 2015 count, SSF found a total of 2,659 homeless individuals living in Sacramento County, with 1,711 people living in transitional housing or shelters, and 948 living in unsheltered conditions.[76] Accordingly, the City's 2013-2021 Housing Element outlines policies aimed at addressing homelessness and collaborating with groups to better ensure improved housing conditions for the homeless population in Sacramento, namely with Policies H-3.1.1 (to provide extremely low-income housing), H-3.2.2 (to work with community-based non-profit organizations that develop affordable housing and provide supportive services for special needs populations), H-3.2.3 (to work with SSF to implement and update the Ten-Year Plan to End Chronic Homelessness and the Continuum of Care to meet the needs of homeless families and individuals), H-3.2.5 (to continue to provide emergency shelters for the homeless population), H-3.2.9 (to prioritize special needs housing, particularly for chronically homeless individuals). The City's 2035 General Plan also identifies Policy PHS 5.1.4 to work with public and private social service agencies to locate support facilities for the homeless population.

Within the River District, there are a number of social services facilities that provide aid to the poor and the homeless. These services include emergency and transitional housing, medical services, counseling and mental health services, food distribution and meal service facilities. Some of those support services include the Union Gospel Mission at 400 Bannon Street, Loaves and Fishes at 1351 North C Street, Women's Empowerment at 1590 North A Street, Family Promise of Sacramento at 321 N 12th Street, Francis House Center at 1422 C Street, and Volunteers of America at 470 Bannon Street. Although the River District Specific Plan does not

75 Lizon, Kacey, Planning Manager, Sacramento Area Council of Governments, personal communication, April 14, 2016.

76 Sacramento Steps Forward. 2015. 2015 Point-in-Time Homeless Count Report. December 17, 2013. p. 3, unlabeled table.

include policies that directly address homelessness, Goal LU4 requires social service providers to adopt and implement a "Good Neighbor" Policy when establishing a new use or modifying their current facility. Policy LU4a requires that Good Neighbor Policies address hours of operation, landscaping and architectural treatments, property maintenance, security, loitering, and communication with the surrounding property owners and businesses. The River District Specific Plan also includes policies that recognize the need for diversified housing opportunities, including affordable housing (Policies H2b and H2c).

While on a December 4, 2015 site visit, ESA staff observed a number of people who appeared to be sleeping and/or encamped within the RSP Area along the Sacramento River and along 7th Street, and several homeless people within the River District.

3.3.2 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.

Regional Housing Needs Assessment

State law mandates that all cities and counties offer a portion of housing to accommodate the increasing needs of regional population growth. The statewide housing demand is determined by the California Department of Housing and Community Development, while local governments and councils of governments decide and manage their specific regional and jurisdictional housing needs and develop a regional housing needs assessment (RHNA).

In the greater Sacramento region, including the City of Sacramento, SACOG has the responsibility of developing and approving an RHNA and a regional housing needs plan (RHNP) every eight years (Government Code, Section 65580 et seq.). This document has a central role of distributing the allocation of housing for every county and city in the six-county SACOG region. Housing needs are assessed for very low income, low income, moderate income, and above moderate households. The RHNP, adopted by SACOG on September 20, 2012, identifies a total of 24,101 housing units to be built in Sacramento over the period of January 1, 2013 to October

31, 2021, with a breakdown of 4,944 (20.5%) very low income units, 3,467 (14.4%) low income units, 4,482 (18.6%) moderate income units, and 11,208 (46.5%) above moderate units.[77]

Local

Sacramento Area Council of Governments

As described above, SACOG is an association of local governments that covers six counties in the Greater Sacramento Region. In addition to preparing the long-range transportation plan for the region, SACOG approves the distribution of affordable housing in the region through its RHNP and assists in planning for transit, bicycle networks, clean air and airport land uses.[78]

Sacramento 2035 General Plan

Housing Element

The Housing Element is part of the City of Sacramento 2035 General Plan and provides the policies and programs to address the housing needs for all Sacramento households. 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 City's 2013-2021 Housing Element assumes that new growth would occur and accounts for an influx of new residents as a result of land use changes. The 2013-2021 Housing Element projects that the City needs to add approximately 24,101 housing units by 2021, consistent with the SACOG RHNP (of which 8,411 units are for low-income and very-low income households). In addition, the 2013-2021 Housing Element estimates that Sacramento would increase its population by 160,276 new residents by 2021, and its population to 640,381 people in 2035.[79] The 2013-2021 Housing Element also identifies the RSPU as potentially having 10,000 to 12,100 units (based on the 2007 RSP EIR projections). However, based on the infrastructure and phasing limitations described, only 1,774 dwelling units in the Downtown Railyards project are proposed to be built during this Housing Element period (2013-2021).[80] Thus, the changes proposed for the RSPU would not frustrate the City's ability to achieve the goals of the 2013-2021 Housing Element.

The Housing Element identifies the RSP Area as a planned and approved project. The Housing Element anticipates 490 low income units and 1,284 moderate-income units under California Department of Housing and Community Development (HCD) Round 1 and Round 2 Proposition 1C, Transit-Oriented Development (TOD), and Infill Infrastructure Grant (IIG) funding

77 Sacramento Area Council of Governments. 2012. Regional Needs Housing Plan 2013-2021. Adopted September 20, 2012. Table 1, p 4.

78 Sacramento Area Council of Governments. 2015. About Us. SACOG website. Available: http://www.sacog.org/about/. Accessed December 16, 2015.

79 City of Sacramento, 2013. City of Sacramento 2013-2021 Housing Element. Adopted December 17, 2013. p. H 3-3.

80 City of Sacramento, 2013. City of Sacramento 2013-2021 Housing Element. Adopted December 17, 2013. p. H 5-6.

sources.[81] The Housing Element assumed infrastructure improvements and the initial phases of housing development would be constructed by 2021, based on information from developers as well as performance requirements associated with the Proposition 1C grants.[82]

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 1.2 Housing Diversity. Provide a variety of quality housing types to encourage neighborhood stability.

Policies

H 1.2.1 **Variety of Housing.** The City shall encourage the development and revitalization of neighborhoods that include a variety of housing tenure, size and types, such as second units, carriage homes, lofts, live-work spaces, cottages, and manufactured/modular housing. (RDR)

Goal H 1.3 Balanced Communities. Promote racial, economic, and demographic integration in new and existing neighborhoods.

Policies

H 1.3.4 **A Range of Housing Opportunities.** The City shall encourage a range of housing opportunities for all segments of the community. (RDR)

H 1.3.5 **Housing Type Distribution.** The City shall promote an equitable distribution of housing types for all income groups throughout the city and promote mixed income neighborhoods rather than creating concentrations of below-market-rate housing in certain areas. (RDR)

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. (RDR)

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. (FB)

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. (FB/SO)

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. (FB)

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. (SO)

81 City of Sacramento, 2013. City of Sacramento 2013-2021 Housing Element. Adopted December 17, 2013. p. H 5-4 and H 5-5. Table H 5-2.

82 City of Sacramento, 2013. City of Sacramento 2013-2021 Housing Element. Adopted December 17, 2013. p. H 5-6.

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 towards production of housing affordable to lower- and moderate-income households. (RDR)

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.

Policies

LU 1.1.2 **Building Intensity and Population Density.** The City shall regulate the levels of building intensity and population density according to the standards and land use designations set out in the General Plan and the Sacramento City Code. Within these designations, cumulative development shall not exceed 640,400 persons and 390,100 employees by 2035. (RDR/PSR)

Goal LU 2.8 City Fair and Equitable. Ensure fair and equitable access for all citizens to employment, housing, education, recreation, transportation, retail, and public services, including participation in public planning for the future.

Policies

LU 2.8.6 **Jobs Housing Balance.** The City shall encourage a balance between job type, the workforce, and housing development to reduce the negative impacts of long commutes and provide a range of employment opportunities for all city residents. (RDR/MPSP)

The 2013-2021 Housing Element contains goals and policies designed to aid in the development, improvement, and maintenance of housing across the City of Sacramento. The City believes that diversifying the current housing stock and creating a range of alternative housing options as a major component in the establishment of strengthened neighborhoods. The City has identified several areas where rehabilitation can occur to promote sustainability in the existing housing stock. The proposed project would provide a diverse range of market-rate and affordable housing options in an area, the Railyards, where no housing currently exists. The proposed project would also offer a variety of housing types, of varying densities and tenures to cater to the diverse housing demands that the City contains, while fulfilling the demands to not exceed a population of 640,000 and employment base of 390,100 by 2035. Lastly, the proposed project would pay the City's Housing Trust Fund fees to assist with the development of affordable housing. As identified in the 2013-2021 Housing Element, these fees are based on affordable housing demand generated by new non-residential construction in the City.

The RSPU and RSPU Land Use Variant would be consistent with and do not propose to change the 2035 General Plan land use designations for the RSP Area. Therefore, the proposed population and housing unit projections expected for the project site are consistent with the assumptions found within the 2035 General Plan.

Central City Community Plan

The CCCP, first adopted in 1980, is an additional guiding document within the City of Sacramento 2035 General Plan that provides guidance for the Central City area. The following policy from the adopted CCCP relates to new development and is applicable to the RSPU:

Policies

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)

Consistent with the above housing policies found in the 2013-2021 Housing Element, the proposed project would provide a variety of mixed use buildings, containing a variety of densities and intensities, to promote several mixed use structures in the Central City area. While the proposed RSPU would include fewer dwelling units compared to the 2007 RSP, there would still be approximately 6,000-10,000 new residential units within the RSP Area. Additionally, flexible zoning would allow for development of a wide variety of mixed uses, including businesses and amenities designed to serve the neighborhood residents.

Mixed Income Ordinance

Chapter 17.712 and Section 17.808.260 were adopted on September 1, 2015 and added to the Sacramento City Code to establish additional requirements for the provision of affordable housing across Sacramento. In particular, Section 17.712.030 requires all owners of residential projects not exceeding 100 gross acres in size to pay a housing impact fee on all newly constructed market-rate housing units.

For projects exceeding 100 acres, owners are required to pay the same housing impact fee but also create a mixed income housing strategy demonstrating the ways in which the project would provide housing for a variety of incomes and family types consistent with the 2013-2021 Housing Element. The owner must obtain approval for their strategy from the City Council, and the Planning Director must also approve this strategy.

Section 17.808.260 provides a mixed income housing strategy for the City of Sacramento, and puts forward the means to enforce Chapter 17.712.

As part of compliance with the Mixed Income Housing Ordinance ~~is~~ described here, based on existing regulatory agreements in place, approximately 267 housing units in the RSP Area would be affordable units restricted as affordable for not less 30 years in accordance with the requirements imposed by acceptance of Proposition 1C funds.

3.3.3 Proposed Project Setting and Analysis

Issues Addressed in the 2007 RSP EIR

The Population and Housing section of the 2007 RSP EIR was a standalone chapter that reflected CEQA provisions that economic or social effects are not considered significant effects on the environment unless the social and/or economic effects are indirectly linked 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 Population and Housing chapter of the 2007 RSP EIR did not identify environmental impacts and mitigation measures.

Rather, the 2007 RSP EIR presented analysis to explain the population, housing, and employment implications for the 2007 proposed project. Regarding population, the 2007 RSP EIR assumed a rate of 2.1 persons per unit for the range of 10,000 and 12,500 housing units, which generated projected totals of 21,000 and 26,252 residents. The 2007 RSP EIR used a rate of 2.1 instead of 2.57, which was the average household size in Sacramento at the time, because of the proximity to the Downtown Sacramento. Downtown Sacramento was seen as comprising more singles, childless couples, and empty nesters, and was therefore generally smaller than households in other areas of the City.[83]

Regarding the number of projected housing units, the 2007 RSP EIR stated that while the anticipated range of housing units varied between 10,000 and 12,500, the final number of units constructed was expected be determined by market forces, and was expected to be partly dependent on the amount of office developed and whether a sports and entertainment facility would be built at the project site.[84] Similarly, the precise details involving the provision of affordable housing onsite was anticipated to be provided in preparation of an inclusionary housing plan that the City and the developers were to agree upon.

Regarding the projected jobs-housing relationship, the 2007 RSP EIR assumed rates of one employee per every 300 sf of commercial space and one employee per every 400 sf of retail space. Applying this rate to the total square footages of commercial and retail uses, along with 1,100 hotel employees (based on the assumption of one employee per hotel room), the range of employment was generated to be between 12,400 and 15,200 jobs. The jobs-housing relationship within the RSP Area was approximately between 0.9:1 and 1.41:1. The latter ratio used the smaller number of housing (10,000 units) and greater number of jobs (15,200) resulted in a ratio more similar to the City ratio as a whole, and it was determined that the scenario with greater housing (12,500) and smaller number of jobs (12,400) would provide the most advantageous development for the City. **Table 3-4** provides the population and housing estimates for the 2007 RSP EIR.

TABLE 3-4.
2007 RSP EIR POPULATION AND HOUSING ESTIMATES

	Minimum Housing Scenario	Maximum Housing Scenario
Residential Population	21,000	26,252
Housing Units	10,000	12,500
Employment	15,200	12,400

[83] City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report (SCH No. 2006032058). Certified December 11, 2007. p. 5-8.

[84] City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Impact Report (SCH No. 2006032058). Certified December 11, 2007. p. 5-8.

Jobs-Housing Relationship	1.52:1	0.99:1

SOURCE: City of Sacramento. 2007. Railyards Specific Plan Draft Environmental Report. August 2007. SCH Number 2006032058. Page 5-9, Table 5-1.

Proposed Project Population and Housing

Railyards Specific Plan Update

The proposed project would involve the construction of 6,000 to 10,000 medium- and high-density residential units, and would include affordable housing. To determine the estimated population of the proposed project, this analysis assumes an average household size of 2.1 persons, based on population factors found in the 2007 RSP EIR.[85] This factor of 2.1 persons per housing unit continues to be used in this SEIR due to the proximity of the RSP Area to Downtown Sacramento. Downtown Sacramento, and, more broadly, the area within the Central City, continues to develop with increased densities, and smaller households than in other areas of the city. Using this factor, the projected population for the proposed project would be between 12,600 and 21,000, a maximum decrease of up to 13,652 residents if 12,500 units were constructed under the 2007 RSP compared to the estimated population of the proposed RSPU if 6,000 units were constructed. As discussed earlier in this section, population increases and decreases are not, in and of themselves, considered physical environmental effects. Possible physical environmental effects occurring due to the population growth within the plan area are examined in the appropriate technical sections of this SEIR. **Table 3-5** provides the estimated population and housing data for the 2007 RSP and the 2016 RSPU.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would involve the construction of 7,000 to 10,000 medium- and high-density residential units, an addition of 1,000 housing units from the minimum 6,000 units in the proposed RSPU. Using the same factor of 2.1 persons per housing unit, between 14,700 and 21,000 residents would be generated for the RSPU Land Use Variant, which is between 0 and 2,100 residents more than the proposed RSPU, and between 0 and 11,552 residents less than the 2007 RSP. The additional 1,000 units, with 250 units at the KP Medical Center site and 750 units at the MLS Stadium site, would result in an increase of up to 2,100 residents more than under the RSPU. As discussed earlier in this section, population increases are not, in and of themselves, considered physical environmental effects. Potential physical environmental effects due to the population growth within the RSP Area are examined in the environmental resource sections of this SEIR.

[85] City of Sacramento. 2007. Railyards Specific Plan: Draft Environmental Impact Report. August 2007. Appendix N, Urban Decay Study.

TABLE 3-5.
2007 RSP AND PROPOSED 2016 RSPU POPULATION AND HOUSING ESTIMATES

	2007 RSP Minimum Housing Scenario (10,000 units)[1]	2007 RSP Maximum Housing Scenario (12,500 units)[1]	2016 RSPU (6,000 units)	2016 RSPU and Land Use Variant (10,000 units)	RSPU Change from 2007	2016 RSPU Land Use Variant (7,000 units)	2016 RSPU Land Use Variant (10,000 units)	Land Use Variant Change from 2007
Population								
RSP Area	21,000	26,252	12,600	21,000	0 to -13,652	14,700	21,000	0 to -11,552
Housing Units								
RSP Area	10,000	12,500	6,000	10,000	0 to -6,500	7,000	10,000	0 to -5,500

SOURCE: 2007 Data: City of Sacramento. 2007. Railyards Specific Plan: Draft Environmental Impact Report. August 2007. ESA, 2016.

KP Medical Center

The KP Medical Center would not feature any housing units. Therefore, there would be no housing units or population generated within or by the KP Medical Center site.

MLS Stadium

The MLS Stadium would not feature any housing units. Therefore, there would be no housing units or population generated within the MLS Stadium site.

Stormwater Outfall

The Stormwater Outfall would not feature any housing units. Therefore, there would be no housing units or population generated within the Stormwater Outfall site.

Proposed Employment

Railyards Specific Plan Update

The proposed projects would include the construction of the approximately 6,856,095 sf of non-residential employment-generating uses in the RSP Area, including:

- 2,757,027 to 3,857,027 sf of office uses;
- 514,270 sf of retail uses;
- 771,405 sf of flexible mixed use uses, of which 75 percent (578,554 sf) would be office and 25 percent (192,851 sf) would be retail;
- 510,000 sf of medical uses (only KP Medical Center);
- 718,003 sf of hospital facilities and beds (only KP Medical Center), including 60,000 sf for the Central Utility Plant;
- 162,525 sf of historic and cultural retail uses;

- 142,865 sf of historic and cultural, flexible mixed use uses, of which 75 percent (107,149 sf) would be office and 25 percent (35,716 sf) would be retail;
- 180,000 sf of historic and cultural museum uses; and
- 1,100 hotel rooms.

Based on the above uses envisioned for the proposed project, **Table 3-6** identifies the number of employees that would be generated by the proposed projects.

If the maximum anticipated 10,000 housing units are constructed in the RSP Area, there would be a reduction of 1.1 million sf of office space throughout the RSP Area. There would be no change in square footage for the KP Medical Center, MLS Stadium, retail, historic and cultural, or hotel uses.

Under the RSPU, employment at the project site would yield between 18,985 and 22,903 employees. All office and retail jobs are based on an employee ratio of one employee per 300 sf of office uses and one employee per 400 sf of retail uses.[86] Flexible Mixed Uses and Historic and Cultural Flexible Mixed Uses assume a composition of 75 percent office use and 25 percent retail use.[87] The Historic and Cultural Museum jobs at the Central Shops are based on an employee ratio of one employee per 1,500 sf.[88,89] Hotel jobs are determined using a rate of one employee per hotel room.[90] The KP Medical Center jobs assume one employment generation rate of one employee per 275 sf.[91] Lastly, the MLS Stadium employment is projected as a specific quantity, 30, based on information provided by the project proponent.[92] The total number of employees under the RSPU would be greater than that anticipated under the 2007 RSP by 3,785 to 10,503 employees.

86 Gard, John, Principal, Fehr and Peers. Email communication with Brian Boxer and Christina Erwin. December 17, 2015. 8:19 am.

87 Heckenlively, Jay, Principal and General Counsel, Downtown Railyard Venture, LLC. Email communication with Brian Boxer. December 16, 2015. 4:40 pm.

88 San Francisco Planning Department. 2000. Draft Environmental Impact Report: New DeYoung Museum. Publication date: July 22, 2000.

89 City of Los Angeles. 2014. Draft Environmental Impact Report: Academy Museum of Motion Pictures Project. August 2014.

90 City of Sacramento. 2014. Sacramento Entertainment and Sports Center & Related Development: Environmental Impact Report. Certified May 20, 2014. p. 3-44.

91 Miller, Matt, Program Management Office Director, Kaiser Permanente National Facilities Services. Email communication with Brian Boxer. December 23, 2015. 5:06 pm.

92 Wrigley, Ben, Chief Operating Officer, CSL International. Email communication with Brian Boxer. December 22, 2015. 12:12 pm.

TABLE 3-6.
2007 RSP AND 2016 RSPU EMPLOYMENT ESTIMATES

Land Use	Employee Generation Rate per square feet[1,2,3,4]	2007 RSP (10,000 units)	2007 RSP (12,500 units)	2016 RSPU (6,000 units)		2016 RSPU (10,000 units)		Land Use Variant (7,000 units)		Land Use Variant (10,000 units)	
		Employees	Employees	Square Footage	Employees	Square Footage	Employees	Square Footage	Employees	Square Footage	Employees
Office	1/300			3,857,027	12,857	2,757,027	9,190	4,778,029	15,927	3,953,029	13,177
Flex Office	1/300			578,554	1,929	578,554	1,929	716,704	2,389	716,704	2,389
Historic and Cultural Flex Office	1/300			107,149	357	107,149	357	107,149	357	107,149	357
Total Office				**4,542,730**	**15,142**	**3,442,730**	**11,476**	**5,601,882**	**18,673**	**4,776,882**	**15,923**
Retail	1/400			514,270	1,286	514,270	1,143	637,070	1,416	637,070	1,416
Flex Retail	1/400			192,851	482	192,851	429	238,901	531	238,901	531
Historic and Cultural Retail	1/400			162,525	406	162,525	361	162,525	361	162,525	361
Historic and Cultural Flex Retail	1/400			35,716	89	35,716	79	35,716	79	35,716	79
Total Retail				**905,363**	**2,263**	**905,363**	**2,012**	**1,074,213**	**2,387**	**1,074,213**	**2,387**
Historic and Cultural Museum	1/1,500			180,000	120	180,000	120	180,000	120	180,000	120
Hotel Rooms	1			1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
KP Medical Center	1/275			1,168,003	4,247	1,168,003	4,247	--	--	--	--
MLS Stadium				--	30	--	30	--	--	--	--
TOTAL EMPLOYEES		**15,200**	**12,400**		**22,903**		**18,985**		**22,280**		**19,530**
Jobs-Housing Balance		**1.52**	**0.99**		**3.82**		**1.90**		**3.18**		**1.95**

NOTES:

- Flexible Mixed-Use and Flex Historic and Cultural land uses incorporate a ratio of 75 percent office uses and 25 percent retail uses, and are shown here as Flex Office and Flex Retail.
- Stormwater Outfall component of proposed project is not projected to generate employment, and is not shown here.
- KP Medical Center square footage does not include the 60,000 sf Central Utility Plant. Employees that would operate within those spaces are accounted for in the total square footage of the KP Medical Center site.
- Hospital employment generation estimates account for all employment throughout the week and across a 24-hour work period.
- MLS Stadium employment represents the permanent staff who would work full time at the MLS Stadium site, including maintenance, security, ticket sales, etc.

SOURCES:

1. Office and Retail Rates: Gard, John, Principal, Fehr and Peers. Email communication with Brian Boxer and Christina Erwin. December 17, 2015. 8:19am.
2. Historic and Cultural Museum Rate: San Francisco Planning Department. 2000. Draft Environmental Impact Report: New DeYoung Museum. Publication date: July 22, 2000. City of Los Angeles. 2014. Draft Environmental Impact Report: Academy Museum of Motion Pictures Project. August 2014.
3. Hotel Room Rate: City of Sacramento. 2014. Sacramento Entertainment and Sports Center & Related Development: Environmental Impact Report. Certified May 20, 2014. P. 3-44.
4. Hospital Rate: Miller, Matt, Program Management Office Director, Kaiser Permanente National Facilities Services. Email communication with Brian Boxer. December 23, 2015. 5:06pm.
5. MLS Total Employment of 30: Wrigley, Ben, Chief Operating Officer, CSL International. Email communication with Brian Boxer. December 22, 2015. 12:12pm.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant scenario, the proposed projects would include the construction of the following non-residential, employment-generating uses in the RSP Area:

- 3,953,029 to 4,778,029 sf of office uses;
- 637,070 sf of retail uses;
- 955,605 sf of flexible mixed use uses, of which 75 percent (578,554 sf) would be office and 25 percent (192,851 sf) would be retail;
- 162,525 sf of historic and cultural retail uses;
- 142,865 sf of historic and cultural, flexible mixed use uses, of which 75 percent (107,149 sf) would be office and 25 percent (35,716 sf) would be retail;
- 180,000 sf of historic and cultural museum uses; and
- 1,100 hotel rooms

Based on the above land uses envisioned for the RSPU Land Use Variant, Table 3-6 gives employment generated.

Incorporating the same assumptions as in the proposed project scenario, employment at the project site under the RSPU Land Use Variant scenario would yield between 19,530 and 22,280 employees (see Table 3-6), a change of between 623 jobs fewer than to 545 jobs more than the proposed RSPU. This would represent an increase of 4,330 to 9,800 jobs more than the 2007 RSP.

KP Medical Center

While the KP Medical Center contains a variety of parcels and particular buildings, the projected employment for this project component – 4,247 jobs – has been estimated using a standard employment rate based on information from other recently constructed Kaiser Permanente medical centers in northern California. This estimate is conservative, including employees that work over the seven-day week and 24-hour schedule; at any given time, only a portion of this total number of employees would work at the site. The employment generation estimate does not separately calculate employment for the 60,000-sf Central Utility Plant because the staff that would be working in this space have already been accounted for in other areas of the site. These types of workers, such as operators, mechanics, inspectors, and others, would be performing duties in other areas of KP Medical Center in addition to their work at the Central Utility Plant.

MLS Stadium

The MLS Stadium is only projected to provide a total of 30 permanent staff onsite, including security, maintenance and grounds-keeping, and ticket sales, among other jobs.[93]

As described in Chapter 2, Project Description, the MLS Stadium would also need approximately 460-475 temporary employees for a typical soccer match, and would additionally require an assortment of different staff including ushers, food service employees, ticketing staff, security, janitorial staff, and other similar positions. For larger events, such as Tier I concerts, temporary event-related employment is estimated to be approximately 500. For medium-sized events, including MLS special games, Confederation of North, Central America and Caribbean Association Football (CONCACAF)/Cup matches, other soccer events or Tier II concerts, temporary event-related employment is estimated to range from approximately 400-450 jobs. For smaller community-scale events, approximately 100 jobs would be estimated as temporary event employment. 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 MLS Stadium for several hours or longer after events.

Stormwater Outfall

There would be no employment generated by the proposed Stormwater Outfall.

Proposed Project Affordable Housing Component

As described above under Regulatory Setting, the City's mixed income ordinance is applicable to the RSPU. As part of compliance with the Mixed Income Housing Ordinance ~~is~~ described here, based on existing regulatory agreements in place, approximately 267 housing units in the RSP Area would be affordable units restricted as affordable for not less 30 years in accordance with the requirements imposed by acceptance of Proposition 1C funds.

Proposed Jobs-Housing Relationship

Within the RSP Area, the proposed project would contain a mixture of residential, office, retail, hospital, and other commercial uses (such as the MLS Stadium), and the RSPU Land Use Variant would contain a similar composition apart from the medical center and MLS Stadium elements. Because of the mixed-use nature of the proposed RSPU and the RSPU Land Use Variant, the exact number of future residents, housing units, and employees that would result from implementation of the proposed project is not certain. As described above, the number of housing units could range between 6,000 and 10,000 housing units, in the case of the proposed project, to between 7,000 and 10,000 housing units, in the case of the RSPU Land Use Variant, or greater

[93] Wrigley, Ben, Chief Operating Officer, CSL International. Email communication with Brian Boxer. December 22, 2015. 12:12pm.

levels of housing in the event that the housing market drives higher densities or more projects that currently predicted. As seen in Table 3-6, the proposed project would generate between 18,985 jobs (if there are 10,000 housing units) and 22,903 jobs (if there are 6,000 housing units). The RSPU Land Use Variant would generate between 19,530 jobs (if there are 10,000 housing units) and 22,280 jobs (if there are 7,000 housing units).

Based on the housing unit and employment estimates shown in Table 3-6, the jobs-housing balance for the proposed RSPU at 6,000 units would be 3.82, and the jobs-housing balance for the RSPU at 10,000 units would be 1.90. The jobs-housing balance for the RSPU Land Use Variant would be 3.18 for the RSPU Land Use Variant at 7,000 units and the jobs-housing balance for the RSPU Land Use Variant would be 1.95 at 10,000 units. Both the proposed RSPU at 6,000 housing units and the RSPU Land Use Variant at 7,000 units demonstrate a more heavily skewed ratio toward employment than the 2007 RSP EIR's projected ratios of 1.52 (2007 minimum housing scenario) and 0.99 (2007 maximum housing scenario). The RSPU and the land use variant, if constructed with 10,000 housing units, would have a jobs-housing balance of 1.90 and 1.95, respectively, indicating there is more of a balance between living and employment opportunities.

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CHAPTER 4
Environmental Setting, Impacts, and Mitigation Measures

4.0 Introduction to the Analysis

This Subsequent Environmental Impact Report (SEIR) evaluates the potential physical environmental effects of implementation of the proposed Railyards Specific Plan Update (RSPU). The activities proposed for the RSPU include development of an integrated mix of residential, non-residential, and public uses within the 244-acre Railyards Specific Plan Area (RSP Area), a new regional Kaiser Permanente Medical Center (KP Medical Center), a new sports and entertainment stadium capable of accommodating a Major League Soccer team (MLS Stadium), and infrastructure and utility systems that would serve and support the development, including a stormwater outfall on the Sacramento River (Stormwater Outfall). Collectively, these activities are referred to as the proposed projects.

This SEIR updates, augments, and builds upon the analysis contained in the 2007 Railyards Specific Plan EIR (2007 RSP EIR). Some environmental effects that are typically considered under CEQA would not be affected by the proposed projects and, pursuant to CEQA, are not further analyzed in this SEIR. A discussion of those issues that were not further analyzed in both the 2007 RSP EIR and also in this SEIR can be found later in this chapter.

4.0.1 Definition of Terms Used in the SEIR

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

- **Significance Criteria:** The criteria used by the City of Sacramento, as lead agency under CEQA, to determine whether the magnitude of an adverse, physical, environmental impact would be considered significant. In determining the level of significance, the analysis recognizes that the proposed projects must comply with relevant federal, state, regional and/or local regulations and ordinances which are regularly enforced through building codes and standards and/or other means.

- **Significant Impact:** An impact is considered significant if any of the proposed projects *could* result in a substantial adverse change in the physical conditions of the environment.

Significant impacts are identified by the evaluation of a project-related or cumulative physical change from existing or baseline conditions, compared to a specified significance criterion. 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]

- **Less-than-Significant Impact:** An impact is considered less than significant when the adverse physical environmental effect caused by any of the proposed projects would not exceed the applicable significance criterion.

- **Significant and Unavoidable Impact:** An 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, that is, to a magnitude below the applicable significance criterion.

- **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 environmental effect would exceed the applicable significance criterion and the contribution of any of the proposed projects would be "cumulatively considerable."[3] If the contribution of a project to a significant cumulative impact is less than considerable, the cumulative impact is considered less than significant.

- **Mitigation Measure:** A mitigation measure is a feasible 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.

1 State CEQA Guidelines section 15382.
2 State CEQA Guidelines section 15355.
3 State CEQA Guidelines section 15130(a).

- **Feasible**: Under CEQA, the term feasible means "means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."[4]

4.0.2 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, significance criteria, methodology and assumptions, and impacts on the environment. Where required, potentially feasible mitigation measures are identified to lessen or avoid significant impacts. Each section includes an analysis of project-specific and cumulative impacts for each issue area.

Introduction

Each technical environmental section begins with an introduction that includes a brief discussion of the issues that were addressed previously in the 2007 RSP EIR. This introduction also identifies issues from the 2007 RSP EIR that are no longer applicable to the technical section as well as any new issues included in this SEIR that did not arise in the 2007 RSP EIR.

Environmental and Regulatory Setting

Each section provides a description of the proposed projects' environmental setting and the regulatory setting as it pertains to relevant environmental resource issues. The environmental setting provides a point of reference for assessing the environmental impacts of the proposed projects and project alternatives. The environmental setting describes the conditions that exist prior to implementation of the project. This setting establishes the baseline against which the proposed projects and project alternatives are compared for the purposes of assessing the significance of environmental impacts.

The environmental setting section is structured to provide a general discussion of conditions first, including a comparison with the discussion of the environmental setting that was described in the 2007 RSP EIR. In some cases, the environmental setting has not materially changed since the certification of the 2007 RSP EIR. Following this general discussion, the environmental setting focuses on a description of the particular relevant environmental setting for the current RSPU, followed, where applicable, by a specific discussion of the existing or baseline conditions for each of the three specific proposed projects addressed in the SEIR: the KP Medical Center, the MLS Stadium, and the Stormwater Outfall.

The regulatory setting presents relevant information about federal, state, regional, and/or local laws, regulations, plans and/or policies that pertain to the environmental resources addressed in each section.

[4] State CEQA Guidelines section 15364.

Significance Criteria

Each section presents significance criteria against which the adverse physical environmental effects of the proposed projects are compared in order to determine the significance of impacts. The significance criteria used for the proposed projects were derived from the City of Sacramento's established significance standards, which, in turn, reflect policies of the 2035 General Plan as well as other criteria applicable under CEQA, including thresholds established by trustee and responsible agencies, the 2007 RSP EIR, and Appendix G of the CEQA Guidelines. Each section provides a comparison of these criteria to those found in the 2007 RSP EIR; if there is a difference, a discussion is included that explains how and why criteria have been revised.

Methodology and Assumptions

Each section describes the analytical methods and key assumptions used to evaluate effects of the proposed projects. This section also describes whether these methods and assumptions have changed from the 2007 RSP EIR, highlighting any issues that do not require additional analysis in the impacts discussion.

Impacts and Mitigation Measures

This description is followed by a presentation of the adverse physical environmental impacts of the proposed projects, and, if impacts are considered to be significant or potentially significant, potentially feasible mitigation measures that, if implemented, could avoid or reduce the magnitude of the significant impact. As required pursuant to CEQA Guidelines section 15126.2(a), direct, indirect, short-term, long-term, onsite, and/or off-site impacts are analyzed, as appropriate, for each environmental impact.

Where enforcement of applicable laws, regulations, and standards exist and compliance can be reasonably anticipated, this SEIR assumes that the proposed projects would meet the requirements of applicable laws and other regulations.

The impact and mitigation discussions in each section are organized based on impact statements, prefaced by a number in bold-faced type. An explanation of each impact is followed by an analysis of and conclusion regarding its significance, based on the stated significance criterion. The analysis of environmental impacts considers the impacts that could be caused during both construction and operation of the proposed projects. The organization of each impact discussion presents impacts caused by the RSPU as a whole, and then any different impacts that would occur as a result of implementation of the RSPU Land Use Variant. As described in Chapter 2, Project Description, the RSPU Land Use Variant analysis considers the environmental impacts in the event that the RSPU is implemented without construction and operation of the KP Medical Center and MLS Stadium, and those areas were instead built out pursuant to the underlying land uses and zoning designations.

Following the analyses of the proposed RSPU and the RSPU Land Use Variant, focused impact analyses are presented for each of the three specific proposed projects: the KP Medical Center,

the MLS Stadium, and the Stormwater Outfall. These analyses differ from the analysis of the RSPU in that they address the effects of the specific project proposals rather than the effects of the change in land use zoning that would result from adoption of the proposed RSPU. Each impact analysis concludes with a summary regarding the significance of the impact.

Where the impact for one or more of the proposed projects is considered significant, it is followed by a presentation of potentially feasible mitigation measures, including an indication of whether the measure applies to the RSPU as a whole, the KP Medical Center, the MLS Stadium, and/or the Stormwater Outfall. While this SEIR includes information about potentially feasible mitigation measures, the City of Sacramento City Council would make the final determination of feasibility of such measures.

The magnitude of reduction of an impact and the potential effect of that reduction in magnitude on the significance of the impact is presented. Each impact discussion concludes with a statement that the impact, following implementation of the mitigation measure(s) and/or the continuation of existing policies and regulations, either would be reduced to a less-than-significant level or would remain significant and unavoidable.

An example of the format is shown below.

Impacts and Mitigation Measures

Impact 4.X-1: Impact statement.

A general discussion of impact for the proposed projects in paragraph form is provided. To identify impacts that may be site- or project element-specific, the discussion differentiates between effects at the RSPU project site, including KP Medical Center, the MLS Stadium, and the Stormwater Outfall.

Railyards Specific Plan Update

This discussion summarizes the impact and findings of the 2007 RSP EIR with respect to the impact statement. The impacts of the full RSPU, including the KP Medical Center, MLS Stadium and Stormwater Outfall will be discussed, and well as how those impacts relate to the prior 2007 EIR analysis. This discussion will also state whether the effects of the 2016 RSPU are greater, equal to, or lesser than the effects of the 2007 RSP. A significance conclusion specific to the RSPU will be drawn and indicated in **bold**.

Railyards Specific Plan Update Land Use Variant

This analysis will examine impacts that would occur if the KP Medical Center and/or MLS Stadium were not constructed, and those areas were instead built out with the underlying land uses and zoning designations. This discussion will describe the impacts of the land use variant and how those impacts relate to the prior 2007 RSP EIR analysis. A significance conclusion specific to the Land Use Variant will be drawn and indicated in **bold**.

KP Medical Center

This analysis will be specific to the KP Medical Center. Since no hospital was anticipated in the 2007 RSP EIR, no discussion of the prior analysis is needed. A significance conclusion specific to the KP Medical Center will be drawn and indicated in **bold**.

MLS Stadium

This analysis will be specific to the MLS Stadium. The 2007 RSP EIR discussed a potential sports and entertainment facility overlay on four blocks north of the railroad tracks and on either side of 7th Street in the RSP Area. The 2007 RSP EIR provided a comparative discussion of the likely environmental consequences of implementation of the sports and entertainment facility overlay briefly at the end of each environmental resource section in the 2007 RSP EIR, but did not provide an equal level of analysis. Further, the 2007 RSP EIR acknowledged that should a sports and entertainment facility be proposed in the RSP Area, it may be within the sports and entertainment facility overlay area shown in the 2007 RSP, and it would require a Specific Plan amendment as well as additional CEQA review and compliance. Since a specific sports facility or soccer stadium was not anticipated or thoroughly analyzed in the 2007 RSP EIR, no discussion of the prior analysis is needed. A significance conclusion specific to the MLS Stadium will be drawn and indicated in **bold**.

Stormwater Outfall

This analysis will be specific to the stormwater outfall. The 2007 RSP EIR acknowledged that a stormwater outfall to the Sacramento River would be necessary to serve development in the RSP Area. However, the 2007 RSP EIR also acknowledged that the design of a potential outfall was conceptual, and it was unknown exactly what environmental impacts could result from the outfall's design, construction, and implementation. Potential impacts to biological resources were discussed in the 2007 RSP EIR, but no other section directly analyzed the potential impacts of the potential stormwater outfall. Since the stormwater outfall was only conceptual in 2007 and an equal level of analysis across all environmental topics was not provided in the 2007 RSP EIR, no comparison of the prior analysis is provided in this document. A significance conclusion specific to the Stormwater Outfall will be drawn and indicated in **bold**.

Summary

A summary of the impact analyses will be provided.

<u>Mitigation Measures</u>

If all of the impacts for each of the project components are determined to be less than significant, the text here will say, "None required."

If one or more impacts are determined to be potentially significant, mitigation will be listed here. Similar to the delineation of the impact analyses, mitigation measures are labeled

based on the same components of the project (RSPU for the Railyards Specific Plan Update and Railyards Specific Plan Update Land Use Variant, KPMC for the Kaiser Permanente Medical Center, MLS for the Major League Soccer Stadium, and SO for the Stormwater Outfall). A statement of the level of significance before application of any mitigation measures is provided in **bold**. The initials following the measure number (for example, 4.X-1) indicate whether the measure applies to one or more of the proposed projects.

Mitigation Measure 4.X-1 (RSPU, KPMC, MLS, SO)

Recommended mitigation measure in italics and numbered in consecutive order, provided in italics.

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**. The initials following the measure number (for example, 4.X-1) indicate whether the measure applies to one or more of the proposed projects.

Cumulative Impacts

An analysis of cumulative impacts follows the project-specific impacts and mitigation measures evaluation in each section. 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.[5]

The beginning of the cumulative impact analysis in each technical section includes a description of the cumulative analysis methodology and the geographic or temporal context in which the cumulative impact is analyzed (e.g., the City of Sacramento, the Sacramento Valley Air Basin, other activity concurrent with project construction). In some instances a project-specific impact may be considered less than significant, but when considered in conjunction with other cumulative projects or activities may be considered significant or potentially significant.

As noted above, where a cumulative impact is significant when compared to existing or baseline conditions, the analysis must address whether the project's contribution to the significant cumulative impact is "considerable." If the contribution of the project is considerable, then the SEIR must identify potentially feasible measures that could avoid or reduce the magnitude of the project's contribution to a less-than-considerable level. If the project's contribution is not considerable, it is considered less than significant and no mitigation of the project contribution is required.[6] The cumulative impacts analysis is formatted the same as the project-specific impacts, as shown above, except that it assumes the entire RSPU is built out, so there are no separate discussions for the KP Medical Center, MLS Stadium, or Stormwater Outfall.

5 State CEQA Guidelines section 15355.
6 State CEQA Guidelines section 15130(a)(3).

Social and Economic Impacts

Under CEQA, economic and social effects by themselves are not considered to be significant impacts, and are relevant only insofar as they may serve as a link in a chain of cause and effect that may connect the proposed action with a physical environmental effect, or they may be part of the factors considered in determining the significance of a physical environmental effect.[7] In addition, economic and social factors may be considered in the determination of feasibility of a mitigation measure or an alternative to the proposed project.[8] As an example, the physical environmental effects of increased employment in the RSP Area are addressed in the SEIR analysis of traffic congestion, increased water demand, or increased demand for energy; however, the effects of that increased employment on the City's tax revenues, the cost of police or fire services, or effects on changes in property values are not appropriately part of this SEIR. That being said, this SEIR is only one of many documents that the City may evaluate in its consideration of the merits of the proposed projects. Other such documents could include fiscal or economic studies that may address social, economic, or other issues of importance to the City.

4.0.3 Issues Previously Determined to be Less Than Significant

Upon review of the proposed projects, the City of Sacramento has determined that due to the physical characteristics of the RSP Area and the projects as proposed, several environmental issues would be unaffected by the proposed projects and will not be considered further in the SEIR.[9] The discussions below provide brief statements of reasons for the City's determination that these issues do not warrant further consideration in the SEIR. The issues described below are consistent with issues that were determined to not need further analysis in the 2007 RSP EIR.

Biological Resources – Conflicts with a recognized Habitat Conservation Plan.

The RSP Area is located in a primarily urbanized environment that is not within the boundaries of a Habitat Conservation Plan (HCP) pursuant to the federal Endangered Species Act, a Natural Communities Conservation Plan (NCCP) pursuant to the California Natural Communities Conservation Planning Act of 1991, or any other habitat conservation plan. Any and all potential effects of the proposed projects on sensitive species or their habitat are addressed in Section 4.3 of this SEIR. Therefore, this issue is not further considered in this SEIR.

Seismicity, Soils, and Geology – Soils capability of supporting septic tanks.

The proposed RSPU would provide wastewater collection and conveyance infrastructure, tied to the City's Combined Sewer System and ultimately to the Sacramento County Regional Sanitation

7 State CEQA Guidelines section 15131.
8 State CEQA Guidelines section 15364.
9 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."

District's Sacramento Regional Wastewater Treatment Plant. There are no provisions for the treatment of wastewater in septic tanks or other alternative wastewater disposal systems. The ability of the project soils to support septic is not further considered in this SEIR.

Hydrology and Water Quality – Impacts resulting from seiche, tsunami, or mudflow.
Due to the relatively flat topography of the RSP Area the potential for mudflow or a mudslide is highly unlikely. Although there is potential for inundation from a major seiche from the Sacramento River, the probability of seiche is very low because of the absence of a deep, large open body of water adjacent to or in the RSP Area. Further, the RSP Area is not located in an area subject to tsunami waves. Therefore, the potential of the proposed projects to expose people or structures to a significant risk of flooding, as a result of inundation by seiche, tsunami, or mudflow was not further considered in this SEIR.

Mineral Resources – Loss of availability of important natural resources
The RSP Area is located in a disturbed environment that has been substantially altered from its historical condition through the filling of bodies of water and past development of rail-related facilities, and is surrounded by urban uses. Due to the site's previous use as an active railyard and based on previous environmental analysis of the site, no risk of adverse effects to important mineral resources is anticipated. Therefore, the potential for the proposed projects to cause loss of a local or regionally identified mineral resource was not further considered in this SEIR.

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SECTION 4.1
Aesthetics, Light and Glare

This section describes existing visual resources in the RSP Area and vicinity, and describes the changes to those conditions that would result from implementation of the proposed RSPU.

Descriptions of existing visual characteristics, both on site and in the vicinity of the RSP Area, are presented and changes to conditions since approval of the 2007 RSP are described. Existing plans and policies relevant to urban design and visual resource issues associated with implementation of the projects are provided and compared to the plans and policies in place in 2007. Potential impacts to aesthetic and visual resources due to the projects are evaluated in the context of existing conditions based on analyses of photographs, site reconnaissance, and project data. In addition, this section provides a comparison with the effects of the 2007 RSP. Pursuant to the requirements of the proposed Railyards Special Planning District, detailed evaluation of the design characteristics of specific development projects under the proposed RSPU would be undertaken as part of the required Site Plan and Design Review process.

A Notice of Preparation (NOP) for preparation of this Draft SEIR was circulated for public review beginning on June 26, 2015. During the public comment period, two letters were received that commented on aesthetic and visual resource issues related to the RSPU (see Appendix B). The comments addressed the following issues:

- Inclusion of planned development in the Washington Specific Plan and Bridge District Specific Plan (City of West Sacramento).
- Consideration of impacts related to stadium lighting and signage, as well as design of parking structures (The River District Business Association).

The analyses included in this section were developed based on site visits and documented photographs, as well as review of proposed plan policies and design guidelines, project-specific plans and renderings, and data provided in the City of Sacramento 2035 General Plan, the City of Sacramento 2035 General Plan Master Environmental Impact Report, the Central City Community Plan, the Central City Urban Design Guidelines, the Sacramento River Master Plan, and the Sacramento River Parkway Plan.

Issues Addressed in the 2007 RSP EIR

The 2007 RSP EIR evaluated the potential for high-rise buildings in the RSP Area to alter public views, the potential for building height and massing that would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street bridge, the potential to create new sources of spillover light, the potential to create new sources of hazardous glare, and relevant cumulative impacts.

Although the overall height of buildings is anticipated to be generally lower in the proposed RSPU than was anticipated for the 2007 RSP, the issues addressed in the 2007 RSP EIR are all addressed in this SEIR. In addition, specific consideration is given to the proposed KP Medical Center, MLS Stadium and Stormwater Outfall projects.

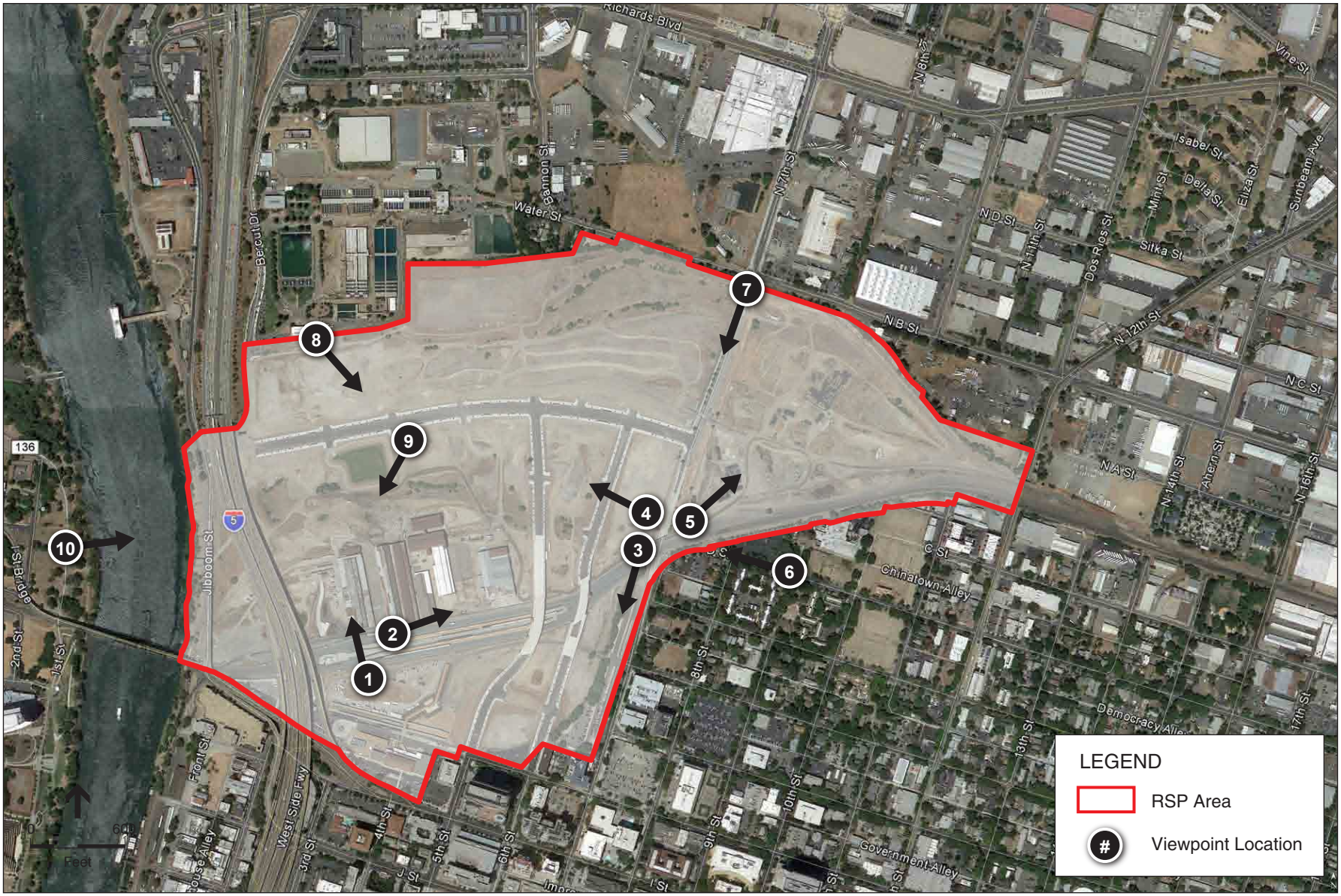
Public Resources Code Section 21099

Public Resources Code (PRC) §21099 was added to CEQA in the adoption of SB 743 (2013) which sought to streamline CEQA review for qualifying transit oriented infill projects. Pursuant to PRC §21099(d)(1), the aesthetic effects of projects that meet the definition of "a residential, mixed-use residential, or employment center project on an infill site within a transit priority area are not considered significant impacts on the environment." The RSP Area meets the definition of a Transit Priority Area because the entire RSP Area is within one-half mile of an existing or planned major transit stop. It also qualifies as an "infill site" by virtue of having been previously developed, as well as being largely surrounded by parcels that are developed with urban uses. It is anticipated that most, if not all, of the future projects that would be developed pursuant to the proposed RSPU would qualify as residential, mixed-use residential, or employment center uses.

Although aesthetic impacts of the proposed RSPU would not qualify as significant impacts pursuant to PRC §21099(d)(1), a full evaluation of the aesthetic effects of the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall projects is nonetheless provided in this section in order to fully understand how the proposed changes would affect the existing environment.

4.1.1 Environmental Setting

The aesthetic and visual resources setting is described on pages 6.13-1 through 6.13-19 of the 2007 RSP Draft EIR. The visual character of the Central City in general has not changed materially since certification of the 2007 RSP EIR; however, there have been some changes within the RSP Area and in the vicinity, including adjacent and nearby projects and the relocation of the Union Pacific Railroad (UPRR) tracks, and the construction of the new passenger platforms. Therefore, the following discussion updates and replaces the 2007 RSP EIR setting. **Figure 4.1-1** provides a key of photo locations for photos taken of the RSP Area in 2007, and replicated in 2015. **Figures 4.1-2** through **4.1-11** demonstrate the differences in in the project site between 2007 and 2015.



SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-1
Aesthetics Photo Location Map

2007

2015

SOURCE: PBS&J 2007; ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-2
Viewpoint 1: Central Shops Looking Northwest
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-3
Viewpoint 2: Central Shops Looking East
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-4
Viewpoint 3: Southwest of Central Shops, Looking South
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-5
Viewpoint 4: West of 7th Street Tracks, Looking South
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-6

Viewpoint 5: Eastern Portion, North of Tracks, Looking Northeast
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-7
Viewpoint 6: D Street, Near 8th Street, Looking West
2007 and 2015 Comparison

2007

2015

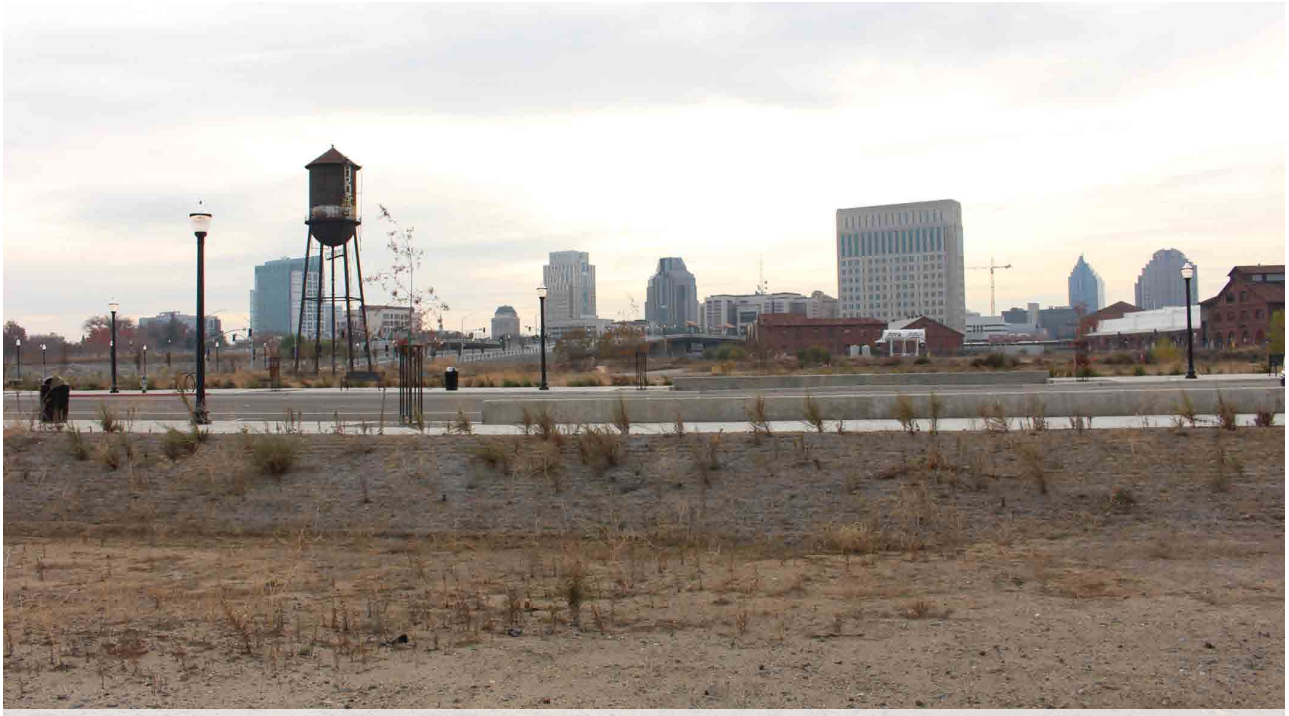
Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-8

Viewpoint 7: Heading South on 7th Street, Looking Southwest
2007 and 2015 Comparison

2007



2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-9
Viewpoint 8: Northwest Corner Looking Southwest
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-10
Viewpoint 9: Central/Western Portion Looking West
2007 and 2015 Comparison

2007

2015

Sacramento Railyards Specific Plan Update . 150286

SOURCE: PBS&J 2007; ESA 2015

Figure 4.1-11

Viewpoint 10: From West Sacramento Looking East onto Jibboom Street
2007 and 2015 Comparison

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), which traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno, and US 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 by the California Department of Transportation as scenic.[1]

West Sacramento

The City of West Sacramento is visible from portions of the RSP Area. North of the I Street Bridge, across the Sacramento River from the RSP Area, the West Sacramento riverfront is largely in a natural condition between the Sacramento River and 2nd Street. From 2nd Street to

[1] California Department of Transportation (Caltrans), 2012. *California Scenic Highway Program.* www.dot.ca.gov/hq/LandArch/scenic/schwy.htm. Accessed August 5, 2013.

4th Street, north of C Street, are the recently constructed Metro Place and River's Side mixed use developments, largely 1-2 story mixed use and townhouse structures that are modern in design.

West Sacramento has adopted plans for intensive development of the west bank of the Sacramento River, across from Old Sacramento and the Docks Area, between the I Street Bridge and the Pioneer Bridge. The Washington Specific Plan area, located along the Sacramento River between the Tower Bridge and A Street, was originally developed with residential uses in the early part of the 20th century. The 1996 Washington Specific Plan noted that the area developed on a traditional street grid and included, at that time, many existing buildings that appeared to be blighted, as well as vacant lots.[2]

Several high-rise structures have been built or previously approved in West Sacramento, south of C Street, between the I Street Bridge and the Tower Bridge. In 1993, the Ziggurat Building was constructed as an 11-story, 158-foot office building with a distinctive ziggurat shape. In 2009, the California State Teachers Retirement System (CalSTRS) completed construction of a headquarters building on a site bounded by E Street, F Street, 3rd Street, and the Sacramento River. The CalSTRS Headquarters building is 19 stories over a two level parking garage, approximately 300-feet in height. The CalSTRS Headquarters project is part of the approved the Raley's Landing project, which includes two additional riverfront buildings ranging in height from 245 feet (River 1) to 268 feet (River 2). All of these buildings are across the river from the urbanized Old Sacramento riverfront. The heights of these buildings are presented in **Table 4.1-1**.

Railyards Specific Plan Area Characteristics

At the time that the 2007 RSP EIR was prepared, the visual character of the project site was dominated by reminders of its historic railroad past, including the UPRR main railroad lines, rail spur lines that traverse the site, the red-brick passenger rail depot and Railway Express Annex buildings, and the massive Central Shops buildings. Since that time, the UPRR lines have been relocated north to their current alignment immediately south of the Central Shops. An approximately 430-foot long pathway with a light-brown metal canopy and adjacent landscaping has been constructed to connect the north side of the Depot building to the concrete passenger tunnels (Steve Cohn Passageway) and new concrete platforms with light-brown metal canopies that provide passenger access to four of the six UPRR tracks. Earth and concrete bridges have been constructed that carry 5th and 6th streets over the realigned UPRR tracks, and 5th and 6th streets have been extended from H Street to meet the newly constructed Railyards Boulevard, which has been constructed from 7th Street to the future alignment of Bercut Drive.

The Depot is situated on the southernmost portion of the Railyards Area, adjacent to the REA building (outside of the RSP Area), and is highly visible from I Street and in views toward the Railyards from 3rd Street, 5th Street, and H Street, as well as from I-5. Both the Depot building and the REA building are distinguished by red brick facades with symmetrical elevations and patterned bricks that frame the windows. Common elements of these buildings include pale bases,

[2] City of West Sacramento, 1996. *Washington Specific Plan*, May 19, 1996, page II-2.

TABLE 4.1-1.
DOWNTOWN SACRAMENTO AND RELEVANT WEST SACRAMENTO BUILDING HEIGHTS

Name	Number of Floors	Height (ft)	2007 Status	2016 Status
City of Sacramento				
Wells Fargo Center	30	423	Completed in 1992	Same
621 Capitol Mall	25	404	Approved	Completed in 2008
Bank of the West Tower/500 Capitol Mall	29	397	Proposed	Completed 2009
U.S. Bank Plaza	26	373	Completed in 1992	Same
California EPA Bldg	25	371	Completed in 2000	Same
Renaissance Tower	28	372	Completed in 1989	Same
Capitol Square	25	351	Completed in 1991	Same
US Courthouse & Federal Bldg	18	350	Completed in 1999	Same
Esquire Plaza	22	322	Completed in 1999	Same
Sheraton Grande Hotel	32	318	Completed in 2001	Same
Meridian Plaza 1	12	150	Completed in 2003	Same
Downtown Commons Mixed Use Tower	19	260	N/A	Under Construction
West America Bank Bldg	18	N/A	Completed in 1984	Same
12th and K Tower	18	240	Completed in 1992	Same
Dept of Justice Bldg	18	226	Completed in 1995	Same
Elks Club Building	15	226	Completed in 1925	Same
Capitol Western States Life	15	216	Completed in 1925	Same
Citizens Hotel	15	216	Completed in 1925	Same
California State Capitol	6	210	Completed in 1874	Same
One Capitol Mall	8	N/A	Completed in 1992	Same
Bridgeway Towers	15	163	Completed in 1980	Same
Residence Inn at Capitol Park	14	150	Completed in 2007	Same
California Fruit Building	10	141	Completed in 1929	Same
Pioneer Towers	12	124	Completed in 1976	Same
Embassy Suites Hotel	8	90	Completed in 2002	Same
Golden 1 Center	3	70	N/A	Under Construction
Lorenzo Patino Hall of Justice	16		Completed in 1989	Same
Capitol Towers	15		Completed in 1960	Same
Hyatt Regency Sacramento	15		Completed in 1988	Same
Riverview Plaza	12		Completed in 1992	Same
City of West Sacramento				
CalStrs Headquarters	19	300	Under Construction	Completed in 2009
Raley's Landing River 2 Bldg	24	268	Approved	Approved
Raley's Landing River 1 Bldg	18	245	Approved	Approved
Ziggurat	11	158	Completed in 1993	Same

NOTE:

Several high-rise buildings that were identified in this table in the 2007 RSP EIR were cancelled and are no longer included. The cancelled projects include: Capitol Grand Tower a 701 foot high tower at 12th and J streets; Capitol Mall Towers I and II, 615 foot towers proposed at 3rd and Capitol Mall; Epic Tower, a 615 foot tower proposed at 12th and I streets; the Aura, a 443 foot tower proposed at Capitol Mall and 6th Street; 701 L Street, a 428 foot office tower proposed at 7th and L streets; and Meredian Plaza II, a 300 foot office tower proposed at 14th and K streets.

SOURCE: SkyscraperPage.com, http://sckyscraperpage.com/cities/?cityID=116, accessed January 18, 2016; City of West Sacramento, 2016.

parapet cornices, and metal canopies. In addition, both incorporate two-story arched openings and patterned metal window mullions. The similarity of these two buildings lends the Depot District visual consistency. Renovation of the Depot building is ongoing with associated scaffolding and portions of the building covered in plastic shrink-wrapping for containment of construction dust. The former UPRR tracks and platforms remain, but in much of the area visible signs of ongoing construction include construction materials and worker trailers.

The Central Shops are historic buildings located north of the realigned UPRR tracks and consist primarily of large former manufacturing and maintenance shops. Historically these buildings were used for producing and maintaining rail equipment. They have been vacant since the early 1990s. The California State Railroad Museum leases the westernmost two of these buildings (the Boiler Shop and Erecting Shop) and uses them for repair, maintenance, and storage of its historic train stock (see the Boiler Shop in Figure 4.1-2).

Ongoing remediation activities involve disturbance of soils on the northern, western and eastern edges of the Central Shops district have been substantially completed (see **Figure 4.1-12**).

As reported in the 2007 RSP EIR, although the styles vary among the historic buildings, and exterior materials range from corrugated metal to decorative brick, particular design features persist within the Shops area. A common pattern can be established throughout these structures. Variation on the following components appear on buildings throughout the site: brick facades; a height range from one to three stories; gabled roofs, often metal-clad; rows of segmented arched windows and bays, frequently separated by shallow brick pilasters; grid patterns created by the recurrence of these bays and pilasters; multi-paned windows, and clerestory windows (see Figure 4.1-3).

Although historic, these structures have declined over the past years as they have sat vacant. Today views of the Central Shops include broken and/or boarded over windows and doors, and some roofs are protected by shrink wrapping or tarps (see **Figure 4.1-13**).

Along the western boundary of the RSP Area, the elevated section of Jibboom Street runs parallel to the Sacramento River, directly west of I-5, which is also elevated. The RSP Area is most visible from the elevated section of I-5. The riverfront section of the RSP Area is characterized by steep embankments and riparian woodland (dominated by several large cottonwood trees) along the riverbanks. Because of the height of the riverbanks (25-30 feet when the river is at summertime levels), the Sacramento River is only visible from the far western boundaries of the RSP Area.

Continuous approximately 20-foot high berms run along the northern and southeastern boundaries of the RSP Area. These berms were originally constructed as the foundation for railroad tracks. The southeastern berm is unbroken from 7th to 12th Street, and continues to serve as the base for the UPRR main line. The northern berm runs from the Sacramento Water Treatment Plant to 12th Street, with a break where it is bisected by 7th Street, and no longer

SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-12
Remediation North of Central Shops

SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-13
Boarded Windows in Central Shops

contains railroad tracks. These berms create a partial barrier, visually separating much of the RSP Area from the adjacent Alkali Flat neighborhood to the south and from the River District to the north and east.

North of the Central Shops and the UPRR tracks, the majority of the RSP Area is undeveloped, with the exception of the recently constructed Railyards Boulevard, 5th Street, and 6th Street; an historic water tower located on the west side of 6th Street, south of Railyards Boulevard; and a temporary concrete crushing facility with visible conveyors, crushing machines, and stockpiles, that is operating between 5th and 6th Street. Views of the recently constructed streets and bridges (5th and 6th streets crossing the UPRR tracks) are characterized by wide asphalt streets and concrete sidewalks, historic-character street lights, benches and trash receptacles (see **Figure 4.1-14**).

The 7th Street corridor is visually characterized by sidewalks and street trees in a landscaped planter strip on the western side of the street, and light rail tracks and electric trolley lines lining the eastern side of the street (see **Figure 4.1-15**).

East of 7th Street, the RSP Area is topographically varied due to earthmoving associated with soil remediation. Views are visually dominated by disturbed earth, scattered shrubs, large earthen piles of dirt that are undergoing bioremediation, and large piles of salvaged materials, including blocks of granite, scrap metal, and creosote-soaked timbers (see **Figure 4.1-16**).

Views to and From the Project Site

Because the site has historically been an industrialized railyard visually secluded from surrounding development by railroad embankments on the south and north, the Sacramento River and elevated section of I-5 on the west, and buildings on the southwest, views to and from the RSP Area are limited in number and range. The site is most visible from the elevated section of I-5 where drivers and passengers in vehicles can see the site in both the northbound and southbound directions. In addition, travelers on 7th Street are provided clear views of portions of the site, especially north of the UPRR mainline underpass. The site is also visible from higher floors of many high-rise buildings in the north and western portions of downtown. Views from the ground level are much more limited.

Views of the RSP Area from downtown are generally from I Street where the existing Depot and adjacent REA building are the most visible structures. Limited views past those buildings and the recently constructed passenger platforms and trains on the tracks provide glimpses of the Central Shops buildings and scattered vegetation in the RSP Area.

Views to the site from Alkali Flat, east of 7th Street, are limited by the height of the railroad embankment, as depicted from Viewpoint 6 on Figure 4.1-7. Views to the site from 7th Street previously provided visual access to the Depot, passenger platforms, and the north and east sides of the Central Shops at a distance, but today are limited by the presence of the 5th and 6th Street bridges, as well as the grade differential between 7th Street and the remainder of the RSP Area.

SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-14
5th Street Bridge Looking North

Sacramento Railyards Specific Plan Update . 150286

SOURCE: ESA 2015

Figure 4.1-15
7th Street/Railyards Boulevard, Looking North

Sacramento Railyards Specific Plan Update . 150286

SOURCE: ESA 2015

Figure 4.1-16

Stockpiles on MLS Stadium Site, East of 7th Street

Seventh Street is the only location from which the full extent of the RSP Area north of the UPRR tracks is visible, essentially from the Sacramento River and I-5 to 12th Street. Views from this area to the south include views of the downtown skyline, as well as views into the Alkali Flat neighborhood, including key features such as the KCRA television studio, the Globe Mills complex, the Creamery project (currently under construction), and the small scale residences of the neighborhood.

Views to the RSP Area from the River District, including along North B Street, are limited because of the height of the northern railroad embankment. These views are dominated by the vegetation that has grown along and on the embankment.

Other key views to downtown are present from the 5th and 6th Street bridges, which afford views to the current construction activity at Golden 1 Center (see **Figure 4.1-17**).

As is seen from Viewpoint 10, Figure 4.1-11, views from West Sacramento and the Sacramento River are very limited due to the height of the Sacramento River embankment, the elevated section of Jibboom Street, and the elevated I-5.

Visual Characteristics of Surrounding Uses

The City of Sacramento 2035 General Plan Background Reports identifies that "scenic resources" can include natural open spaces, topographic formations, and landscapes.[3] Many people associate natural landforms and landscapes with scenic resources, such as oak woodlands, lakes, rivers, streams, and some historic areas. Scenic resources can also include urban open spaces and the built environment. Examples of these would include parks, trails, pathways, nature centers, archaeological and historical resources, and architectural features. With respect to the RSP Area, the Sacramento River, the Sacramento Valley Station (historic depot), the historic I Street Bridge, Old Sacramento Historic District, and the Central Shops buildings qualify as scenic resource under this definition.

The Sacramento River Water Treatment Plant is located immediately north of the RSP Area (east of I-5 and south of Bannon Street). Concrete block structures, mechanical equipment, piping, and at least three to four white cylindrical structures, and open water sedimentation basins are presently visible from the northern portion of the project site.

Adjacent to the water treatment plant to the north and extending towards the east are various industrial and commercial uses within the River District. The visual character of the area is defined primarily by large warehouses and distribution facilities that occupy most of the frontage along Richards Boulevard, and are surrounded by expansive paved parking and outdoor storage areas. These uses are not characterized by any architectural styles or features. No significant landscaping exists, giving the area a highly industrial appearance. Other than roadway views

[3] City of Sacramento, 2015, *City of Sacramento 2035 General Plan Master Environmental Impact Report, Appendix C, Background Report*, February 24, 2015, p. 6-121.

SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.1-17

Golden 1 Center from 6th Street Bridge

(heading south on 7th Street), minimal views of the project site are available from this area, primarily due to the existing structures as well as the northern embankment, which forms a visual barrier to and from the RSP Area.

The Alkali Flat neighborhood borders the RSP Area to the southeast and comprises 25 blocks of residential, commercial, and industrial uses. The Alkali Flat neighborhood is generally bounded by the UPRR tracks on the north, 12th Street to the east, G Street to the south, and 7th Street on the west. The Alkali Flat neighborhood is visually characterized by low-rise buildings with a mix of Victorian homes and more modern architecture with buildings ranging from one to three-stories in height, small neighborhood parks, and tree-lined streets. Typical buildings include single-family residences, apartment buildings, retail shops, and restaurants, commercial and office buildings, and warehouse-type industrial buildings.

The CBD of downtown Sacramento is largely built-up with a mix of building types and sizes, interspersed with parks and municipal uses. As discussed previously, the downtown area is distinguished by high-rise office towers, some in excess of 25 stories. As indicated in Table 4.1-1 above, more recently constructed (or planned) buildings tend to be taller than the older buildings. Sacramento's skyline is visible from miles around the City due to the flat terrain of the region. Building designs run from 1920's architecture to modern structures. Most blocks in the CBD are dominated by a few large buildings with uniform setbacks, block-like shapes, and exterior materials of concrete, glass, terra-cotta, and other similar building façade materials. Particular buildings tend to represent distinct areas of downtown, such as the Asian-influenced buildings of the Chinatown District across I Street from the RSP's Depot District. Buildings near the southern edge of the project site, including the Robert T. Matsui Federal Courthouse, the Sacramento County Jail, the County Administration Building, and further to the east, Sacramento City Hall, represent the Civic Center portion of downtown.

Located southwest of the RSP Area, Old Sacramento is a National Register Landmark and 28-acre State Historic Park, on the banks of the Sacramento River, in downtown Sacramento. With a mix of retail shops, restaurants, offices, and museums, the area contains 53 historic buildings and is generally characterized by Gold Rush and post-Gold Rush era western-style structures, with plank sidewalks and cobbled streets. The historic I Street Bridge frames the northern boundary of Old Sacramento and sits at the southwestern corner of the RSP Area. The historic bridge is an 854-foot long double-deck, metal truss swing bridge originally constructed in 1911. The metal bridge is painted black and sits on two large concrete supports, and swings on a 42-foot central pedestal.

The Sacramento River is located on the western edge of the RSP Area and represents the primary natural scenic resource in the vicinity. Along the edge of the RSP Area, the river has steep embankments with scattered vegetation; scattered broken concrete and concrete remains of old wharf footings; a small, approximately 8-foot tall rectangular wood and cylindrical metal structure that is a river flow gauging station; and several large cottonwood trees lining the

riverbank. Most of year when the river is running at lower levels, the top of the riverbank is 25-30 feet above river water level. Because of the height of the embankments, the river surface is difficult to see from most of the RSP Area. The River is largely visible as a vegetated edge, made up of shrubs and large cottonwood trees.

North of the RSP Area, key visible features include the Sacramento River water intake structure that was recently developed on the Sacramento River approximately 700 feet downstream of the original 1920's intake facility, approximately one-half mile south of the confluence with the American River. The new intake facility is designed with concrete and glass and is lined with lights, which provides a visual attraction along the waterfront at night. Approximately 400 feet north of the water intake structure is an historic PG&E powerhouse that is currently planned to be adaptively reused as the Powerhouse Science Center. Other planned features in this location include a modern glass and concrete structure that would house an earth and space science center and planetarium, and a landscaped Robert T. Matsui Waterfront Park.

Across the River in West Sacramento, the west bank of the Sacramento River north of the I Street Bridge is visually a predominantly undeveloped natural riverbank, not as steep or high as the east bank edge of the RSP Area. The only urban structures visible from the east bank of the river include an elevated water tank (located on 2nd Street), an elevated steel tower structure denoting the Riverwalk located at 3rd and B Street, and a boat landing to the north. Residential structures in the Broderick area of West Sacramento along C Street (including Metro Place and River's Side) are not visible from the RSP Area.

Sensitive Receptors

Eventual buildout of the RSPU anticipates high-rise development that could be highly visible from much of the surrounding area. Sensitive receptors include people using area parks and the Sacramento River, visitors to Old Sacramento, residents of Alkali Flat, and pedestrians along protected view corridors designated along 4th, 7th, 9th, and 10th streets. These receptors are considered sensitive because of their familiarity with the existing landscape, their ability to detect change, and the duration of their exposure to change in scenic quality in the project vicinity.

KP Medical Center Site Characteristics

The proposed KP Medical Center site is currently vacant land, graded flat with limited scattered weedy vegetation (see **Figures 4.1-18** and **4.1-19**). The site itself is visually unremarkable, having previously been cleared of buildings, remediated, and graded in preparation of future development. Views to the north include the grey, one-story, terra-cotta, historic Coagulant Building, tanks, and a microwave tower located at the Water Treatment Plant, weedy embankments of stored soil, and traffic lights at the future intersection of Bercut Drive and South Park Street. Views to the west include the elevated structure and earthen embankments supporting I-5, and glimpses of trees along the Sacramento River corridor visible through the I-5 support structures. Views to the south include the prominent buildings of the Central Shops (including the very large Boiler Shop and Erecting Shop buildings). The backdrop of these buildings include the

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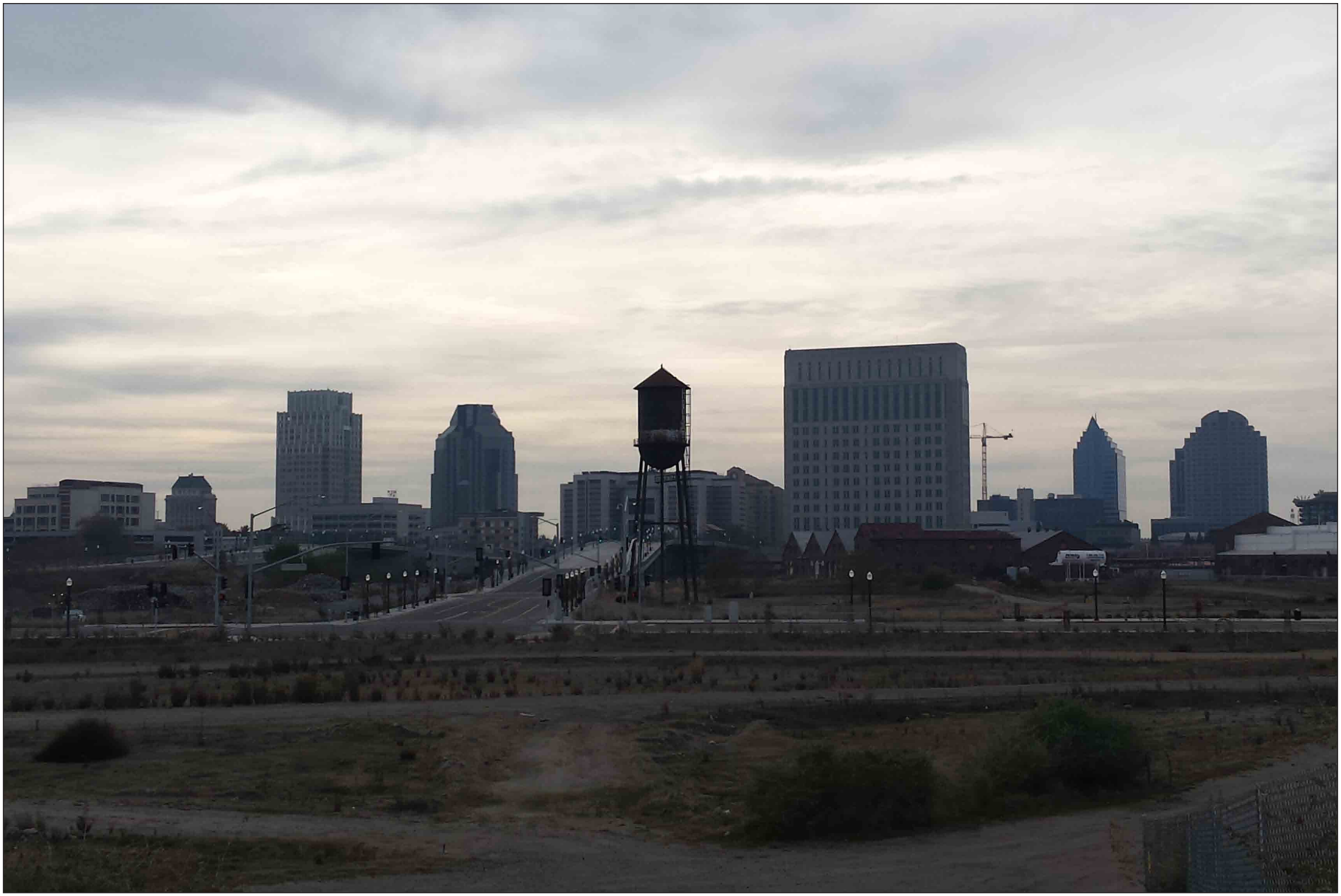
SOURCE: ESA 2015

Figure 4.1-18

KP Medical Center Site, Looking Northeast



SOURCE: ESA 2015

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Figure 4.1-19
KP Medical Center Site, Looking South

historic Depot, Wong Center, and the 501 J Street office building, as well as a number of high-rise buildings in downtown that visually sit behind the Central Shops, such as the Robert T. Matsui Federal Courthouse, the Park Tower (980 9th Street), the CalEPA Headquarters building, U.S. Bank Tower, 500 Capitol Mall, and Wells Fargo Centre. Views to the east include 7th Street and the eastern portion of the RSP Area.

MLS Stadium Site Characteristics

The proposed Stadium site is currently vacant land with scattered shrubs, topographically varied due to ongoing stockpiling and movement of stockpiled soils associated with remediation activities (see Figure 4.1-17). The site has previously been excavated 10-20 feet below the grade of the railroad embankment as part of site remediation. Views to the north are dominated by the northern railroad berm, with scattered trees and low vegetation on the embankments. Distant views are limited to a few structures that rise above the horizon created by the berm, including the historic City Incinerator chimney, industrial building rooflines, and power lines. Views to the west include 7th Street, vacant weedy lands of the RSP Area with the elevated I-5, the Bannon Street microwave tower, and the CalSTRS Headquarters Building in the long distance. Views to the south include the prominent silo structures of the former feed and flour mill that has been converted into the Lofts at Globe Mills, the 573-foot transmission tower located on the grounds of the one- and two-story brick and stucco KCRA studio, the Creamery at Alkali Flat three-story modern residences, the CalEPA Headquarters Building and other high-rise structures in downtown, and trees that line the southern UPRR embankment.

Stormwater Outfall Site Characteristics

The proposed Stormwater Outfall site is located on the east bank of the Sacramento River. The outfall structure site is largely dominated by broken concrete and several large cottonwood trees on the embankment, the paved Sacramento River bicycle path, a large California sycamore tree and several oak trees in a landscaped median that separates the bicycle path from Jibboom Street (see **Figure 4.1-20**). The site is visible from the Sacramento River and the west bank of the River, including the City of West Sacramento's RiverWalk path (see Figure 4.1-11).

Light and Glare

Introduction to 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.

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SOURCE: ESA 2015

Figure 4.1-20

Sacramento Riverfront with Bike Path, Looking South

Ambient light levels or illumination is measured in foot-candles. **Table 4.1-2** lists typical ambient illumination levels in foot-candles for exterior and interior lighting. "Horizontal" foot-candles 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 4.1-2.
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, 2014. *Sacramento 2035 General Plan Background Report*. Public Review Draft, August 2014. Table 6-13, p. 6-122.

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.

Regional Lighting

The City of Sacramento is largely 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 and in West 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 Street and Capitol Mall, and the CalSTRS Headquarters Building in West Sacramento. Finally, automobiles traveling along nearby and adjacent roadways and highways (i.e., I-5, I and J streets, 3^{rd,} 7th and 12th streets, etc.) also contribute to nighttime sources of light and glare in the project vicinity.

RSP Area Light Sources

The Depot District of the RSP Area is lit with parking lot lights and lighted pathways to the passenger rail platforms, which are lit all night. In addition, this area is subject to spillover and area light generated in downtown Sacramento, at the Robert T. Matsui Federal Courthouse, and along I Street. The RSP Area north of the UPRR tracks is largely dark at night, with no sources of light other than street lights on 7th Street, and the recently constructed street lights and signals on Railyards Boulevard, 5th and 6th streets.

4.1.2 Regulatory Setting

The 2007 Draft EIR discusses the regulatory setting on pages 6.13-19 through 6.13-23. The following regulatory discussion updates and expands upon information provided in the 2007 Draft EIR, as explained in more detail below.

Federal

There are no federal regulations associated with aesthetic and visual resources that are applicable to the proposed projects.

State

The 2007 RSP DEIR stated that there were no State regulations governing visual resources and aesthetics that would apply to proposed projects. For the most part, this is true of the RSPU as well. The one exception is that, unlike the 2007 RSP, the RSPU may provide for digital billboards within the RSP Area. Such signs are regulated by State law and Caltrans, as described below.

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.[4] The RSP Area is not visible from SR 160.

Local

The 2007 RSP EIR documented relevant policies and regulations from the City's General Plan and Zoning Ordinance. Since the certification of the 2007 RSP EIR, the City has adopted an updated General Plan and a new Planning and Development Code (replacing the prior Zoning Ordinance). Relevant portions of the City's new 2035 General Plan, adopted in March 2015, and the new Planning and Development Code are discussed below.

City of Sacramento 2035 General Plan

The 2035 General Plan includes the following goals and policies that are relevant to the proposed RSPU, KP Medical Center, Stadium, and/or Stormwater Outfall projects:

Land Use and Urban Design Element

The following policies of the Land Use and Urban Design Element of the 2035 General Plan address both the visual character of the City, the relationship of visual issues to new development, and how such issues relate to the usability and sense of place.

Goal LU 2.2 **City of Rivers. Preserve and enhance Sacramento's riverfronts as signature features and destinations within the city and maximize riverfront access from adjoining neighborhoods to facilitate public enjoyment of this unique open space resource.**

Policies

LU 2.2.1 **World-Class Rivers.** The City shall encourage development throughout the city to feature (e.g., access, building orientation, design) the Sacramento and American Rivers and shall develop a world-class system of riverfront parks and open spaces that provide a destination for visitors and respite from the urban setting for residents.

LU 2.2.3 **Improving River Development and Access.** The City shall require new development along the Sacramento and American Rivers to use the natural river environment as a key feature to guide the scale, design, and intensity of development, and to maximize visual and physical access to the rivers.

[4] California Department of Transportation, 2012. *California Scenic Highway Program.* www.dot.ca.gov/hq/LandArch/scenic/schwy.htm. Accessed August 5, 2013.

Goal LU 2.3 City of Trees and Open Spaces: Maintain a multi-functional "green infrastructure" consisting of natural areas, open space, urban forest, and parkland, which serves as a defining physical feature of Sacramento, provides visitors and residents with access to open space and recreation, and is designed for environmental sustainability.

Policies

LU 2.3.1 **Open Space System.** The City shall strive to create a comprehensive and integrated system of parks, open space, and urban forests that frames and complements the city's urbanized areas.

LU 2.3.2 **Adjacent Development.** The City shall require that development adjacent to parks and open spaces complements and benefits from this proximity by:

- Preserving physical and visual access;
- Requiring development to front, rather than back, onto these areas;
- Using single-loaded streets along the edge to define and accommodate public access;
- Providing pedestrian and multi-use trails;
- Augmenting non-accessible habitat areas with adjoining functional parkland; and
- Extending streets perpendicular to parks and open space and not closing off visual and/or physical access with development.

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*)

Goal LU 4.1 Neighborhoods. Promote the development and preservation of neighborhoods that provide a variety of housing types, densities, and designs and a mix of uses and services that address the diverse needs of Sacramento residents of all ages, socio-economic groups, and abilities.

Policies

LU 4.1.3 **Walkable Neighborhoods.** The City shall require the design and development of neighborhoods that are pedestrian friendly and include features such as short blocks/ broad and well-appointed sidewalks (e.g., lighting, landscaping, adequate width), tree-shaded streets, buildings that define and are oriented to adjacent streets and public spaces, limited driveway curb cuts, paseos and pedestrian lanes, alleys, traffic-calming features, convenient pedestrian street crossings, and access to transit. (*RDR/MPSP*)

LU 4.1.4 **Traditional Grid**. The City shall require all new neighborhoods to be designed with traditional grid block sizes. (*RDR*)

LU 4.1.7 **Neighborhood Transitions.** The city shall provide for appropriate transitions between different land use and urban form designations along the alignment of alleys or rear lot lines and along street centerlines, in order to maintain consistent scale, form, and character on both sides of public streetscapes. (*RDR*)

LU 4.1.9 **Neighborhood Street Trees.** The City shall encourage the strategic selection of street tree species to enhance neighborhood character and identity and preserve the health and diversity of the urban forest. (*RDR/MPSP*)

Goal LU 4.5 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.

Policies

LU 4.4.1 **Well-Defined Street Forms.** 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*)

LU 4.4.2 **Building Orientation**. In buildings with nonresidential uses at street level, 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. (*RDR*)

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, façade articulation, fenestration, varied parapets and roof planes, and pedestrian-scaled architectural details. (*RDR*)

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*)

Goal LU 9.1 Open Space, Parks, and Recreation. Protect open space for its recreational, agricultural, safety, and environmental value and provide adequate parks and open space areas throughout the City.

Policies

LU 9.1.4 **Open Space Buffers.** The City shall use traditional, developed parks and employ innovative uses of open space to "soften" the edges between urban areas and the natural environment. (*RDR/MPSP*)

Urban Form Guidelines

The RSP Area is currently designated Urban Center High, Urban Neighborhood High, Parks and Recreation, and Public/Quasi-Public on the adopted Land Use and Urban Form Diagram included of the City of Sacramento 2035 General Plan.[5] The RSP Area is proposed to be designated Central Business District, Urban Center High, Employment Center Low Rise, Parks and Recreation, and Public/Quasi-Public. The Urban Form Guidelines reflect the physical characteristics that are envisioned in each relevant land use designation. The 2035 General Plan includes Urban Form Guidelines for the Urban Center High and Urban Neighborhood High designations, as well as the Central Business District and Employment Center Low Rise designations, as presented below:

Central Business District

1. A mixture of mid- and high-rise buildings creating a varied and dramatic skyline with unlimited heights;
2. Lot coverage generally not exceeding 90 percent;
3. Buildings are sited to positively define the public streetscape and public spaces;
4. Building facades and entrances directly addressing the street and have a high degree of transparency;
5. An interconnected street system providing for traffic and route flexibility;

[5] City of Sacramento. 2014. *Sacramento 2035 General Plan Land Use and Urban Form Diagram*. June 26, 2014.

6. Vertical and horizontal integration of residential uses;
7. Public parks and open space areas within walking distance of local residents;
8. Paring is integrated into buildings or placed in separate structures;
9. Minimal or no curb cuts along primary streets;
10. Side or rear access to parking and service functions;
11. Broad sidewalks appointed with appropriate pedestrian amenities, including sidewalk restaurant/café seating;
12. Street design integrating pedestrian, bicycle, transit and vehicular use and incorporates traffic-calming features and on-street parking; and
13. Consistent planting of street trees providing shade and enhance character and identity.

Urban Center High

1. A mix of low- and mid-rise buildings (two to twenty-four stories creating a varied and defined skyline;
2. Lot coverage generally does not exceeding 90 percent;
3. Building heights stepping down to not more than one story higher at the property line than permitted in the adjacent neighborhood unless separated by a roadway, rail corridor, or other setback or buffer;
4. Buildings sited to positively define the public streetscape and public spaces;
5. Building facades and entrances directly addressing the street and having a high degree of transparency;
6. An interconnected street system providing greater distribution of traffic and route flexibility;
7. Vertical and horizontal integration of residential uses;
8. Public parks and open space areas within walking distance of local residents;
9. Parking integrated into buildings or placed in separate structures;
10. Minimal or no curb cuts along primary street facades, with side or rear access to parking and service functions;
11. Broad sidewalks appointed with appropriate pedestrian amenities/facilities;
12. Street design integrating safe pedestrian, bicycle, transit and vehicular use and incorporates traffic-calming features on-street parking; and
13. Consistent planting of street trees providing shade and enhance character and identity.

Urban Neighborhood

1. Buildings establishing a consistent setback from street that produces a pleasing definition to the public right-of-way (e.g., sidewalk, parkway strip, and street;
2. Building facades and entrances that directly addressing the street and have a high degree of transparency (i.e., numerous windows)(on street-fronting facades;
3. Building heights generally ranging from four to twenty-four stories for High Density;
4. Lot coverage generally not exceeding 80 percent;
5. An interconnected street system providing for traffic and route flexibility;
6. Vertical and horizontal integration of complementary nonresidential uses;
7. Off-street parking integrated into the buildings or placed in separate paring structures;
8. Minimal or no curb cuts along street fronts and facades;
9. Side or rear access to parking and service functions;
10. Broad sidewalks appointed with appropriate pedestrian amenities/facilities;
11. Street design that integrates pedestrian, bicycle, and vehicular use and incorporates traffic-calming features and on-street parking;
12. Consistent planting of street trees providing shade and enhance a character and identity; and
13. Public parks and open space areas within walking distance of local residents.

Employment Center Low Rise

1. Building heights generally ranging from one to three stories;
2. Lot coverage generally not exceeding 60 percent;
3. Building entrances oriented to the primary street frontage rather than to parking areas;
4. Sidewalks to accommodate pedestrian movement, with connecting walkways from sidewalks into individual sites;
5. Bicycle lanes along key roadways;
6. Transit stops near business park entries;
7. Location of surface parking behind or to the side of buildings rather than between primary street and primary street façade;
8. Location of outdoor storage and production yards so that they are screened from public view by buildings, fencing and/or landscaping; and
9. Easily accessible support uses.

Environmental Resources Element

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)*

Discussion

Section 15125(d) of the State CEQA Guidelines directs that "the EIR shall discuss any inconsistencies between the proposed projects and applicable general plans, specific plans, and regional plans." The discussion that follows considers potential inconsistencies of the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall with relevant policies of the Sacramento 2035 General Plan. As part of its consideration of the projects, the Sacramento City Council will make the final determination of consistency or inconsistency with the General Plan.

RSPU

The proposed RSPU would be consistent with each of the General Plan goals and policies listed above. Consistent with Policy LU 2.4.1, the 2016 Railyards Design Guidelines encourage the design of unique buildings, consistent with the Core Area Design Guidelines, in distinct districts within the RSP Area. Consistent with Policy LU 2.4.2, RSPU would ensure that design reflects the context of the transportation-oriented Depot District with landscaping that draws from the Chinese influence on the historic railroad past of the site, and the historic Central Shops and Riverfront districts would require design that draws on those unique locations. By providing for such iconic uses and structures as an MLS Stadium and a new high-rise hospital tower, the RSPU would reflect the guidance of Policy LU 2.4.4. Consistent with Policy LU 2.4.5, the RSPU would allow for multiple multi-story structures that would be of sufficient height to enhance Sacramento's skyline.

The RSPU would respond to Policy LU 2.7.3 by incorporating the bulk and massing guidance of the Core Area Design Guidelines, including provisions for separation of towers, setbacks, and step downs that provide transition to adjacent uses. Finally, consistent with Policy LU 2.7.4, 2016 RSP Design Guidelines would require high levels of transparency for ground floor uses, ranging from 60 to 80 percent for non-residential uses and between 30 and 80 percent for residential uses.

The proposed RSPU, like the 2007 RSP, provides for high-rise residential and hotel high-rise development adjacent to I-5 in the Riverfront District. Although not designed at this time, future development in this location is called for to be immediately adjacent to I-5, with tall, slender towers aimed to maximize visual connections between the Central Shops and the Riverfront. The development in this area would be consistent with Policy LU 2.7.5 by ensuring high-quality buildings that are designed to protect public plazas and open spaces, as well as interior spaces in buildings, from the noise and emissions generated by vehicles passing on I-5.

While the proposed RSPU would eliminate the requirement for mid-block alleys, and would increase the size of several blocks, including the blocks to accommodate the proposed KP Medical Center and MLS Stadium, consistent with Policy LU 2.7.6, most blocks would be similar to the block size in downtown Sacramento, and for larger blocks the provision for pedestrian through-flow would achieve the goals of walkable blocks.

Consistent with Policies LU 2.7.7 and LU 2.7.8, the proposed 2016 RSP Design Guidelines would continue to require transparency for ground floor uses and screening of ground floor parking. However, temporary surface parking would be visible from nearby streets and sidewalks. Where improved, it would be paved, landscaped and lit to City standards. In cases where temporary parking is provided on graveled lots, the lots would be fenced and roadside improvements (curb, gutter, sidewalks, etc.) would be installed.

For these reasons, the proposed RSPU would not be inconsistent with the policies of the 2035 General Plan.

KP Medical Center

Based on the illustrative plan for the site, the proposed KP Medical Center would be consistent with the General Plan goals and policies listed above, though design requirements for the buildings may not allow for the type of entrance orientation or ground-floor transparency required under Policy LU 2.7.7. Consistent with Policy LU 2.4.1, the 2016 Railyards Design Guidelines provide the framework for the design of the KP Medical Center buildings to be distinctive, include pedestrian-friendly open spaces and signage, including the Stanford Street open space corridor through the site, providing connectivity between the Central Shops District and Vista Park to the north. Consistent with Policy LU 2.4.2, the 2016 RSP Design Guidelines would ensure that the design of the KP Medical Center reflects the context of Railyards and the Sacramento region. By providing for an iconic new high-rise hospital tower of sufficient height to enhance Sacramento's skyline, the KP Medical Center would reflect the guidance of policies LU 2.4.4 and LU 2.4.5.

As described in the illustrative plan, the KP Medical Center would respond to Policy LU 2.7.3 by locating the high-rise hospital tower centrally within the project site, with buildings that would step down in height both to the west and to the west. Consistent with Policy LU 2.7.4, the KP Medical Center would include activity areas around the project site, with high levels site lighting and wayfinding, open sight lines between the hospital, medical office buildings, parking

structures, and other uses on the site. Due to the nature of hospital uses with 24-hour activity and around-the-clock shifts, there would be continual eyes on the street as employees, patients, and visitors traverse the site.

The proposed KP Medical Center would be consistent with Policy LU 2.7.6 by constructing a series of buildings within the framework of the RSP Area block structure, providing pedestrian-scaled blocks, similar to the block size in downtown Sacramento. Signage and wayfinding would be provided throughout the KP Medical Center campus, supporting and helping facilitate high levels of pedestrian flow among medical center buildings.

The proposed hospital and medical office buildings, including the Hospital Support Building (HSB), would be designed to meet the programmatic needs of the healthcare providers and functional uses required in such buildings. While, based on the illustrative plans for the site, the physical relationship of the KP Medical Center buildings would be consistent with Policy LU 2.7.7, it is possible that the ultimate design requirements for the buildings may not allow for the type of entrance orientation or ground-floor transparency required under Policy LU 2.7.7. As an example, the requirements for an emergency room entry may exclude the possibility that the hospital building would actively engage South Park Street. Similarly, the desire for a front-door drop-off may or may not provide an opportunity for a hospital main entrance that directly engages Railyards Blvd. Similarly, the needs of ground floor uses to be visually private and potentially darkened may prohibit the hospital and medical office buildings from meeting the City's standards for ground floor transparency.

The parking structures planned in the KP Medical Center would provide for screening of ground floor parking and parking levels above the ground floor that cannot be wrapped with active uses. The Phase 1 parking lot, along with one or more smaller parking areas designed to be accessible to medical services (such as emergency or maternity) would be visible, or partially visible, from nearby streets, including Railyards Boulevard and 5th Street.

The evaluation above is based on illustrative plans that have been prepared by the applicant for the purposes of this SEIR. The ultimate design of the KP Medical Center would be subject to one or more Site Plan and Design Review Permits. Based on the illustrative plans, the proposed KP Medical Center would be consistent with the policies listed above, but may be inconsistent with Policy LU 2.7.7.

MLS Stadium

The proposed MLS Stadium would be consistent with most of the General Plan goals and policies listed above. Consistent with Policy LU 2.4.1, the design of the proposed MLS Stadium would be architecturally distinctive. As noted in Chapter 2, Project Description, the entrances of the Stadium would be made of up an integrated façade and canopy structure comprised of a range of textures and materials, including metal, glass, fabric, and translucent synthetic panels while also providing open views into the seating and field areas. Distinctive lighting and signage would be included to accentuate the design of the building and provide nighttime viewing and visibility. In

addition, the proposed Stadium would include a major public open space at the west entry plaza, anticipated to be an active open space that may include retail and ticketing storefronts, retail kiosks, small-scale performance venues, seasonal events, musical and cultural events, and gardens.

Consistent with Policy LU 2.4.2, the design of the proposed MLS Stadium would reflect the context of Railyards and the Sacramento region, including a continuous canopy that would protect attendees from sun and rain. Landscaping in the plazas around the proposed Stadium would be suited to the local climate, consistent with the landscaping requirements of the Central Core Design Guidelines and CalGreen water efficiency standards. As described above and consistent with the guidance of Policy LU 2.4.4, the design of the proposed Stadium would be unique and distinctive, unlike any other sports facility in the Sacramento region, and as a major public gathering location would create a new landmark in the Central City.

The proposed MLS Stadium would respond to Policy LU 2.7.3 by locating the stadium structure in the middle of a larger site, surrounded by open plazas. The height of the Stadium structure would be comparable to the height of development on blocks to the west. Surrounding open plazas, along with roads, railroad alignments, and other opens spaces would represent a step down in height to the Alkali Flat neighborhood to the southwest, and to the River District uses to the north. Consistent with Policy LU 2.7.4, the proposed MLS Stadium would include open plazas on the west, north, and east sides of the project site.

The design requirements of the proposed MLS Stadium require that it be constructed on a 14.7 acre site that is materially larger than the traditional block-size in downtown Sacramento. While this size is not what would traditionally be considered pedestrian-scale, the visual transparency of the stadium design allowing pedestrian level views into the stadium and field level, along with the development of pedestrian plazas on three sides of the stadium maximize consistency with Policy LU 2.7.6 to the extent feasible for such sports facilities. Extensive lighting, signage, and wayfinding would be provided throughout the MLS Stadium site, supporting and helping facilitate high levels of pedestrian flow to and from the proposed stadium. Nevertheless, due to the required physical dimensions of an MLS stadium, it is not possible for the proposed Stadium to be consistent with Policy 2.7.6.

The proposed Stadium is not a type of building that would engage the street in a manner similar to building types anticipated under the Central Core Design Guidelines. Because of the sizes of crowds that would attend events, it would necessarily be surrounded by plaza areas that would be capable of safely accommodating thousands of pre- and post-event pedestrians. Nevertheless, the proposed Stadium would actively engage the pedestrian environment by being designed to be transparent at the ground level, providing open views from the plazas into the seating and field areas. The design of the stadium structure would be highly articulated and visually interesting, with the structure constructed of materials (metal, glass, fabric, and translucent synthetic panels) unlike other buildings in the region. Parking would be provided on off-site parcels, and thus

would not interfere with pedestrian engagement of the site. As such, the proposed MLS Stadium would be consistent with Policy LU 2.7.7. However, temporary surface parking that may be provided on undeveloped parcels in the RSP Area, prior to ultimate development, would be visible from nearby streets and sidewalks, and may be inconsistent with Policy LU 2.7.8.

For these reasons, the proposed RSPU would be consistent with most of the policies listed above, but may be inconsistent with Policy LU 2.7.7 and Policy LU 2.7.8.

Stormwater Outfall

The proposed Stormwater Outfall structures would be largely hidden from view, either under the elevated I-5 freeway, underground, and/or largely invisible on the Sacramento River riverbank. Thus the proposed Stormwater Outfall would not be inconsistent with any of the policies of the 2035 General Plan listed above.

Central City Community Plan

The City of Sacramento currently has ten adopted community plans that include policies and land use diagrams that pertain to the respective community plan areas. The RSP Area is located within the Central City Community Plan (CCCP) 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 2035 General Plan and are intended to supplement city-wide policies based on conditions or issues unique to the community plan area. Since adoption of the 2007 RSP, as part of the development of the 2030 General Plan program, the City reorganized, streamlined, and updated the policy content of the CCCP, and physically incorporated it into Part 3 of the General Plan.

The following policies from the CCCP are applicable to the visual characteristics of development within the RSP Area:

Land Use and Urban Design

Policies

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*)

Consistent with the CCCP policies above, implementation of the proposed RSPU would transform the existing RSP Area from undeveloped, fenced-off open land that highly disturbed as a result of extensive remediation activities, with visible piles of soil, rock and concrete, creosote soaked timbers, rusty metal industrial waste, and weeds and shrubs, to a developed mixed-use community with buildings, streets, landscaping, renovated historic structures, and other features called for in the plan. Development within the RSP Area would be required to be consistent with

the RSP Design Guidelines, which are derived from and nearly identical to the Central City Urban Design Guidelines Central Core Design Guidelines.

More specifically, the proposed KP Medical Center would be designed to be visually cohesive, with a comprehensive and consistent set of building and façade materials. It would include an on-site Central Utility Plant that would underground all utilities within the site. It would include a comprehensive system of exterior lighting for the purposes of safety, security, and nighttime visibility, and a comprehensive signage program intended to identify the presence of the medical campus to passers-by on I-5 and other major roadways, to orient drivers and others who approach the campus on the local roadways in the Railyards, and to assist patients, staff, and other visitors who are walking in and around the campus.

The proposed MLS Stadium would be a rectangular structure with rounded corners, and would include a canopy roof that would encircle the stadium. The Stadium would be comprised of a range of textures and materials, including metal, glass, fabric, and translucent synthetic panels while also providing open views into the seating and field areas. Distinctive lighting and signage would be included to accentuate the design of the building and provide nighttime viewing and visibility.

The proposed Stormwater Outfall would be constructed on a portion of the Sacramento River riverbank that is strewn with broken concrete. The key features of the Outfall would be buried, including the majority of the pump station that would be located under I-5, and the outfall pipelines that would travel under the bicycle path and be buried under the surface until the outfall structures. The proposed Outfall would not be inconsistent with any policies of the CCCP.

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 RSP Area is regulated by the Sacramento Railyards Special Planning District (SPD), which is addressed in Chapter 17.440 of the Planning and Development Code (Sacramento City Code, Title 17). The Railyards SPD establishes procedures to implement the policies, development standards, and design guidelines of the 2007 RSP.

Site Plan and Design Review

Pursuant to Chapter 17.808 of the City Code, all development in the City is subject to Site Plan and Design Review. The intent of this process is to (1) ensure that the development is consistent with applicable plans and design guidelines; (2) is high quality and compatible with surrounding development; (3) is supported by adequate circulation, utility, and related infrastructure; (4) is water and energy efficient; and (5) avoids environmental effects to the extent feasible. The aspects of design considered in the Site Plan and Design Review process include architectural design, site design, adequacy of streets and accessways for all modes of travel, energy consumption, protection of environmentally sensitive features, safety, noise, and other relevant considerations.

Through the Site Plan and Design Review process, the City has the authority to approve or require deviations from design and development standards to respond to site- and project-specific considerations. Deviations are subject to review and approval of either the City Design Director or the City Planning and Design Commission, depending on the nature of the deviation.

Site Plan and Design Review is conducted by staff, the City Design Director, or the Planning and Design Commission. The Planning and Design Commission review is required for certain large projects (more than 150 residential units or 125,000 sf for non-residential or mixed use projects), projects more than 60 feet in height, or where a deviation requires Commission. City Design Director review is required where a project is not in substantial compliance with applicable design guidelines, or requests a deviation. For projects taking place in a historic district or related to an historic landmark, Site Plan and Design Review is undertaken by the Preservation Commission or the City Preservation Director, as appropriate. All other projects not requiring review by the respective Commission or Director are reviewed by City staff.

Sacramento River Parkway Plan

The Sacramento River Parkway Plan (Parkway Plan) is a comprehensive plan for the Sacramento River Parkway adopted by the City of Sacramento in October 1997. The Parkway Plan area includes all land within 10 feet of the landside tow of the Sacramento River levee or the inland boundary of public land along the River, whichever is the most appropriate for land uses.[6] The Parkway Plan contains specific goals and policies that address recreation, trails, public access, urban development, public safety, security, natural and cultural resources, erosion, and land use.

6 City of Sacramento, 1997. *Sacramento River Parkway Plan*, October 21, 1997, p. 3.

The primary policies of the Parkway Plan that are relevant to the aesthetic character of the RSP Area are the Urban Development Policies, as noted below:[7]

Policies

D1. The City shall ensure that all developments which take place within and adjacent to the Parkway will adhere to the intent and purpose of the Parkway Concept.

D3. Commercial and residential development within the Parkway, subject to the city's planning review process, shall be designed to visually blend with and be in scale with the surrounding riverine environment. Color, texture, style, height, width, and bulk should be considered in design.

D4. Commercial, office, residential, or residential structures within the Parkway should be built so as to not obscure the view of or public access to the River. All development within or immediately adjacent shall have linear lot coverage no greater than 60%.

D5. Proposed development within the Parkway should strive to create a visually appealing landscape along the river by incorporating, to the extent feasible, native or indigenous vegetation for landscaping consistent with the City's Plant List.

D6. All commercial development within the Parkway shall incorporate amenities that enhance the public's enjoyment of the river resources. The following are examples of possible amenities:

- Public promenades
- Public areas
- Parks
- Amphitheaters for public performances
- Museums or interpretive centers
- Bicycle paths.

The portion of the Sacramento River frontage that passes through the RSP Area is designated Urban Waterfront Recreation in the Parkway Plan. Uses that are considered appropriate for this area include "development and uses that provide opportunities for public access, commercial, and recreational activities for residents, employees, and visitors along the River." Examples of activities that are planned to occur in this area include scenic viewing, bicycling, public gathering, boating, fishing, short-term boat docking, marina, restaurant, and other river-related commercial uses.

Sacramento Riverfront Master Plan

The Sacramento Riverfront Master Plan (Master Plan) is intended as a blueprint for possible future actions that may be considered discretely as opportunities and resources arise; however, it does not have a legally binding effect on future actions. The Master Plan outlines a number of strategies to realize the four guiding principles – *creating riverfront neighborhoods and districts, establishing a web of connectivity, strengthening the green backbone of the community, and making places for celebration*. With respect to the RSP Area, the Master Plan envisions the Railyards Park as a broad expanse of public open space starting from and encompassing the old Central Shops and extending all the way to the River in order to create a public connection to the

7 City of Sacramento, 1997. *Sacramento River Parkway Plan*, October 21, 1997, p. 36.

River. The following goals and proposed policies are relevant to the visual character of the riverfront area.

Goal **Treat the Sacramento River and the river's edge as a focus of the riverfront area**

Proposed Policies

- Provide a strong public open space framework that is continuous along the riverfront and connects to the neighboring districts.
- Maintain a mostly natural and semi-formal character in the riverfront open space areas.
- Give the riverfront a public, open space emphasis.
- Site housing and other adjacent mixed-uses to capture maximum orientation to the river and to the riverfront open space, as well as to parkways and streets.
- Provide visual and physical connections among neighboring districts that emphasize the river and its public open space.
- Where feasible, orient private development toward open space features and the river.

Goal **Provide for uses and amenities that complement the existing parks and visitor attractions**

Proposed Policies

- Provide for visitor and community-serving uses and amenities.

Goal **Establish the riverfront area as an active, vibrant, urban district and public precinct**

Proposed Policies

- Provide people-oriented land uses, public space, and amenities that attract people and activity
- Provide for mixed/integrated land uses
- Vary development densities, intensities, and mix of uses along the riverfront edge

Sacramento Central City Urban Design Guidelines

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 are intended to provide direction rather than impose prescriptive requirements. The City Commission or Director responsible for design review has the authority to waive individual guidelines for specific projects where it is found that such waiver will better achieve the design policy objectives than strict application of the CCUDG. Key urban design framework concepts established for the whole of the Central City include:

- The Central City Skyline. High-rise towers should add visual interest to the skyline; that high-rise towers should reflect the role of the Central Core as the regional center of culture, commerce, and government; and that care is to be given to transitions from the Central Core to adjacent neighborhoods.

- Central City Gateways. Care should be taken to enhance the design of key entries to the Central City from freeways and on Capitol Mall.

- Primate Streets and the Street Grid. Protection and enhancement of the traditional street grid to improve connectivity around the Central City, including the re-connection of the Railyards/River District via Railyards street network, and north-south streets such as 5th, 6th, 7th, and 10th streets; and design of streets so as to accommodate high traffic volumes without creating barriers to a safe, convenient, and attractive pedestrian and bicycle environment.

- Transit Streets and Transit-Oriented Development. Location of higher density transit-oriented development within one-quarter mile of transit stops, and emphasis on transit-friendly street design.

- A Pedestrian- and Bicycle-Friendly Central City. Designation and design of special streets as primary pedestrian and bicycle routes, providing connections among Central City neighborhoods and to the riverfront open space and trail system; and a focus on enhanced pedestrian environment on streets and in alleys.

- A Healthy Urban Forest. Protection and enhancement of the Central City's urban forest, maximizing shade coverage from street trees; recognition of the important role that the urban forest plays in the economic and social well-being, and sustainability, of the Central City.

- Distinctive Urban Neighborhoods and Districts. Development that enhances existing and creates new neighborhoods and districts, such as the Railyards; high quality design that enhances the public realm and responds to the physical, historical and cultural context.

- Preserving Historic Resources. Recognition of the importance of the Central City's historic resources; protection of historic resources and features, and integration into new development; new development that positively responds and relates to the historic character of the Central City.

- Parks and Open Space. Enhancement of existing and provision of new parks to serve existing and future residents of the Central City; public streets as greenways that connect Central City neighborhoods to the riverfront and other major parks; provision of private open space and recreation facilities in high density residential projects; developing parks, trails, and other recreational amenities consistent with flood protection; balance in uses between public spaces and private development along the American and Sacramento River Corridors.

- Creating a Complete, Well-served Community. Plan for new accessible parks, schools, community centers, fire stations and other public facilities, as well as neighborhood retail and services, to meet the needs of the future residential population in the Central City.

- Active Streetscapes and Sidewalk Cafes. Design streets and alleys and adjacent development to promote active use, including sidewalk cafes.

- The Retail Environment. Promote retail development by requiring minimum retail frontages, identifying retail streets, and requiring ground-floor transparency to promote window-shopping.

- A Well-defined Public Realm. Continuity of street-wall, with consistent setbacks and build-to lines that define the pedestrian realm for retail and commercial streets, and reflect the historic character for institutional and residential uses.

Sacramento Central City Urban Design Guidelines – Railyards Design Guidelines

The 2007 Railyards Specific Plan contains design guidelines for future development. These guidelines have been incorporated as part of the CCUDG. The 2007 Railyards Design Guidelines (2007 RDG) were developed to work cohesively with the Railyards Specific Plan, the Railyards Special Planning District (SPD) and the Central Shops Historic District. The organization and format of the 2007 RDG was derived directly from the CCUDGP, and relevant guidelines from the CCUDGP were incorporated into the 2007 RDG.

The 2007 RDG are intended to provide design guidance, but do not establish prescriptive requirements. The 2007 RDG anticipate that the Design Director or Preservation Director will provide recommendations to the Planning Director regarding RDG compliance for specific projects, and the Planning Director has the authority to interpret the 2007 RDG for specific projects and to condition approval of the project's design to ensure compliance.

The CCUDG include guidelines specifically developed for the RSP Area. The 2007 RDG are organized in five primary chapters:

- Railyards Framework articulates the overall vision for the physical form and character of the Railyards area and the five districts that make up this area.

- Public Realm guidelines address the design of key components such as streets, sidewalks, and parks that comprise the public realm.

- Private Realm guidelines address the design of key components that comprise the private realm, including the placement of buildings, the design of buildings, and the treatment of off-street parking.

- Historic Resources guidelines provides direction for rehabilitation of existing historic buildings and resources, as well as construction of new structures within the Central Shops Historic District.

- Signage guidelines address all signage in the Railyards, from public realm signage such as wayfinding and street signage to private realm signage such as storefront signage and tenant signage.

The RDG are based on the following major framework concepts:

The Railyards Street Pattern

The RSP Area street pattern reflects that the Railyards is a part of the City where the street grid bends and rises to accommodate the presence of the UPRR tracks, the Central Shops, I-5, the Sacramento River, and other historic uses and features. Due to the presence of the UPRR tracks, only a limited number of RSP Area streets (5^{th}, 6^{th}, 7^{th} streets) would connect to the original Sutter street grid. Those same streets as well as Jibboom Street, Bercut Drive, and 8^{th} and 10^{th} streets would connect to the River District street system. Southbound 12^{th} Street would connect to Railyards Boulevard with a one-way slip lane. As proposed, the RSP Area street patterns would create distinctly shaped blocks that generally would be larger than blocks in the existing grid.

Railyards Districts

The Railyards is planned to include a variety of uses across five districts, each with its own identity and character, similar to the distinct neighborhoods and districts elsewhere in the Central City, The Railyards districts are intended to reflect the existing context of each area, compliment adjacent neighborhood uses and scale, integrate key historic elements and accommodate new activities that are appropriate to each district. The key visual concepts for each district is described below.

- *Depot District*: The historic Southern Pacific Railroad Sacramento Depot building (Sacramento Valley Station) is to serve as the focal point of the district, with dense development with continuous building frontages that have an engaging presence at street level, and that allow for the extension of the downtown grid.

- *Central Shops District*: Adaptive reuse of eight historic railyard buildings from the original Central Pacific Railroad Yard, and the adjacent plazas and open hardscaped areas, is intended to provide reclaim and celebrate its history.

- *West End District*: A pedestrian-oriented network of entertainment, cultural, and retail activities and uses, with a series of interconnected plazas, alleys and sidewalks landscaping elements and pedestrian amenities, that extends the city's existing urban fabric along 5^{th} and 6^{th} streets. New buildings along Camille Lane are to relate architecturally to existing historic structures in the Central Shops District in terms of style, scale and materials.

- *East End District*: Extends the pedestrian-scaled downtown grid to establish a new residential neighborhood, with fine-grained and diverse residential building frontages, that reflects Sacramento's traditional open space-oriented neighborhoods. The district includes a linear urban park running the length of the neighborhood, with ground floor neighborhood-serving uses facing onto the park.

- *Riverfront District*: Development and open space defined by the district's natural elements, creating spectacular views of the River corridor, while ensuring visual and physical access to the waterfront for the surrounding area. Building bases are intended to be carefully designed and landscaped to maintain the park-like quality of their surroundings.

The 2007 RDG establish that the design of the public realm is critical in establishing the visual context and overall character of the RSP Area, and contributes to the perceived unity, quality, and identity of the Railyards as a unique place. The RDP Public Realm Guidelines provide design guidance related to the Travelway Zone, the Pedestrian Zone, and Public Parks and Open Space. Guidelines for the Travelway Zone address Street Typology and Specific Street Design (Railyards Blvd, 5th, 6th, and 7th streets, Camille Lane, Minor Streets, and Alleys). Pedestrian Zone guidelines address Public Sidewalks, Street Furnishings and Amenities, Transit, Landscape, Street Lighting, and Public Art. Guidelines for Public Parks and Open Space establish the design intent and specific guidelines for the four public open spaces in the Central Shops District (Roundhouse Plaza, Powerhouse Court, Market Plaza, and Museum Park), Riverfront Park, 5th Street Steps, Hopkins Walk, Vista Park, Box Cars Station, Box Car Parks, Interpretive Walk, 5th Street Bridge Overlook, and Chinese Garden.

The 2007 RDG Private Realm Guidelines address Key Sites, Railyards Districts, Building Types, Site Planning, Massing and Building Configuration, and Parking and Vehicle Access. They provide design guidance related to height, building mass, architectural style, building materials and other design characteristics of buildings in the RSP 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 Uses*: 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.

- *Street-wall Articulation*: The street-walls defining urban blocks shall be articulated to create rhythm and variety, achieving a fine-grained pattern to the urban fabric.

- *Fenestration: Window and Facade Systems and Patterns*: Windows should 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.

- *Canopies, Awnings and Sunshades*: Canopies, awnings and sunshade shall be used to provide shade and cover for people and buildings, contributing to comfort and sustainability.

- *Projecting Elements and Encroachments*: 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.

- *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.

Proposed RSPU Design Guidelines

The proposed RSPU includes updates to the 2007 RDG, which were previously incorporated into the Central City Urban Design Guidelines (CCUDG). Implementation of the proposed RSPU would replace the existing guidelines with a new set of Sacramento Railyards Design Guidelines, discussed further in the Impacts section, below. The key changes proposed are to incorporate and bring the RDG into greater conformance with applicable guidance from the CCUDG Central Core Design Guidelines. Extensive sections of the 2007 RDG would be replaced by correlative sections of the Central Core Guidelines. In most cases, the guidelines being replaced are essentially identical in the two documents. Cases where material changes to the 2007 RDG have been proposed are described further below.

Public Realm Guidelines

Key changes proposed for the Public Realm Guidelines include:

- The addition of design guidelines for North B Street between 7th and 10th streets, identify four travel lanes, a center turn lane, and 6-foot Class II bike lanes on each side of the street, along with separated sidewalks, landscaped parkways with street trees on both sides of the street. North B Street between 5th and 7th streets would be two travel lanes, a center turn lane, and a 6-foot Class II bike lanes on each side of the street. Sidewalks on North B Street would be 16-feet on both sides of the street from 5th to 7th, and on the south side of the

street between 7th and 8th Street. All other sidewalks on North B Street would be 5.5 to 6 feet in width.

- A change in the RSP Area's "Main Street" from Camille Lane to Stanford Street, with Camille Lane becoming a primary pedestrian-focused connection between the Riverfront and West End Districts.

- Where alleys in the commercial districts or residential are provided, they are to designed consistent with Section B.1 of the Central Core Design Guidelines.

- The 2007 RSPDG for public sidewalks would be replaced by the sidewalk design guidelines provided in Chapter 3, Section C of the Central Core Design Guidelines, with most sidewalks in the RSP Area would be 16 feet wide, except at locations that are existing, constrained by right-of-way, and/or recently constructed with narrower sidewalks;

- Elimination of most of the guidelines for street furnishings and amenities.

    - Landscape guidelines are referred to in Section D of the Central Core Design Guidelines, with the exception of a limited number of street tree guidelines which continue to require that street trees are 10 feet from building facades and 15 feet from street lights.

    - Street lighting guidelines would be removed. Street lighting referred to section C.3.d of the Central Core Design Guidelines, with the exception of limitation of street lights on pedestrian streets to 15 feet in height, and 30 feet in height on larger streets.

    - Small public places guidelines would be removed and replaced with the small public places guidelines for the Central Core Area provided in Chapter 3, Section E of the Central Core Design Guidelines; and

    - Public art guidelines would be removed and replaced with the public art guidelines for the Central Core Area provided in Chapter 3, Section F of the Central Core Design Guidelines.

- Parks and open space guidelines revisions, include changes to the following requirements:

    - Elimination of paving, site furniture, and light fixtures in Roundhouse Plaza be similar to those used in the Central Shops historic buildings;

    - Museum Park is refined to be Museum Plaza, with the addition of design features that commemorate the historic track alignment into the street pavement, street furniture, signage, etc.;

    - Elimination of the requirement that the 5th Street Steps use the same paving, planting, and site furnishings used along 5th Street;

- Hopkins Walk would be reconfigured to be a connection between Stanford Street and Vista Park;
- Addition of a requirement that Vista Park have active play areas that can be used for various sports activities; and
- Elimination of the 5th Street Bridge Overlook that was to provide 30-foot wide viewing platforms (note that the 5th Street Bridge was constructed with 12-16-foot wide sidewalks on the west side, and shade structures to facilitate viewing of the Central Shops, the Depot District, downtown Sacramento, and other points to the west).

- Parks and open space guidelines also include replacement of guidelines for the "Box Car Parks" included in the 2007 RSP with guidelines for East End Neighborhood Parks oriented around the intersection of 6th/South Park streets, and a greenway that follows the alignment of South Park Street between 7th and 8th streets. The East End Neighborhood Parks are encouraged to include amenities for young children and families, including tot lots and adventure play areas.

- Parks and open space guidelines would also eliminate the requirement for a Chinese Garden in exchange for requirements that a Chinese landscape theme be included in the design of landscape and open spaces in the Depot District.

Private Realm Guidelines

Key changes proposed for the Private Realm Guidelines include:

- In the Depot District, a change to allow mid-rise as well as high-rise commercial mixed use buildings;

- In the West End District, elimination of residential/commercial mixed use low rise buildings as the primary building type on 7th Street near the Alkali Flat neighborhood, a change to allow mid-rise as well as high-rise commercial mixed use buildings, and the addition of health care and hospital buildings as a building type;

- In the East End District, elimination of a requirement for mid-block alleys on all blocks, and of requirements for buildings to step down to adjacent parks. Buildings would be limited to a maximum of 320-foot frontage, with alleys or lanes used to break up the building mass. Building types would be changed to eliminate low-rise residential mixed-use buildings, to add commercial mixed-use mid-rise and high-rise buildings, to allow residential mixed use buildings near Vista Park to include ground-floor neighborhood serving businesses and services rather than strictly retail uses, and to provide for residential mixed use high-rise buildings along the 7th Street corridor rather than along the northern

and southern edges of the District. In addition, soccer stadium is identified as a building type allowable in the District;

- In low-rise (5 stories or less), mid-rise (6-8 stories), and high-rise residential buildings, a strict requirement for the facades of ground floor uses to be 75% transparent and activated;

- In high-rise residential buildings, above an street-wall, maximum average floor plates would be raised from 7,500 square feet (sf) to 10,000 sf, and other massing and building configuration requirements (e.g., maximum plan and diagonal dimensions) would be eliminated;

- In hospital high-rise buildings, the maximum average tower floor plate would be set at 50,000 sf;

- In commercial high-rise buildings, street-wall heights ranging from 65 feet in most of the RSP Area, with 85 feet along Railyards Boulevard and up to 125 feet on portions of the H zoned block along Bercut Drive and South Park Street west of Hopkins Walk, would be allowed prior to application of bulk controls, compared to 60 to 85 feet in the 2007 RSPDG;

- 2007 RSPDG site planning guidelines for build-to lines and setbacks, tree setbacks, lot coverage, open space, small public spaces, landscaping, project size and building type, and service areas and access would be replaced with the relevant portions of the Central Core Design Guidelines;

- 2007 RSPDG massing and building configuration guidelines for street-wall and building base height, massing and bulk controls, facades, rooftops and mechanical penthouse enclosures, development along alleys, sustainability, and public and private art would be replaced with relevant portions of the Central Core Design Guidelines, with the following key exceptions:

    - Maximum street-wall heights that were previously 60 to 85 feet would be changed to 65 feet, except on Railyards Boulevard where the maximum street-wall height would remain at 85 feet, and around the H Zone parcels would be 85 feet along Railyards Boulevard; 125 feet along Bercut Drive, and along South Park Street from Bercut Drive to Hopkins Walk; and 65 feet along 5th Street, and along South Park Street from Hopkins Walk to 5th Street; and

    - 2007 RSPDG bulk controls would be replaced with the bulk controls included in Central Core Design Guidelines, Chapter 4, Section D.3;

- 2007 RSPDG parking and vehicle access guidelines for location and configuration, and bicycle parking would be replaced with relevant portions of the Central Core Design Guidelines, with the following key exceptions:

- The 2007 RSPDG guideline that required ground floor parking to be wrapped with an active street front use would be amended to also allow ground floor parking to not be exposed to the street through design and architectural treatments; and
- On limited sites approved by the City, specific design requirements for surface parking (such as requirements for landscaping, sustainable stormwater management, and screening, and prohibition on chain link fencing) would be eliminated and replaced with a guideline reflecting that surface parking is allowed as an interim use prior to development of such undeveloped parcels.

Historic Resources

The following revisions to the Historic Resources chapter of the 2007 RSPDG are proposed:

- It would be clarified that Transition Zone Guideline 1, which requires that new buildings be placed a minimum of 20 feet from an historic structure, does not apply to additions to existing buildings; and
- The requirement that new buildings in the Transition Zone be "slender or modulated" would be eliminated, but the requirement that such buildings be designed to allow intermittent views from the Central Shops to I-5, Camille Lane, and 5th Street would remain.

Signage

The following revisions to the Signage chapter of the 2007 RSPDG are proposed:

- A requirement is added for a master sign program that reflects the character of each district; and
- In the Central Shops District, provision would be made for tenant signage on walls, in addition to the prior allowed signs on door openings, painted on glass, or on free-standing poles/structures.

Building Heights

The 2007 RSP established no building height limits for most of the RSP Area. There were specific building height limits in the East End District, north and south of the Box Car Parks; in the Transition Zone around the Central Shops Historic District, and in the Riverfront District between I-5 and the Sacramento River. The height limits proposed in the RSPU are shown on Figure 2-8, Building Height Limits. The primary changes in the height limits in the proposed RSPU respond to the reconfiguration of parks and open space in the East End District, and the configuration of the Central Shops Historic District and realignment of Camille Lane. The following are proposed changes to the 2007 RSP Building Height Limits:

- Elimination of 120-foot limits covering the half block south of South Park Street and the half block north of the prior North Park Street, from 7th to 10th streets. This would be replaced with 250-foot limits in the R-5 SPD zone, and unrestricted height on the blocks east of 7th Street;

- Reduction in the height limit on Parcel 22, between Car Shop #3 and the Paint Shop building, from 67 feet to 24 feet;

- Reduction in the height limit on Parcel 23, immediately south of Car Shop #3, in the Central Shops, from 78 feet to 24 feet;

- Reconfiguring Parcel 18 and reducing the 67-foot building height limit to 40 feet, in the Transition Zone east of the Central Shops;

- Increasing the limit from 67 feet to 100 feet on the area identified as Block 8, south of Camille Lane and west of the Roundhouse, in the Transition Zone;

- Decreasing the height limit from unrestricted to 120 feet on Blocks 49, 50 and 51;

- Increasing the height limit on the eastern side of Block 46 (facing 7th Street) from 85 feet with a 35-foot street-wall, to 120 feet with a 65 foot street-wall;

- Decreasing the height limit for any structures built on the Vista Park block (Block 72) from unrestricted to 35 feet; and

- Changing the height limits on the southern building footprint of Parcel 35 in the Riverfront District. The change would be from a 450-foot height limit, with a required building base height of 85 feet, and then a step down to 35 feet within 100 feet of the riverbank, to a height limit of 450 feet with a stepdown toward the River, and a 65-foot street-wall to the property line.

4.1.3 Analysis, Impacts, and Mitigation

Significance Criteria

Consistent with the standards of significance considered in the 2007 RSP EIR, a significant impact on aesthetics and visual resources would occur if:

- The project has a demonstrable negative aesthetic effect;

- The project casts glare in such a way as to cause a public hazard or annoyance for a sustained period of time; or

- The project casts light onto oncoming traffic or nearby residential uses.

For the purposes of this SEIR, a demonstrable negative aesthetic effect is defined as follows:

- An obstruction of public views of scenic resources or a scenic vista, such as the riverfront, that degrades the visual unity of the aesthetic resource;

- The project is located on a visually prominent site and, due to its height, bulk, architecture, or signage, would be in such contrast to the surrounding development or environment that it would degrade the visual unity of the area; or

- The project would result in the introduction of an architectural feature, building mass, or height that clearly conflicts with the character of adjacent buildings.

These significance criteria are the same as those used in the 2007 RSP EIR.

Methodology and Assumptions

Consistent with the methods used in the 2007 RSP EIR, the analysis of aesthetics is a qualitative analysis that compares the existing built and natural environment to the future built and natural environment. Key view corridors were examined, and existing views to and from the site were compared to those that would be expected to occur in the future. In addition, the project elements were evaluated in the context of adopted City urban design policies and regulations.

The aesthetic characteristics of future development under the proposed RSPU were assessed based on the provisions of the development standards included in the proposed Railyards SPD, as well as the provisions of the proposed Railyards Design Guidelines. The aesthetic characteristics of the proposed KP Medical Center were based on the illustrative plans for the proposed site provided by the project applicant. In the case of future development under the proposed RSPU, including the proposed KP Medical Center, the ultimate designs of future development in the RSP Area would be determined through the City's Site Plan and Design Review permit process which would be based on specific project architectural and engineering design.

Because Site Plan and Design Review for the proposed MLS Stadium and the Stormwater Outfall is anticipated to be concurrent with the City's consideration of SEIR certification and other project entitlement and approvals related to the RSPU, specific project designs for the MLS Stadium and the Stormwater Outfall are included in Chapter 2, Project Description, and form the basis of the evaluation of aesthetics, light and glare addressed in this section.

Impacts and Mitigation Measures

Impact 4.1-1: The implementation of the RSPU, including the potential development of large-floor plate and high-rise buildings in the RSP Area east of I-5, could alter public views.

2007 RSP EIR Impact 6.13-1(pages 6.13-23 to 6.13-25 of the RSP DEIR) noted that the 2007 RSP would establish five distinct districts that would contain varying mixtures of building heights and aesthetic characteristics that would visually create an "urban village" in downtown Sacramento. New structures would range in height from one or two-stories, up to 35 or more stories, effectively extending the visual continuity of the western boundaries of downtown Sacramento towards the north, contributing to a more prominent and distinctive skyline with planar changes that would create visual interest in the area.

2007 RSP EIR Impact 6.13-1 acknowledged "the existing limited views of the site that do exist would be significantly altered with introduction of new development. Views of the project site from the I-5 would be altered most, as the project area as a whole is most visible when travelling north and south along this route." It was explained that the "existing downtown skyline of varying building forms and heights would be extended to the north by the new development [in the RSP Area], and would not degrade views from adjacent roadways or uses. Under the Specific Plan, the new design guidelines are intended to create a unified identity within the RSP Area, with buildings that are compatible in scale, design, character, quality, and style. While some portions of the project site are more visually prominent than others due to location of streets and existing view corridors, policies of the [2007 RSP] would require that new structures utilize building materials that are complimentary to the existing downtown character."

The particular policies that were identified as ensuring that future development would complement existing uses included the following:

Policies

CC-2.1 Ensure that the form and massing of buildings contribute to the creation of a cohesive urban fabric that:

- Extends the pattern of downtown Sacramento
- Complements the historic Central Shops and Depot complex
- Reinforces the civic scale and role of the 7th Street corridor
- Transitions in scale to the surrounding areas

CC-2.2 Ensure that the form, height, and treatment of buildings reinforce the prominence and role of major urban spaces and streets.

CC-2.3 Ensure an appropriate scale transition to the Alkali Flat neighborhood.

CC-2.4 Ensure that any new buildings in the Central Shops district or extensions to existing buildings in the district respect the scale, design, and character of existing historic structures.

CC-2.5 Ensure an appropriate scale transition between the Central Shops and new districts adjacent to the Central Shops district.

With implementation of these policies, it was determined that "the height, bulk, architecture, and/or signage would not be in vivid contrast to the visual character and scale of development in the nearby downtown area, and would not degrade the visual unity of the area."

Impact 6.13-1 found that the visual characteristics of the RSP Area would be altered as a result of implementation of the 2007 RSP, but concluded that "it would visually enhance an unattractive area and improve conditions on the project site, particularly by redeveloping the deteriorated historic buildings. Project implementation would also create contiguous landscaped pedestrian areas throughout the site that would be connected with the Sacramento River waterfront; thus creating a visual relationship from downtown Sacramento to the Sacramento River through the Railyards project area."

Impact 6.13-1 concluded that despite the modification of the RSP Area compared to existing conditions, "the proposed project would not degrade the visual character or quality of the site and its surrounding. Rather, development consistent with the (2007 RSP) would contribute to the visual character and interest of downtown Sacramento, and would improve the visual quality of the downtown area. As such, development under the (2007 RSP) would not degrade the existing visual quality of the area or obstruct key existing views and/or vistas in the vicinity." The impact was therefore determined to be less than significant.

Railyards Specific Plan Update

As described for the 2007 RSP, the proposed RSPU would change the visual character of the RSP Area from an undeveloped former industrial area to a highly urbanized set of five distinct districts comparable in visual character to Sacramento's CBD and immediately surrounding neighborhoods, developed around the visually prominent Central Shops buildings. As acknowledged in the 2007 RSP EIR, views of the RSP Area east of I-5 would be substantially changed, particularly from locations that afford prominent views into the Railyards, such as from the elevated I-5 freeway, and views east and west from 7th Street that traverses the RSP Area. The policies of the RSPU relevant to visual character and aesthetics of future development would be identical to those that were included in the 2007 RSP, including policies CC-2.1 through CC-2.5. As with the 2007 RSP, the proposed RSPU would include adoption of an updated set of Railyards Design Guidelines that are intended to create a unified identity within the RSP Area, with buildings that are compatible in scale, design, character, quality and style. The updated Railyards SPD provides for Site Plan and Design Review and/or Preservation Review for all future development within the RSP Area.

Since certification of the 2007 RSP EIR, the City has adopted an updated General Plan. The 2030 General Plan was a comprehensive update of the City's General Plan, which had last been comprehensively updated in 1988. In 2015, the City adopted the 2035 General Plan, a technical update to the 2030 General Plan. In adopting the newer versions the General Plan, the City included considerable attention to urban form and visual resources, including policies LU 2.2.1, LU 2.2.3, LU 2.3.2, which emphasize the importance of visual access to the Sacramento River,

and the importance of ensuring that future development respects the scale, design and intensity of development.

Building Height and Massing/Block Sizes and Configuration

There would, however, be visual differences between the proposed RSPU and what was anticipated under the 2007 RSP. Like the 2007 RSP, the proposed RSPU would allow for development in the area east of I-5 that could range from 1-2 stories up to 35 or more stories. While such a range of building heights would be allowable, the changes to the private realm design guidelines would support the applicant's current expectation that buildings in the Railyards would tend to be mid-rise (5-10 stories). Those changes include the creation of larger blocks compared to the 2007 RSP, provisions for larger maximum average floor plates in residential buildings (increasing from 7,500 sf to 10,000 sf in residential high-rises) and modest increases in street-wall height in large portions of the RSP Area (increasing from a range of 60 to 85 feet to a range of 65, 85 feet and up to 125 feet). The combined effect of these changes would allow the achievement of the land use intensities in larger, lower buildings that anticipated under the 2007 RSP.

As noted above, the proposed RSPU would create blocks of a variety of sizes. South of the RSP Area and the UPRR tracks, Sacramento's Central City is made up of a grid street system that creates a standardized block size of approximately 2.8 acres, or 320 feet by 340 feet (back-of-sidewalk to back-of-sidewalk, including the mid-block alley). In the Central City, this standardized block arrangement is interrupted by several "super blocks" where streets have been abandoned and two block combined to create blocks of approximately five acres that are approximately 800 feet long (examples include the Governor's Square housing development, the CalPERS headquarters buildings, the Sacramento Bee headquarters, and Sutter's Fort). Larger 10-acre "super blocks" have been assembled with four blocks to accommodate the development of the former Downtown Plaza (made up of two 10-acre super blocks bisected by 5th Street), the Sacramento Commons housing development, and the Sacramento Convention Center.

The configuration of the RSP Area, along with numerous physical features such as the UPRR tracks, the Central Shops, the northern embankment, I-5, and the Sacramento River, does not allow for the simple extension of the Central City grid into the RSP Area. The street system in the 2007 RSP was designed to create a grid system of approximately 400 foot blocks, although the unique features of the resulted in blocks of a variety of shapes and sizes. The proposed RSPU is constrained by the same physical features, but is also designed to accommodate the proposed KP Medical Center site (approximately 17.8 acres) and the proposed MLS Stadium site (approximately 14.7 acres). Along with those development sites, the proposed street system would create a wider array of block sizes than the 2007 RSP, with some blocks as large as approximately 600 feet by 300 feet.

The construction of fewer high-rise buildings, and more large floor plate, mid-rise buildings, in the RSP Area on blocks of varying sizes, would tend to decrease visual sense that the RSP would

be an extension of the CBD, and instead it would visually appear distinct, as a transition both in terms of height, scale and massing between the CBD and the lower density River District. Like the 2007 RSP, the RSPU would change the visual character of the RSP Area from an undeveloped and visually blighted area adjacent to downtown Sacramento, to an urbanized extension of the urbanized Central City. These effects would be **less than significant**.

Street-wall Height and Neighborhood Transition

The proposed RSPU would provide for maximum street-wall heights on the majority of streets in the Depot (except on 7th Street between F Street and the UPRR tracks), East End, West End, and Riverfront Districts of 65 feet, an increase of five (5) feet over the maximum street-wall in these districts in the 2007 RSP. Exceptions to the 65-foot street-wall height limit would be along Railyards Boulevard where the limit would be 85 feet, and on the H zoned blocks along Bercut and South Park Street west of Hopkins Walk, where the maximum street-wall height would be 125 feet. The maximum street-wall height in the Central Shops Historic District would remain to be the tops of the historic Central Shops buildings with new buildings limited to 24 feet in height.

Street-wall height is viewed in the context of the travelway width. As an example, where street-wall height is substantially less than the width of the road right-of-way, the visual character is one of openness, where sunlight is accessible, views to the sky are more expansive, and the visual character of the streetscape is more "pedestrian scale." When street-wall height is materially higher than the width of the travelway, a tunnel effect can be created, where the sky is only accessible above, sunlight is more limited (especially in winter), and the character of the street is less in scale with pedestrians.

As proposed, the rights-of-way for major streets in the Depot, West End, and East End districts range from approximately 103 feet for Railyards Blvd. in the West End District to about 80 feet for other major streets. Camille Lane would be have a right-of-way of 80 feet between Bercut Drive and 5th Street, and 90 feet between 5th and 6th streets. Fifth and Sixth streets would have rights-of-way of 80 feet, except where crossing the UPRR tracks. Seventh Street would have a right-of-way of 80 to 100 feet between F Street and the UPRR tracks, 56 feet under the tracks, 44 feet between the tracks and Railyards Boulevard, 160 feet between Railyards Boulevard and South Park Street, and 103 feet from South Park Street to North B Street. In the R-5 area of the East End District, Judah Street would have a right-of-way of 76 feet and South Park Street would have a right-of-way of 90 feet. Thus, a 65-foot street-wall would range from about 83% of the Railyards Blvd. street width to about 100% of the street width for a minor street such as Judah Street. The 2007 RSP and the proposed RSPU would have very comparable street-wall to street-width relationships.

In the Depot District, on the east side of 7th Street, between F Street and the UPRR tracks, there are a mixture of one story office buildings, and two story residences and historic homes that have been converted to office use. South of F Street on the east side of 7th Street is a six-story parking structure and multi-story office building (approximately 50 feet in height). Under the 2007 RSP,

the properties on Block 46, on the west side of 7th Street between F Street and the UPRR tracks would be limited to 85-feet in height with a maximum 35-foot street-wall. This would effectively create a step down from the unrestricted heights allowed on the parcels facing 6th Street, or on those facing 7th Street south of F Street. Under the proposed RSPU, the overall height of structures built on Block 46, facing 7th Street between F Street and the UPRR tracks, would increase to 120 feet or less, and the required step down from the RSP Area to the adjacent Alkali Flat neighborhood would be changed as a result of an increase in the maximum street-wall height from 35 feet to 65 feet. This change could reduce sun access, increase afternoon shadows, and create visual continuity with the existing five to six story buildings along 7th Street south of F Street.

Notwithstanding the changes in the street-wall heights and building massing described above, the proposed RSPU would continue to change the visual character from a large vacant area to an urbanized extension of the Central City. Views to and from the project site would, for the most part, not be materially affected or would be improved. As noted above, however, the proposed street-wall height on Block 46 on the west side of 7th Street between F Street and the UPRR tracks would adversely affect the visual character of this portion of the corridor by reducing views to the west toward the Central Shops, sky access, and sunlight to residential and office uses on the east side of 7th Street. This would be considered a **significant** impact.

Grading and Topographic Changes

Under existing conditions, the project site is relatively flat, with extensive elevation changes that are a result of extensive past grading to accommodate railroad activities, as well as extensive soil movement, including excavation and stockpiling, as part of remediation activities undertaken over the last 25 years. The proposed RSPU would result in substantial grading activities along with import of fill to result in a relatively flat topography that would gently slope from east to west. As part of the site grading, the embankment that forms the northern edge of the East End District would be lowered. Finished lots facing along North B Street would be about 4 to 5 feet above grade, and streets would be graded to an elevation consistent with the North B Street elevation (see Figure 2-16, Berm Elevation Exhibit).

The changes to the topography and finished grades in most of the RSP Area would be largely unremarkable, with stockpiles removed or graded smooth, and depressions filled to create a designed gradient. However, the lowering of the northern embankment and the development of urban uses along North B Street would change the visual character of this street from an undeveloped edge to and urban street. The vegetated embankments on the south side of North B Street would be replaced by residential and non-residential building frontages. The visual level of activity along North B Street, including pedestrian flows as well as bicycle and vehicle activity, would substantially increase with substantial numbers of homes and/or apartments, storefronts, and other urban uses. Development along this edge would create a cohesive visual edge and transition to the River District, compared to the existing vegetated embankment that forms a

visual blockage and perceived barrier between the RSP Area and the River District. This impact is considered **less than significant**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the visual effects of the development that would occur on the KP Medical Center and MLS Stadium blocks would be of similar character as that described for other parts of the West End and East End districts.

The RSPU Land Use Variant would include the same proposed increase in street-wall height on Block 46, along 7th Street between F Street and the UPRR tracks as described above for the proposed RSPU. For the same reasons articulated above, this would be considered a **significant** impact.

KP Medical Center

As is described in Chapter 2, Project Description, illustrative plans the KP Medical Center include a hospital with a three- to four-level base (approximately 42 to 60 feet above grade) that would feature the hospital entry on the west and the three-level emergency room and related facilities on the north, and a main hospital tower that would rise to 14 stories in the center of the block, to a maximum height of approximately 230 feet. The hospital tower would be clad in metal with approximately 30% glazing using dual-pane, low-E glass. The hospital would be surrounded on the south and east by the three- to four-level, 42 to 60-foot high HSB, which would face Railyards Blvd. The HSB would be clad in pre-cast and metal, with approximately 38% glazing using dual-pane, low-E glass. Based on the illustrative site plans, the hospital building and tower would be centrally situated on the portion of the 17.8-acre site, generally between the alignment of Huntington Street and Hopkins Walk.

Based on the illustrative plans, to the west of the hospital, the most prominent feature of the KP Medical Center would be the Phase 1 Parking Structure, which would rise seven (7) floors, approximately 70 feet, above the intersection of Bercut Drive and Railyards Blvd. To the east of the hospital, during Phase 1 would be a surface parking lot that would cover the majority of the block bounded by Railyards Blvd., 5th Street, the Hopkins Walk greenway, and South Park Street. In addition, small parking areas would be provided around the hospital building for patients with urgent access needs (e.g., emergency, maternity) and for short-term parking for patient drop-off and pick-up. As described in the RSPU Design Guidelines, the surface parking lot would be fully improved, with landscaping, lighting, signage, and streetfront improvements. These parking lots would be visible from nearby streets and sidewalks, especially the proposed Phase 1 Parking Lot near the intersection of Railyards Boulevard and 5th Street. The smaller parking areas on the site may be partially or fully screened by buildings and landscaping.

During Phase 2, the Phase 1 parking lot would be redeveloped to include two medical office buildings, and a Phase 2 Parking Structure. The Phase 2 Parking Structure would be 8 floors above grade, and approximately 85 feet in height. The specific design and materials of the

parking structures and surface parking lots would be determined through the City's Site Plan and Design Review permit process.

The Phase 2 medical office buildings would be on the south and east sides of the site, along Railyards Blvd. and the Stanford Street greenway, respectively, and would each be approximately six (6) floors, and 150 feet in height, with facades of pre-cast and metal, with 37.5% glazing of dual-pane, low-E glass.

At the northeast corner of the site, near the intersection of Bercut Drive and South Park Street, the KP Medical Center would include a 1 to 2-story Central Utility Plant. Immediately to the east of the CUP may be a surface helistop, which would be connected with pathways to the emergency entrance to the hospital. The ground-level helistop would be paved asphalt and fenced for safety purposes. Alternatively, the helistop may be placed on the top of the hospital tower.

As described above for the RSPU, the KP Medical Center would alter current views of the site from undeveloped land to a developed multiple building medical campus. The hospital tower would be prominently visible from nearby streets and highways, including the elevated section of I-5, Railyards Blvd., the 5th and 6th Street overpasses, Bercut Drive, North B Street, and other locations in the River District. Because of the presence of the elevated section of I-5, which near the site is located on a solid earthen embankment, the hospital tower would be unlikely to be materially visible from the Sacramento River, nearly 1,000 feet to the west. As such, there are no existing views or vistas that would be altered or obstructed as a result of construction of the proposed KP Medical Center.

The KP Medical Center would have a comprehensive signage program, including landmark signage on the top level of the hospital tower. These landmark signs would be installed on the west and south sides of the tower, and would include six-foot illuminated letters spelling out "Kaiser Permanente" in Kaiser's distinctive blue color scheme. Additional prominent signage would include a monument Welcome sign located at the corner of 5th and Railyards Blvd.; this sign would be 9-feet, three inches high, with a 20-foot marker pylon. Additional 20-foot marker signs (denoting Emergency, Hospital, Parking, Medical Offices) would be located at prominent locations around the perimeter of the site to assist in wayfinding.

The buildings and associated signage that would comprise the KP Medical Center would visually enhance a currently highly visible, barren and unattractive area. The urban uses in the KP Medical Center would be designed to be consistent with the proposed RSPU Design Guidelines, themselves largely identical to the Central Core Design Guidelines, and would be subject to detailed Site Plan and Design Review by the Planning and Design Commission prior to final approval. Thus, the development of the KP Medical Center would replace the existing conditions with development visual consistent and cohesive with the existing Sacramento CBD, and, therefore, would improve conditions on the project site.

The proposed KP Medical Center would not degrade the visual quality or character of the site and its surrounding. Rather, development consistent with the illustrative site plans would contribute to the visual character and interest of downtown Sacramento, and would improve the visual quality of the downtown area. As such, development of the KP Medical Center would not degrade the existing visual quality or obstruct key existing views and/or vistas in the vicinity. This impact would be considered **less than significant**.

MLS Stadium

Changes in the visual character or quality of a site are often perceived as subjective and individual. The 2035 General Plan and the 2007 RDG provide guidance that reflects the diverse nature of the built environment in Sacramento, the complex nature of urban design in the community, and the established design intent for the RSP Area. Policies such as LU 2.4.1 and LU 2.4.2 reflect 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.

The RDG, incorporated as part of the CCUDG, represent an articulation of community's goals and values surrounding urban design and architectural quality in the RSP Area, and create an objective framework in which to consider aesthetic changes that may otherwise be considered subjective. They are intended "to promote the improved aesthetic and functional quality of the Railyards community." As such, for the purposes of this analysis, the proposed MLS Stadium is considered in light of the RDG. Substantial compliance with the RDG was used as the measure of significance.

The MLS Stadium would be located in the East End District of the Railyards, generally north of Railyards Blvd., between 8th Street and 10th Street. The Stadium itself would be rectangular in shape with round edges and corners. A large entry plaza along 8th Street would frame the west side of the Stadium. There would be smaller plaza areas also on the north and east sides of the Stadium, along with smaller entrances. The design, shape and scale of the Stadium would be distinctive from other existing residential, commercial, office, or other buildings in downtown Sacramento, the River District, Alkali Flat, or other planned development within the RSP Area. However, it is worth noting there are other buildings in the Central City that are distinctive and uniquely recognizable by their design, including the State Capitol, the Golden 1 Center, the Central Shops buildings, the Sacramento River Water Treatment Plant buildings, the 1215 K Street building, the Cathedral of the Blessed Sacrament, and the City Hall Annex. By adding another architecturally distinctive structure, the Stadium would reflect the urban design heritage of Sacramento's Central City.

Views

The approximately 95-foot tall, rectangular Stadium structure itself, with its integrated façade and canopy structure comprised of a range of textures and materials, including metal, glass, fabric, and translucent synthetic panels, 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. Despite its distinctive design, the Stadium would be visible only in varying degrees from view corridors looking west on South Park Street, south and west on southbound 12th Street, eastbound on Railyards Blvd, east of 7th Street, and from North B Street and 10th Street. The Stadium structure would be visible from private homes in The Cremery at Alkali Flat project (currently under construction approximately 400 feet to the south), and from the Globe Mills residences (approximately 750 feet southeast). If the Stadium were built prior to development of other portions of the RSP Area, it is likely that it would be visible from I-5, approximately three-quarters of a mile to the west; however, as the RSP Area develops, it is reasonable to expect that intervening buildings would largely block views of the Stadium from travelers on I-5. In these ways, the proposed Stadium would reflect the City's goals for distinctive and iconic buildings.

2007 Railyards Design Guidelines

The 2007 Railyards Design Guidelines (RDG) provides direction to encourage and promote an array of visual and aesthetic characteristics of building and landscape design in the RSP Area. The Stadium 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 RDG. The RDG's principles are not prescriptive, however, and on balance, the design of the proposed Stadium would substantially comply with the aspirations expressed in the RDG 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 Private Realm Guidelines of the 2007 RDG.

Ground Level Uses. At the main entrance from the 8th Street plaza on the west side the proposed Stadium, 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, west to 8th Street, and to smaller plazas on the north, south facing Railyards Blvd., and east facing 10th Street. These public spaces and their adjacent streets would be activated by virtue of a close visual connection to activities within the Stadium, as well as with retail and ticketing storefronts, retail kiosks, small-scale performance venues, seasonal events, musical and cultural events, and gardens.

Transparency. It is anticipated that the façade of the Stadium, including the portions that face the entry plazas, would be comprised of a variety of materials including transparent glazing, providing open views into the seating and field areas. At street level, multiple entrances to the Stadium, the ticket booths, and a team retail store would provide a high degree of permeability, and combined with distinctive signage and plaza area landscaping would minimize the potential for blank opaque faces along the street frontages.

Street-wall Articulation. The Stadium would be highly articulated both vertically and horizontally. Around the majority of the building, facing 8th Street, Railyards Blvd., and 10th Street, and the plazas around the west, north, and east sides, the Stadium façade would extend from the ground level to the parapet and canopy. Along adjacent streets, the structure would be set back; the setback would be approximately 100 feet from 8th and 10th streets, and 40 to 70 feet from Railyards Blvd. These setbacks would accommodate public plazas necessary for crowd flow before and after events, pedestrian circulation, service delivery and VIP drop-offs, and landscaping.

From the plaza or street level, the structure would be highly articulated with entrances for attendees, employees, media, and others; above the street level, the multi-textured façade and canopy would be the dominant design feature. The 8th Street entry plaza would be highly visible at the eastern terminus of the South Park Street corridor. As described above, a multitude of activities, including ticketing, retail, kiosks, entertainment, signage and lighting would create visual interest, accentuated by the highly articulated façade of the Stadium. The 10th Street entry would cross a landscaped setback from 10th Street and provide connectivity to parking, bicycle, and pedestrian facilities to the east on 12th Street.

Fenestration: Window and Façade Systems and Patterns. The Stadium would use a combination of metal, glass, fabric, and translucent synthetic panels, in a manner that would be unique in downtown Sacramento. The multi-faceted façade of the Stadium would include translucent colored panels that would be highly articulated from the ground level to the canopy parapet, and with extensive variation would create an undulating sense of depth and irregular shadows and silhouettes.

Entrances. The main entrances would be located on the west, northwest, and southwest corners of the Stadium and would open to the 8th Street entry plaza. The creation of wide entries from the entry plaza and from 8th Street and Railyards Blvd. would maximize the visibility to and through the Stadium entrances. Distinctive building materials, signage and lighting that denote the main entrances would create additional emphasis on the visual importance of the key entry points. The public and private realms would be integrated through the use of three large entrances each opening to the west plaza. A way-finding program would be implemented throughout the Stadium site and on nearby streets throughout the Railyards, increasing the accessibility of the Stadium to pedestrians and other visitors to the project vicinity.

Canopies, Awnings and Sunshades. While the Stadium pitch would be open to the sky, a distinctive feature of the Stadium would be a fabric and metal canopy that would wrap the parapet and provide shade and rain cover for the seating bowl. Cantilevered cornices on the Stadium façade at the roof parapet would create the potential for shade and cover of portions of the surrounding plaza areas. During warm weather, the canopy structure would provide shade that would cool the inside of the Stadium, and make the portions of the plazas around the Stadium shadier.

Projecting Elements and Encroachments. As can be seen in the elevations presented in **Figure 4.1-21**, the building facades would reflect a design that would be unique in downtown Sacramento. From Railyards Blvd. and 8th Street, the multi-textured Stadium structure would rise above the street with tall, vertical panels of metal and/or translucent panels that would be highly articulated and would appear to create facets in a repetitive pattern. Portions of the elevations could be brightly and colorfully lit. Some of the translucent panels could be colored, and could include visual displays either through large-scale signs and banners that would be visible through to the plaza. Along all of the structure's 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 south on 10th Street from North B Street or Richards Blvd., looking east on South Park Street from 7th Street or points further west, and southwest on 12th Street from North B Street, and other viewscapes.

Materials. The Stadium structure would be made of a variety of materials, including metal, glass, fabric, and translucent synthetic panels. Some materials, such as glass or translucent panels, may be reflective while others like metal or fabric would be matte. Translucent panels would be key features of all Stadium faces. Distinctive lighting and signage would be positioned inside the glass and translucent panels, and could be visible from inside and outside the Stadium, making the glass and translucent features of the façade visually distinctive and highly visible from outside of the Stadium structure.

Lighting. The proposed Stadium and its main entry plaza would be brightly lit for visibility during and between events. Exterior lighting for the Stadium 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 Stadium, 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 in the plaza and/or 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.

The proposed Stadium would respond positively to most of the principles of the 2007 RDG to the extent feasible for such a structure. The Stadium would be a unique large structure with a distinctive and iconic design, and would be a type of structure that was not originally anticipated by the 2007 RDG. The proposed Stadium would be generally consistent with and would substantially comply with the direction articulated in the 2007 RDG for the structure design and materials. Because of the need for the site to accommodate thousands of pedestrians and event attendees, the proposed Stadium would be less responsive to the elements of the 2007 RDG that address the placement of structures on the site and the relationship to the street.

SOURCE: HNTB, September 2016; adapted by ESA, 2016

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Figure 4.1-21
MLS Stadium Articulation

As a result of the proposed Stadium, the visual character of the project site would be changed from a vacant, highly disturbed property to a large, visually-iconic sports and entertainment facility with interesting pedestrian plazas and open spaces. The changes in the height, design, and visual prominence of development on the project site would be in substantial compliance with City policy regarding urban design in the project vicinity as articulated in the 2035 General Plan and the 2007 RDG. 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 Stadium would not substantially degrade the existing visual character or quality of the site and its surroundings, and this impact is considered **less than significant**.

Stormwater Outfall

The proposed Stormwater Outfall site would be located approximately 75 feet upstream of the existing USGS river gage station. It is most visible to bicyclists and pedestrians on the Sacramento River bike trail that traverses the site, motorists on Jibboom Street, boaters on the Sacramento River, and people who view the Sacramento River riverbank from the Riverwalk in West Sacramento (see Figure 4.1-11). The only visible elements of the proposed Stormwater Outfall would be above ground features of the pump station and the outfall structure itself, located on the bank of the Sacramento River. All other elements of the Outfall project, including the wet well, pumps, and conveyance pipelines would be buried and not visible to casual observers.

The site of the wet well and pump station would be under the elevated structure of I-5, and is not an area that is readily visible to anyone other than people who travel on Jibboom Street or use the bike trail. The visible elements of the pump station would include a couple of small utility structures that would house backup generators and vents that are part of the pump station cooling system. These would be approximately 10 feet tall and would be visually unobtrusive among the pilings that support I-5.

On the Sacramento River riverbank, the outfall structure would be a concrete and metal structure of approximately 60 feet in length and about 10 feet in height. It would be contoured to be consistent with the slope of the riverbank. Its construction would require removal of one large shrub and two trees from the riverbank, and one tree located on the top of the bank adjacent to the bike trail. This tree removal would be the most visible change as a result of the Stormwater Outfall project. The outfall structure would be invisible to viewers from the Sacramento side of the river, unless then walk to the top of bank and look down the slope to see the concrete structure from the top.

Views from the river and from the West Sacramento bank of the River would be altered by removal of the trees and construction of the outfall structure. From the west, views of the riverbank between the I Street Bridge and the Sacramento River Water Treatment Plant intake structure, including along the RSP Area, are dominated by riverbank trees and shrubs, with the

elevated I-5 and Jibboom Street structures in the background. The riverbank itself is dirt and weeds, with broken concrete and urban trash scattered along the river edge. The most prominent opening in the tree canopy is the location of the river gage, an approximately 100-foot long stretch with no trees, and the river gage structure, including a cylindrical concrete tower, concrete steps from the top of bank to the river level, chain link fences and a small metal-sided building at the top of the bank.

The effect of the construction of the proposed Stormwater Outfall, and associated tree/shrub removal, would be to increase the length of this stretch of riverbank without trees, and the addition of another utility structure on the riverbank. Views from the west would include the approximately 60-foot long outfall structure as an added feature to a riverbank that is already visually disturbed by other manmade features. While the tree canopy would be reduced, the overall visual character of the riverbank would not be materially changed. As is noted above, the riverfront along the RSP Area is designated Urban Waterfront Recreation in the Sacramento River Parkway Plan. These changes to the visual character of the Sacramento River riverbank would be consistent with the type of activity associated with an urban waterfront.

The proposed Stormwater Outfall would be less visually intrusive than the outfall that was anticipated under the 2007 RSP. That outfall was anticipated to be located at the top of the riverbank, with a spillway structure that would extend down the entire length of the riverbank to the low water mark. Conversely, the proposed Stormwater Outfall would be largely buried in the riverbank, with the only visible structure to be the contoured outfall located just above the normal low-water level of the River. At higher water levels, the outfall would be below the water surface; at low water levels, a small spillway would be visible before released stormwater reaches the river.

Thus, the effect of the proposed Stormwater Outfall on visual quality and character, including views, would be considered **less than significant**.

Summary

As described above, implementation of the proposed RSPU would create a series of visual changes to the RSP Area, changing it from an undeveloped, vacant former industrial site to an urbanized extension of downtown Sacramento, and a visual transition from the CBD to the lower-scale more industrial visual character of the River District. All projects in the RSP Area would be subject to the City's Site Plan and Design Review and/or Preservation Review permit process. Projects consistent with the RSPU, including the KP Medical Center, the MLS Stadium, and the Stormwater Outfall, would alter their sites from existing conditions, but in ways that would be largely consistent with the policy direction of relevant plans, policies, and guidelines. Thus, the effects of the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall on visual quality, character and views would be a **less-than-significant** impact.

However, because the proposed street-wall height on Block 46 on the west side of 7th Street between F Street and the UPRR tracks would adversely affect the visual character of this portion of the corridor by reducing views to the west toward the Central Shops, sky access, and sunlight to residential and office uses on the east side of 7th Street, this would be considered a **significant** impact for the proposed RSPU, including the Land Use Variant.

Mitigation Measure

Mitigation Measure 4.1-1 (RSPU)

Within Lot 46, the maximum street-wall height for structures facing 7th Street shall be 35 feet in height.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-1 would ensure that the street-wall height of development on Block 46 facing 7th Street between F Street and the UPRR tracks would be no greater than 35 feet, which would ensure an appropriate visual transition from the intensity of development in the RSP Area to the adjacent properties in the Alkali Flat neighborhood. Such a street-wall height would also protect against significant increases in after shading and reductions in sky access. With the implementation of **Mitigation Measure 4.1-1**, this impact would be reduced to a **less-than-significant** level.

Impact 4.1-2: The potential development of high-rise buildings adjacent to the riverfront could conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge.

2007 RSP EIR Impact 6.13-2 (pages 6.13-25 to 6.13-31 of the RSP DEIR) addressed the potential for development of a hotel/residential mixed-use project with buildings up to 450 feet above grade (up to 30-stories) on land that is between I-5 and the River, with open space and park uses surrounding the hotel/residential structure. The analysis explained that the 2007 RDG included the following site planning, massing and building configuration guidelines specific to the Riverfront District:

- Projects in the Riverfront District should be sited to maximize, to the extent possible, views from the Railyards to the Sacramento River, as well as physical connections through the district to the River;

- The building development should provide permeability at plaza level to facilitate movement between the Riverfront District and the adjacent Districts; and

- In the Riverfront District, maximum height of the street-wall (that is, the part of the building with no bulk limit) should be no more than 85 feet. There is no step back requirement in the Riverfront District, and towers are encouraged to rise from the ground to the top.

In addition, specific controls on the location and height of future structures in the Riverfront District were established on a Riverfront District Height Diagram that was presented in 2007 RSP EIR Figure 6.13-7.

The analysis also stated that on the east bank (Sacramento side) of the River, building heights in Old Sacramento and to the north along Jibboom Street were (and remain) substantially lower than the proposed mixed use development. It also noted that there were high-rise buildings of 157 and 300 feet across the River in West Sacramento's Washington Specific Plan Area (specifically, the Ziggurat and the CalSTRS Headquarters Building). The analysis further explained that the evaluation of visual compatibility of a new building with the scale of existing development is inherently subjective; and that in light of such subjectivity it is possible that a high-rise hotel/residential building could be seen as out of scale with the riverfront environment and could be seen as creating a visual barrier between the riverfront and the remainder of the RSP Area.

Impact 6.13-2 (page 6.13-27) concluded that the Riverfront District Design Guidelines, including the Height Diagram "would ensure that views of the river are maintained and enhanced by facilitating increased pedestrian access and public open space along a portion of the river that has been previously of limited access. More specifically, the analysis found that "[t]he Guidelines provide for the tall structures on the site to be situated away from the River, adjacent to Interstate 5. On the south side of the District, adjacent to the I Street Bridge, building height would be a maximum of 450-feet adjacent to I-5, and then would step down toward the River, first to 85 feet, and then to 35 feet, with an 80-foot wide open space adjacent to the Sacramento River parkway. At the northern end of the District, the Guidelines allow for a 350-foot tower that would step down to an 85-foot building base, again with an 80-foot wide open space adjacent to the Parkway. The two structures would be separated by a visually-permeable open space that would allow pedestrian access and views between the River and the Railyards site to the east."

The analysis concluded that the requirements of the 2007 RDG would "ensure the creation of slender towers with sufficient separation that through-views to the River from I-5 would remain," and that implementation of the 2007 RDG would "guide development so that it would be consistent with the intent of the relevant policies of the Sacramento River Parkway Plan," eliminating the potential for a significant visual conflict or blockage of views. The impact was therefore determined to be less than significant.

Railyards Specific Plan Update

Development in the Riverfront District under the proposed RSPU would be similar to that described and allowed for under the 2007 RSP. Site planning considerations would be changed, with both high-rise tower development sites allowing development up to 450 feet, both immediately adjacent to I-5. An additional stepdown towards the River would be required. As with the 2007 RSP, these sites would only be developable following removal of the elevated Jibboom Street roadway and connection to the I Street Bridge.

Like with the 2007 RSP all development in the Riverfront District would be set back a minimum of 80 feet from the parcel edge, and a gap of approximately 120 feet would be provided between the two building sites to provide a view corridor between the River and the Central Shops Historic District.

Under the proposed RSPU, the base height for buildings would be 65 feet, a decrease from 85 feet under the 2007 RSP. With the elevated structure of I-5 at approximately 70 feet above grade, the building bases would not above I-5, opening up views between towers to the River corridor and downtown Sacramento. Further, as described above under Impact 4.1-1, the proposed RSPU would increase the average maximum floor plate for residential towers from 7,500 sf to 10,000 sf. The marginal increased floor plate size could exacerbate the visual blockage for passers-by on I-5 for a stretch of approximately 500 feet, blocking views of downtown Sacramento, Old Sacramento, the Sacramento River, the I Street Bridge, and West Sacramento beyond. Although the building base would be lower, the increased floor plates would result in a view blockage greater than under the 2007 RSP, which required development that would be more visually permeable than proposed under the RSPU, and would have allowed for continued intermittent views between towers.

Sacramento River Parkway Plan policy D.3 states that "[c]ommercial and residential development within the Parkway, subject to the city's planning review process, shall be designed to visually blend with and be in scale with the surrounding riverine environment. Color, texture, style, height, width, and bulk should be considered in design." Since the adoption of the 2007 RSP, the City has adopted two new General Plans which include policies that address future development along the City's key rivers, the American and the Sacramento. As noted above, policies LU 2.2.1 and 2.2.3 emphasize the importance of maximizing visual access to the Sacramento River, and ow the natural environment of the river corridor should "guide the scale, design, and intensity of development." Policy 2.3.2 requires development adjacent to open spaces to preserve visual access.

The creation of towers with average floor plates of 20,000 sf and 10,000 sf, rising immediately adjacent to the required 80-foot setback from the river edge would be a height that would tower over the bike trail and river edge, and would be out of scale with the river environment.

Further, the proposed building envelope that would allow 65-foot building within 80 linear feet of the River would be a substantial departure from the development envelope allowed for in the 2007 RSP and that exists to the south of the site in Old Sacramento. The 2007 RSP requires a specific step down from east to west that would have required a building base of no more than 85 feet in height for approximately 300 feet from I-5, and then a step down to a maximum of 35 feet in height for 80 linear feet, before the 80-foot open setback from the river edge. The 35-foot limit on the westernmost building face was intended to create a building edge more compatible with the River environment and comparable to the building heights in Old Sacramento to the south, and of the former PG&E powerhouse to the north. A building height stepdown would be required

toward the River, but the lack of a specific stepdown requirement would allow for a building base height of 65 feet immediately adjacent to the river edge setback.

Although future development in the Riverfront District would be subject to the City's Site Plan and Design Review process, the height and bulk of development that would be allowed in the Riverfront District would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge, and would be inconsistent with the proposed RSPU Design Guidelines which states that in the Riverfront District it is the intent that "[t]owers should be slender on their upper stories so as to preserve visual access to the River for Interstate 5 motorists." Importantly, the development in this District, including but not limited to the changes proposed in the RSPU, would reduce the degree of visual access to the River both at the pedestrian level and from the elevated section of I-5 and would be inconsistent with the direction of policies of the 2035 General Plan. This impact would be considered **significant**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, development in the Riverfront District would be identical to that described above. Since there would be no changes to the effects described for the proposed RSPU, the impact would be considered **significant**.

KP Medical Center

The proposed KP Medical Center would not be located in the Riverfront District and would not contribute to potential conflicts with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge. This would be considered **no impact**.

MLS Stadium

The proposed MLS Stadium would not be located in the Riverfront District and would not contribute to potential conflicts with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge. This would be considered **no impact**.

Stormwater Outfall

The proposed Stormwater Outfall would be located in the Riverfront District and would not contribute to potential conflicts with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge. This would be considered **no impact**.

Summary

Although future proposed development in the Riverfront District would be subject to the City's Site Plan and Design Review process, the height and bulk of development that would be allowed in the Riverfront District under the proposed RSPU would conflict with the character of the riverfront between Old Sacramento and the Jibboom Street Bridge. This impact would be considered **significant**.

Mitigation Measure

Mitigation Measure 4.1-2, described below, would be required to eliminate conflicts with the character of the Sacramento River riverfront as a result of development in the RSPU Riverfront District. This mitigation measure was not included in the 2007 RSP EIR.

Mitigation Measure 4.1-2 (RSPU)

For development within the allowable footprints on Lot 35, the following base height requirements shall be added to the RSPU Design Guidelines and enforced through the SPD and the City's Site Plan and Design Review permit process:

- *On the southern development lot, any portion of a building within 80 feet of the required setback from the riverbank shall be no greater than 35 feet in height.*

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-2 would ensure a building height step down toward the Sacramento River to create a development edge similar in scale to other built environment on the east bank of the River between Old Sacramento and the Jibboom Street Bridge. With the implementation of **Mitigation Measure 4.1-2**, this impact would be reduced to a **less-than-significant** level.

Impact 4.1-3: The proposed projects could create substantial new sources of light.

New development can result in increases to ambient nighttime lighting and spillover light that can affect nearby uses. These lighting issues are considerations that are typically addressed by the City through its Site Plan and Design Review permit process; all future development in the RSP Area would be subject to this review process. 2007 RSP effects on ambient nighttime light and effects as a result of spillover light on nearby sensitive uses were addressed in 2007 RSP EIR Impact 6.13-3 (pages 6.13-31 to 6.13-33 of the RSP EIR).

As it pertains to increases in ambient nighttime lighting, while the analysis presented in Impact 6.13-3 stated that there would be an increase in ambient light in the project area as a result of implementation of the 2007 RSP, because the surrounding area is already urbanized and subject to substantial amounts of existing nighttime ambient light, the increase in such light that would be attributable to the 2007 RSP "would not significantly affect nighttime views of the sky (ability to see the stars), because such views are already limited in city settings."

Related to spillover light effects, Impact 6.13-3 recognized that the potential construction of high-rise buildings in the East District, adjacent to the Alkali Flat neighborhood could result in spillover light effects on existing or future sensitive uses (such as residences). The analysis recognized the presence of 2007 RDG guidelines related to lighting design and illumination in both public and private realms, but nevertheless acknowledged that "the construction of new

buildings to the west and north that could reach as high as 25 to 30 stories (300 to 360 feet) could result in light spillover onto adjacent residential properties. This impact was determined to be potentially significant.

The City concluded that Mitigation Measures 6.13-3(a) through 6.13-3(c) were sufficient to reduce the impact to a less-than-significant level. Measure 6.13-3(a) required that east of 6th Street all exterior lighting, including signage, be directed toward the intended area to be illuminated, and shielded away from adjacent properties and public rights-of-way; set a maximum height of 25 feet for all light structures for surface parking areas, vehicular access ways and walkways; and prohibited monument lighting and night-lit signage on building facades facing toward residential neighborhoods. Measure 6.13-3(b) required the approval of a project lighting plan by the Development Services Department prior to issuance of a site development permit. Measure 6.13-3(c) required that landscape illumination and exterior sign lighting comply with the City Code.

Railyards Specific Plan Update

As described in the 2007 RSP EIR, implementation of the proposed RSPU would result in an increase in ambient light in the project area. Under current conditions, there is essentially no ambient lighting emanating from large portions of the RSP Area, especially that portion north of the UPRR tracks. The limited ambient light that is emitted is from light sources south of the tracks in and around the Sacramento Valley Station, from street lighting along 7th Street. With full implementation of the RSPU, there would be extensive urban development, with nighttime light being emitted from buildings, streetlights, signage, vehicles, and other sources. Because the surrounding areas, including the CBD, Alkali Flat, and the River District are already urbanized and subject to substantial amounts of existing nighttime ambient light, the increase in such light attributable to the proposed RSPU would not significantly affect nighttime views of the sky (ability to see the stars), because such views are already limited in city settings.

Although the applicant currently expects that construction under the proposed RSPU would be lower than anticipated for the 2007 RSP, the SPD and Design Guidelines allow for the potential construction of high-rise buildings in the East District, adjacent to the Alkali Flat neighborhood. Such buildings could result in spillover light effects on existing uses. In addition, the proposed RSPU would allow for the construction of a sports and entertainment complex that could have substantial nighttime lighting of open plazas and fields, and could include signage that emits light, some of which could spill over to existing or future residences in the Alkali Flat neighborhood. The effects of the proposed MLS Stadium are discussed in further detail below.

Aside from nearby residences in Alkali Flat, the only adjacent residential uses include two homes that are located on the south side of Water Street, near its intersection with Bannon Street and North B Street. Those homes are currently in an industrialized area near the City Sacramento River Water Treatment Plant, across the street from a three-story office building and the parking

lot for the Volunteers of America Bannon Street Shelter. There are few, if any, streetlights in the vicinity, and other than parking lot lighting, there are few visible light sources in this area.

Because of the planned location and height of Vista Park, the two existing Water Street residences would be shielded and of sufficient distance from many of the major light sources in the RSP Area. However, the extension of 5th Street through to North B Street, and the nearby development in the R-5-zoned portion of the East End District, could introduce new light sources around these residences. The residences would be immediately adjacent to the new intersection of 5th and North B streets, and approximately 200 feet from new development in the East End District. Compared to the relatively dark existing conditions, new sources of light, including streetlights, could result in some amount of spillover light into the yards and onto the windows of the Water Street residences. While existing mature trees on the east side of the residential yards may provide shielding of new light sources, there is no guarantee that those trees would remain into the future, or would fully shield the residences from potential spillover lighting.

The proposed RSPU Design Guidelines include provisions that would regulate lighting design and illumination in both public and private realms. For example, in the public realm, street lights are to be no more than 18 feet in height, except on large streets where they could rise to 30 feet, and would require to be shielded and downward facing. In the private realm, levels of illumination would be required to avoid "over illuminating," and façade lighting would be encouraged to "include internal reflector caps, refractors, or shields that would avoid glare or reflection across property edges onto adjacent buildings." In addition, the lighting characteristics of future development in the RSP Area would be subject to and considered in the City's Site Plan and Design Review permit process. Nevertheless, the construction of new buildings that could reach as high as 25 to 30 stories (300 to 360 feet), as well as a potential sports and entertainment complex, in the East End District could result in light spillover onto adjacent residential properties in Alkali Flat and the Water Street residences. The proposed RSPU's effects on the existing environment would be similar to those described for the 2007 RSP, although somewhat exacerbated by the effects of the light associated with the proposed sports and entertainment complex in the East End District. This impact is considered to be **potentially significant**.

Railyards Specific Plan Update Land Use Variant

Under the proposed RSPU Land Use Variant, the spillover lighting that could be associated with the sports and entertainment complex in the East End District would be eliminated, but the potential for high-rise development would remain in this area. Thus the impacts of the Land Use Variant would remain **potentially significant**.

KP Medical Center

As described in Chapter 2, Project Description, the KP Medical Center would include a comprehensive system of exterior lighting designed to achieve safety, security, and nighttime visibility within the Medical Center campus. Based on illustrative plans for the project site, interior building lighting would be visible at night through windows and other glazed surfaces. Exterior

lighting would include lighting of private roads, parking lots and garages, pedestrian walkways and entries, exterior stairs, ramps, and handicap lifts. As described in Table 2-6, KP Medical Center Preliminary Lighting Plan, lighting would range in intensity based on the purpose. Based on conceptual studies, road lighting would have an average horizontal foot candle of 0.25.[8] Lighting of pedestrian walkways would be an average of approximately 1.25 to 1.50 horizontal foot candles, and lighting at exterior stairs, ramps/lifts, and in parking structures would be an average of approximately 5.00 to 7.00 horizontal foot candles.

The exterior lighting plan would position lights in manner to reduce light pollution/sky-glow. All lights mounted to a pole/base/pedestal that gives the overall height 12 feet or greater would be full cut-off lights,[9] with those mounted below 12 feet as semi cut-off lights.[10] Wall mounted lights would not be mounted more than 15 feet above finished floor, and would have a full cut-off distribution. Lights mounted to walkway canopies would not distribute visible light above the visible canopy and each light would be limited to no more than 5,000 lumens.

In addition to exterior lighting, the hospital patient rooms and numerous other parts of the hospital would be active and lit throughout the night. Patient rooms, treatment rooms, and other elements of the hospital would have windows that equipped with shades, which could reduce the visibility of interior lighting from outside the building. Nevertheless, the windows in the hospital tower and base would have visible light throughout the night. Because this interior light is designed for the purposes of lighting interior spaces, it is unlikely that these light sources would contribute to spillover light effects.

The proposed KP Medical Center site is located at substantial distances to nearby residences. The Water Street residences would be approximately 750 feet from the closest edge of the Medical Center, and over 1,000 feet from the proposed hospital tower. In addition, the intervening land would include Vista Park, which would be of sufficient height so as to block any ground-level lighting from these residences. The closest residence in the Alkali Flat neighborhood, near the intersection of D and 8th streets, would be over 1,500 feet away from the Medical Center site.

The measures proposed to be included would substantially reduce the contribution of the KP Medical Center to nighttime lighting, and would be further addressed during the City's Site Plan and Design Review process for each phase of development. These measures, combined with the substantial distances of the proposed Medical Center to existing residences would eliminate the potential that the project would contribute to spillover light on existing nearby residences. Thus, the impacts associated with increased ambient and spillover light from the proposed KP Medical Center would be **less than significant**.

8 One foot candle is equivalent to one lumen per square foot.

9 A full cut-off light emits no light at 90 degree from the light source, and have no uplight.

10 A partial, or semi, cut-off light emits an intensity of no more than 5% of lamp lumens at or above 90 degrees (horizontal), and no more than 20% of lamp lumens at or above 80 degrees.

MLS Stadium

Construction

Nighttime construction activities could add to the existing low ambient light levels that are currently characteristic of the eastern end of the RSP Area. Because under existing conditions the project site is essentially dark, project construction lighting could represent a substantial change in artificial light conditions. Nighttime lighting sources during construction could consist of floodlights that would be focused on the work area to minimize spillover light. Views of light sources emanating from the proposed Stadium site from residences in the Alkali Flat neighborhood, including at The Creamery at Alkali Flat development, the Lofts at Globe Mills, and homes and apartments along D Street would be obstructed by the height of the UPRR track embankment, but would be largely unobstructed by upper level views. Views of the Stadium site construction lights from residences along D Street would be buffered by the existing KCRA studio buildings on the north side of D Street, between 9th and 10th streets, and by existing street trees that line D Street. These intervening buildings and trees would limit views of light sources.

For approximately one year, 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 Stadium 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 Stadium would be provided to illuminate different areas of the Stadium 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 Stadium would be visibly lit in most directions, both from the outside as well as from the inside where translucent panels and openings through the Stadium structure would permit light from inside to be visible to outside observers. This lighting would be to accentuate and create visibility of the Stadium structure as well as lighting for signage and advertising purposes. Facade lighting may include LED lights or video screens located on or constructed as part of the Stadium 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.

While the canopy would cover the majority of the Stadium seating areas, it would open over the pitch. Field lighting would be located under or along the inside edge of the canopy and would be directed downward toward the field. Nevertheless, lighting would indirectly be emitted from the open areas over the pitch. In addition, the Stadium canopy may 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 nearby residences that could disturb building occupants (e.g., those living in the Lofts at Globe Mills, the Creamery at Alkali Flat, and/or residences along D Street). In particular, residents of the Lofts at Globe Mills and the Creamery at Alkali Flat with upper level windows that have views to the north in the direction of the Stadium could have light spillover from the Stadium 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 lighting of the Stadium south façade or canopy. These same residents could also experience indirect spillover lighting created by light emitted through openings in the façade, reflected from the vertical translucent panels on the Stadium façade, or exterior plaza lighting.

The intent of the lighting, including animated, changing, colorful lights, would be to increase the visibility of the Stadium compared to other structures and 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 on the sides of the Stadium and/or the use of high speed laser light projection technology would make the Stadium substantially brighter and more visible at night than the existing vacant project site and more visible than other existing buildings in downtown Sacramento. Many views of the proposed Stadium would be limited by intervening development. Views of animated signage, which could be adhered to the Stadium 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 or landscaping. 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 streets in Alkali Flat or other nearby neighborhoods.

For the reasons discussed above, lighting associated with the proposed MLS Stadium could significantly affect the ambient nighttime light in the downtown area, including light spillover to nearby residential uses. This impact is considered **potentially significant**.

Stormwater Outfall

It is anticipated that the proposed Stormwater Outfall would be constructed during daytime hours, and would have no operational or area lighting. Thus, the proposed Stormwater Outfall would have **no impact** related to increases in ambient lighting or potential spillover light.

Summary

The construction of new buildings that could reach as high as 25 to 30 stories (300 to 360 feet) in the East End District, as well as the proposed MLS Stadium, could result in light spillover onto adjacent residential properties in Alkali Flat and the Water Street residences. The effects described for the proposed RSPU would be similar to those described for the 2007 RSP, although somewhat exacerbated by the effects of the light associated with the proposed Stadium in the East End District. This impact is considered **potentially significant.**

Mitigation Measure

Mitigation Measure 4.1-3(a), described below, is similar to those measures included as Mitigation Measure 6.13-3 in the 2007 RSP EIR. It has been updated to address changes proposed in the RSPU, the proposed Stadium, and changes in the Planning and Development Code and proposed SPD. Mitigation Measure 4.1-4 addresses potential impacts specific to the proposed Stadium and was not part of the 2007 RSP EIR.

Implementation of Mitigation Measures 4.1-3(a) and (b) would be required to reduce these potentially significant lighting impacts to a less-than-significant level.

Mitigation Measure 4.1-3(a) (RSPU, MLS)

i. East of 6th Street, all exterior lighting and advertising (including signage) shall be directed onto the specific location intended for illumination (e.g., parking lots, driveways, and walkways) and shielded away from adjacent properties and public rights-of-way to minimize light spillover onto adjacent areas. Light structures for surface parking areas, vehicular access ways, and walkways shall not exceed a height of 25 feet. Monument lighting and night-lit signage is prohibited on building facades that face existing residential neighborhoods.

ii. Prior to issuance of a Site Plan and Design Review Permit for each specific development project, the applicant shall submit a lighting plan to the Development Services Department for review and approval. The plan shall specify the lighting type and placement to ensure that the effects of security and other outdoor lighting are minimized on adjacent uses and do not create spillover effects.

ii. Landscape illumination and exterior sign lighting shall follow the City Code.

Mitigation Measure 4.1-3(b) (MLS)

i. 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 Stadium project site boundaries that is improved with light-sensitive uses.

ii. Prior to issuance of a building permit, the project applicant shall submit to the Community Development Department a signage and lighting design plan for the Stadium which establishes lighting design standards and guidelines. The lighting design plan shall, at a minimum:

- *Require exterior lighting included within the Stadium to incorporate fixtures and light sources that focus light on-site to minimize spillover light;*
- *Ensure that 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; and*
- *Require that for exterior LED lighting, 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.*

iii. Prior to issuance of a building permit for the Stadium 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 install and test the displays to insure compliance with all City lighting regulations and these mitigation measures.

iv. The project applicant shall comply with City Code Section 8.072.010, which establishes regulations regarding the use of searchlights.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-3(a) and (b) would reduce potential lighting impacts to surrounding areas through appropriate site design and configuration. Review and approval of the proposed lighting plan through the City's Site Plan and Design Review process would ensure that the potential that spillover lighting would be reduced and potential to create light pollution disturbances to adjacent uses minimized. Notwithstanding the implementation of these measures, the development of the Stadium on a site that is currently vacant and dark would result in a substantial change in the existing environment. This impact associated with the proposed MLS Stadium would remain **significant and unavoidable**.

Impact 4.1-4: The proposed projects could create a new source 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. Glare can create hazards to motorists and nuisances for

pedestrians and other viewers. It can also contribute to a heat island effect. Glare is a consideration addressed by the City through the Site Plan and Design Review process.

2007 RSP EIR Impact 6.13-4 (pages 6.13-33 to 6.13-34 of the RSP DEIR) acknowledged that because detailed site design plans were not included in the RSP, "it is presently unknown what materials would be used to construct individual structures" within the RSP Area. The 2007 RDG included guidelines that provide direction but do not prescribe future façade materials:

> The uses of reflective glass, mirrored glass and dark colored glass should be avoided.
>
> 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.

Impact 6.13-4 found that if buildings along 5th, 6th, or 7th streets, Railyards Boulevard, or in the vicinity of I-5 were clad in reflective façade materials, "glare could be created when the sun is low in the sky," and that such 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 for building air conditioning." The analysis concluded that because of the lack of certainty about future building designs, "it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project area if the surfaces are highly reflective." This impact was determined to be potentially significant.

Mitigation Measure 6.13-4 prohibited the use of "highly reflective mirrored glass walls" for more than 35 percent of building facades adjacent to major roadways, and required the use of Low-E glass to reduce the reflective qualities of such buildings. Implementation of this measure was determined to reduce the glare impacts of the 2007 RSP to a less-than-significant level.

Railyards Specific Plan Update

Implementation of the proposed RSPU could result in the construction of numerous new structures within the RSP Area. Development pursuant to the proposed RSPU would be undertaken by developers and builders based on architectural designs unique to the specific proposed site and use. It is presently unknown what materials would be used to construct and clad individual structures. The proposed RSPU Design Guidelines incorporate the following guidelines from the Central Core Design Guidelines for the private realm that address the façade materials of future buildings, as presented below:

- Light 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.

- External lighting should avoid glare and be unobtrusive, attractive and in character with the architecture of the building.
- The uses of reflective glass, mirrored glass and dark colored glass should be avoided.

These guidelines are essentially the same as those included in the 2007 RSP Design Guidelines.

Although the guidelines suggest avoidance of highly reflective surfaces, in districts other than the Central Shops it is possible that buildings could include substantial amounts of glass or other reflective materials on the surfaces of facades.

As disclosed in the 2007 RSP EIR, highly reflective surfaces could pose the most significant impact along major road corridors, such as I-5, Railyards Boulevard, and 5th, 6th, and 7th streets depending upon the height and façade materials used for buildings. Although the applicant anticipates construction of largely mid-rise buildings in the foreseeable future, the maximum height of structures built adjacent on the west side of I-5 could rise to 30 or more stories, and on the east side of I-5 could vary in height from two stories in the Central Shops Historic District to 30 or more stories with street-wall heights of up to 65 feet throughout a majority of the West End, East End, and Depot districts. If buildings along these key streets are clad in reflective façade materials glare could be created when the sun is low in the sky. These glare effects could obscure the vision of drivers traveling along these routes, causing safety concerns.

Further, intense glare during the summer would adversely create heat islands which could limit the usefulness of open spaces and/or cause substantial increases in energy use for building air conditioning. The details of construction materials to be used in the future are unknown, and will be considered in the City's Site Plan and Design Review permit process that will be implemented for all future development in the RSP Area. Nevertheless, it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project area if the surfaces of structures are highly reflective. This is a **potentially significant** impact.

Railyards Specific Plan Update Land Use Variant

Under the proposed RSPU Land Use Variant, the potential exists for use of reflective materials that could produce glare on parcels that are otherwise proposed for the KP Medical Center and MLS Stadium in the proposed RSPU. The effects in these areas would be similar to other parts of the West End and East End districts, described for the proposed RSPU, above. Thus the impacts of the Land Use Variant would remain **potentially significant**.

KP Medical Center

As noted above, Kaiser has developed illustrative plans for the proposed KP Medical Center. Once detailed project designs have been prepared, Kaiser would seek approval of a Site Plan and Design Review permit from the City. The analysis below is based on evaluation of the illustrative plans for the site described in Chapter 2, Project Description.

The proposed buildings in the KP Medical Center would be designed with a comprehensive and consistent set of façade materials. The buildings would be clad in a combination of glazed and non-glazed surfaces, ranging between approximately 30% and 40% glass. More specifically, it is anticipated that the 14-story, approximately 230-foot tall hospital tower would be clad in metal with approximately 30% glazing using dual-pane, low-E glass. The three- to four-level, 48 to 60-foot high HSB would be clad in pre-cast and metal, with approximately 38% glazing using dual-pane, low-E glass. The Phase 2 medical office buildings would each be approximately six floors, and 150 feet in height, with facades of pre-cast and metal, with approximately 38% glazing of dual-pane, low-E glass.

Because the proposed buildings in the KP Medical Center would be clad with a combination of glazed and non-glazed surfaces, with the maximum glazing of approximately 40%, it is unlikely that substantial glare would be produced. This impact would be considered **less than significant**.

MLS Stadium

Because of the multi-textured design of the Stadium structure and façade, including the use of translucent panels, metal, glass, and other materials, the movement of the sun would create the potential for glare from reflected sunlight in a multitude of directions, but would tend to ensure that glare from any particular feature on the Stadium façade would last only a short time from any particular orientation. Given its location, the Stadium façade would not be highly visible from any major thoroughfares or highways. From Railyards Blvd., 10th Street, and 12th Street, the portions of the Stadium most visible to passing motorists, and facing the southern sun, would be the southern Railyards Blvd. façade. The western 8th Street frontage of the Stadium would be exposed to late afternoon sun angles that could create instances of glare from reflective façade features. These building faces would be primarily clad in multi-textured surfaces, largely metal structural supports, translucent panels, fabric, or glass façade materials. Glass curtain walls would not be a feature of any faces of the Stadium facade.

From the adjacent streets, individual features on the building façade could create glare under certain sun angles. These potentially glare-producing facets would be most visible to motorists traveling on 8th Street, Railyards Blvd., or 10th Street immediately in the vicinity of the Stadium site. The design of the façade at the street level on 8th 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.

During periods of the day when the sun is low on the horizon, on its north and west sides the reflective façade of the Stadium would potentially create new glare that would be visible from the entry plaza, as well as 8th and Railyards Blvd., or through view openings between existing and future buildings visible to motorists on other streets in the vicinity. Similarly, these reflective surfaces would potentially create glare that would be visible from a variety of angles on city streets and from residences and other land uses 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 plaza area on the west side of the Stadium structure, it is possible that afternoon light during summer days could create reflective glare that could exacerbate the heat in these pedestrian open spaces. The presence of landscaping in and around the Stadium and plaza areas, as well as future development on the west side of 8th Street, would tend to decrease any potential heat effects that could be created by glare from reflective surfaces of the Stadium in the vicinity of the west plaza.

Because any potential reflective glare would tend to be short-term and would not affect people travelling on high-speed and/or high volume streets or highways, the reflective portions of the structure would not create hazards to motorists on adjacent roads and streets. Due to the site design and orientation of the Stadium structure as well as the design of and material used in the Stadium façade, new glare that may be created would be of limited visibility and/or duration. Thus, the glare that may be created by the proposed would not disturb nearby residents, workers, or pedestrians, and would not create a public hazard. This impact would be **less than significant**.

Stormwater Outfall

The proposed Stormwater Outfall would be largely hidden from view of most motorists, pedestrians, and bicyclists. Where it would be visible, it would be constructed of matte, opaque materials that would not be reflective. Portion of the pump station structure would be located under I-5 and would be in shade nearly all of the day. This impact would be **less than significant**.

Summary

Because the details of construction materials to be used on future buildings developed pursuant to the proposed RSPU are unknown, it is possible that the cladding of future buildings could cause substantial increases in the amount of glare in the project area if the surfaces of structures are highly reflective. This is a **potentially significant** impact.

Mitigation Measure

The following mitigation measure was included in the 2007 RSP EIR to reduce the significance of glare impacts of future development. Mitigation Measure 4.1-4, listed below, is identical to Mitigation Measure 6.13-4 from the 2007 RSP EIR.

Mitigation Measure 4.1-4 (RSPU)

Highly reflective mirrored glass walls shall not be used as a primary building material (no more than 35 percent) for building facades adjacent to major roadways. Instead, low emission (Low-E) glass shall be used in order to reduce the reflective qualities of the building, while maintaining energy efficiency.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-4 would substantially lessen and avoid potential glare impacts by limiting the permitted construction materials of new buildings to non-reflective materials. With the implementation of **Mitigation Measure 4.1-4** listed above, this impact would be reduced to a **less-than-significant** level.

Cumulative Impacts

As described in the 2007 RSP EIR, the geographic context for the analysis of cumulative aesthetic and visual resources impacts varies by threshold. The cumulative context for each threshold is presented in the impact discussions below.

Impact 4.1-5: The proposed projects could contribute to substantial cumulative degradation of the existing visual character or quality in the vicinity.

This impact corresponds to RSP EIR Impact 6.13-5, pages 6.13-34 to 6.13-35 of the RSP EIR.

Cumulative Context

The geographic context for cumulative impacts associated with the degradation of visual quality includes the areas adjacent to and visible from the RSP Area or from locations that currently afford views of the RSP Area. Aside from the RSP Area, the surrounding areas are largely built out. Due to the Sacramento River Water Treatment Plant to the northwest, the Alkali Flat historic neighborhood to the southeast, and Old Sacramento to the southwest, it is assumed that the majority of cumulative development surrounding the project site would occur either south of the project site in the CBD or northeast of the site in the River District.

As described above, under Regulatory Setting, pursuant to Chapter 17.808 of the City Code, all development in the City is subject to Site Plan and Design Review to ensure its compliance with applicable plans and design guidelines, and consistency with surrounding development.

The 2007 RSP EIR Impact 6.13-5 noted that there were numerous cumulative projects that planned in these areas. At that time, in the River District, such projects as Township 9, Continental Plaza, and Discovery Center had been previously approved by the City. In the CBD, such projects as the Towers, the Aura residential tower, the 500 Capitol Mall office tower, and others had been approved or were under construction along Capitol Mall. There was a pending application for a reconfiguration and expansion of Downtown Plaza and several other commercial projects on the K Street Mall. However, because of the relative visual isolation of the RSP Area, and the distance of the RSP Area to other cumulative development locations in the vicinity, none of these projects were anticipated to add to the visual effects of the proposed projects.

RSP Area

Immediately adjacent to the RSP Area, the proposed I Street Bridge Replacement project proposes to construct a new bridge across the Sacramento River, connecting C Street in West

Sacramento to Railyards Boulevard and Jibboom Street in the RSP Area. This project is currently being designed and evaluated pursuant to both CEQA and NEPA.

Within the RSP Area, planned projects include SMUD's Station A replacement project on Block 52 (the northern half of the block bounded by 6th, 7th, H, and G streets), and the Judicial Council of California's planned new Sacramento County Courthouse building to be constructed on Block 41 (between 5th, 6th, H and G streets).

Downtown Sacramento

Today cumulative conditions in the CBD are substantially different from those described in the 2007 RSP EIR. The 500 Capitol Mall office tower was completed. Several of the identified projects, including the Towers, the Aura, and the planned reconfiguration of Downtown Plaza never occurred and are no longer approved projects. The former Downtown Plaza site has undergone substantial changes with the approval and current construction of Golden 1 Center, the Downtown Commons Mixed Use Tower, and the further reconfiguration of other portions of what is now called Downtown Commons. Also within the Downtown Commons block, the approved Hyatt Place project will preserve the façade of the historic Marshall Hotel while constructing a new 10-story hotel on the site.

Other relevant planned, approved, or under construction projects in the immediate vicinity of the RSP Area include the 26-story Vanir Tower at 6th and J streets (planned but not approved), the 700 Block of K Street (under construction), the Creamery at Alkali Flat project (under construction at D and 10th streets), and the Powerhouse Science Center (approved) located on Jibboom Street immediately north of the Sacramento River Water Treatment Plant intake.

River District

Today in the River District, the Township 9 has been cleared and graded, and the first phase project constructed (the 5-story Cannery Place Apartments). The remaining portions of Township 9 remain to be constructed. No further progress has occurred on the Continental Plaza Phase IV project (planned high-rise office tower on the northeast corner of Richards Boulevard and North 7th Street). The Sacramento Housing and Redevelopment Agency is currently evaluating a proposed project located at the Dos Rios Housing Project. The Twin Rivers project would redevelop the existing 218 low-rise units, constructing 487 new units, as well as developing the currently vacant parcels on the triangle shaped site situated between 12th and 16th streets, Sproule Street, and Richards Boulevard. These projects are sufficiently low in profile and distant from the RSP Area that they would not contribute to cumulative visual changes associated with the proposed RSPU. Finally, the Sacramento River Water Treatment Plant (SRWTP) is currently undergoing renovation, involving the construction of new buildings and treatment ponds. These improvements are largely interior to the SRWTP site and would not contribute to the visual effects of the proposed RSPU.

2007 RSP EIR Impact 6.13-5

2007 RSP EIR Impact 6.13-5 stated that the cumulative changes anticipated in the RSP Area as well as other portions of the Central City would be part of the existing pattern of urban development, and that "changes in land use that would substantially degrade the visual characteristic of the area south of the project site would generally not be permitted to occur under the General Plan or CEQA review, thereby protecting the visual character of these areas." The analysis noted that there were no other cumulative projects that would add to the effects of the development proposed in the Riverfront District of the RSP. Thus, the analysis concluded that the project contribution to the cumulative change in the visual character of the area would be less than significant.

Proposed RSPU

The Sacramento Planning and Development Code and the Central City Urban Design Guidelines, implemented through the City's Site Plan and Design Review process, are intended to ensure that the uses, site planning, design, and landscaping of future public and private development occurs in a manner that is reflective of, and not inconsistent with, its surroundings. Additional infill development within areas surrounding the RSP Area, including the northern edge of the CBD, Alkali Flat, and the River District, would constitute further intensification of an area that is visually urban and largely built-out. In conjunction with the development of the RSP Area, cumulative development would not be expected to result in substantial degradation of the visual quality of the area.

Although Impact 4.1-2 identifies a significant impact with respect to incompatible visual character and massing of the proposed hotel/residential buildings adjacent to the riverfront, this project-specific impact constitutes one of only two proposed developments along the riverfront within the identified cumulative context, the other being the Powerhouse Science Center which proposes shorter buildings constructed along Jibboom Street, set back from the riverbank. In short, development on the identified parcels in the Riverfront District represents a small portion of the larger framework in which the cumulative context was established for the overall visual character and quality of the area, including the Sacramento River from the Old Sacramento to the Jibboom Street Bridge. As such, because the proposed RPSU, including the KP Medical Center, MLS Stadium, and Stormwater Outfall, would not degrade the existing visual quality of the area, the project would not have cumulatively considerable contribution to this impact. Consequently, the cumulative change in the visual character of the areas surrounding the project site would be **less than significant**.

Mitigation Measure

None required.

Impact 4.1-6: The proposed projects could cause and introduction of building height and mass that conflicts with the character of the Sacramento River riverfront between Old Sacramento and Discovery Park.

This impact corresponds to RSP EIR Impact 6.13-6, pages 6.13-35 to 6.13-36 of the RSP EIR.

Cumulative Context

The 2007 RSP EIR characterized the cumulative context for riverfront visual conflicts as the "portion of the Downtown/Land Park Area of the Sacramento Riverfront, as defined in the Sacramento River Parkway Plan, from 25th Avenue to the Jibboom Street Bridge at the confluence of the American River." In 2007 it was explained that in addition to the 2007 RSP, cumulative development in this reach of the River included future development in the Docks Area, south of Old Sacramento, as well as cumulative development on the west bank of the Sacramento River in West Sacramento. Today the cumulative context remains similar, including development on both the Sacramento and West Sacramento sides of the River. In Sacramento, development is largely limited to the Docks Area Plan, south of the RSP Area, and the Powerhouse Science Center project immediately to the north. In addition, the I Street Bridge Replacement project, connecting Railyards Boulevard in the RSP Area to C Street in West Sacramento would be a major project within the cumulative context of the RSP Area. On the west bank of the River, cumulative development would include the remaining unbuilt portions of the Raley's Landing project within the Washington Specific Plan area, development within the Bridge District of West Sacramento, and further development south of the Tower Bridge.

2007 RSP EIR Impact 6.13-6

The analysis in Impact 6.13-6 acknowledged that, although the Sacramento Riverfront Master Plan calls for revitalization to provide more high-quality open space along the riverfront, high-rise development allowed in the RSP Riverfront District, combined with future development in the Docks Area of Sacramento and the Raley's Landing and Triangle (now Bridge District) areas of West Sacramento, "would cumulatively alter the riverfront in ways that fail to visually blend with and be in scale with the surrounding riverine environment, as called for in policy D3 of the Sacramento River Parkway Plan, and may reduce the visual openness of the river corridor." The impact concluded that "[b]ecause future cumulative development could adversely affect public views to and from the river, and because some of that development could conflict with the desired scale and mass of the riverfront," the impact would be potentially significant.

The impact analysis further stated that the 2007 RGD for the RSP Riverfront District required (1) structures to be set back as far as possible adjacent to I-5, (2) buildings to be stepped down toward the riverfront, and (3) creation of slender towers with sufficient separation to protect through-views to and from the river. As a result of these provisions in the 2007 RGD, the analysis concluded that the contribution of the 2007 RSP to the cumulative visual effects along the Sacramento River would be less than significant.

Proposed RSPU

In conjunction with the proposed RSPU, cumulative development on the Sacramento and West Sacramento riverfronts may have a substantial cumulative adverse effect on the character of the riverfront, including effects on public views of scenic vistas.

As described in the 2007 RSP EIR, the major public views within proximity to the project site consist of views to and from the Sacramento River. Although the Sacramento River defines the western boundary of the City, existing public views of the river from the downtown area and other portions of the City are quite limited due to the presence of I-5 (which visually separates the City from the Sacramento River riverfront), intervening structures and landscaping, the topography of the levee which is raised over grade in areas, as well as the sloping edge of the river bank. In addition to the pedestrian path along the riverbank, most public viewing opportunities are afforded while driving across along frontage roads (like Front Street and Jibboom Street), bridges or I-5. Key views from the west bank of the River, in West Sacramento, are afforded from the Riverwalk which starts at the A Street Boat Ramp and travels south toward the Bridge District.

The 2003 Sacramento Riverfront Master Plan calls for revitalization in order to provide more high quality open space along the riverfront around which dense urban redevelopment could occur. On the east bank of the river, the long-planned Docks Area project is consistent with this guidance; on the West Sacramento side of the river, the Washington Specific Plan and Bridge District Specific Plan both call for substantial development in the vicinity of the riverfront. In addition, the I Street Bridge Replacement Project would introduce a major new river crossing in the midst of the RSP Area Riverfront District. Thus, new cumulative development would occur along the riverfront.

All development on the riverfront in the City of Sacramento would be subject to the City's Site Plan and Design Review process. While some of the development activities may occur in areas intended for development (such as the Docks Area or Raley's Landing area of the West Sacramento riverfront), construction of cumulative projects, particularly high-rise development as would be allowed in the Railyards Riverfront District, high-rise development in the Raley's Landing and Bridge District areas of West Sacramento, intensive development in the Dock's Area, and projects such as the I Street Bridge Replacement Project and the Powerhouse Science Center would cumulatively alter the riverfront in ways that fail to visually blend with and be in scale with the surrounding riverine environment, as called for in policy D3 of the Sacramento River Parkway Plan, and may reduce the visual openness of the river corridor. Because future cumulative development could adversely affect public views to and from the river, and because some of that development could conflict with the desired scale and mass of the riverfront, this cumulative impact is considered potentially significant.

As described above, under Impact 4.1-2, the height and bulk of development that would be allowed in the Riverfront District would conflict with the character of the riverfront between Old

Sacramento and the Jibboom Street Bridge, and would be inconsistent with the proposed RSPU Design Guidelines which states that in the Riverfront District it is the intent that "[t]owers should be slender on their upper stories so as to preserve visual access to the River for Interstate 5 motorists." For these reasons, the contribution of the proposed projects to the cumulative visual effects on along the Sacramento River would be cumulatively considerable, and therefore this cumulative impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 4.1-6 (RSPU)

Implement Mitigation Measure 4.1-2.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-6 would ensure a building height step down toward the Sacramento River to create a development edge that would be similar in scale to other built environment on the east bank of the Sacramento River between Old Sacramento and the Jibboom Street Bridge. With the implementation of **Mitigation Measure 4.1-6**, contribution of the proposed RSPU to the cumulative impact would be **less than considerable**, and this impact would be reduced to a **less-than-significant** level.

Impact 4.1-7: The proposed projects could contribute to cumulative increases in light.

This impact corresponds to RSP EIR Impact 6.13-7, page 6.13-36 of the RSP EIR.

Cumulative Context

The 2007 RSP EIR recognized that Sacramento is an urbanized city and contains numerous existing sources of nighttime lighting. It identified the cumulative context for lighting as areas surrounding the RSP Area, both to the south in the CBD, and to the north in the River District. The cumulative context remains the same today.

2007 RSP EIR Impact 6.13-7

The analysis in Impact 6.13-7 stated that nighttime lighting already exists in the nearly built-out areas around the RSP Area, and that "a significant amount of ambient lighting currently exists due to the urbanized nature of the City as a whole." It went on to state that "[i]ncreases in nighttime lighting that would occur under cumulative development would not significantly affect nighttime views of the sky because such views are already limited." In concluding, the analysis stated that the development of the 2007 RSP in combination with other cumulative development in the vicinity "is not anticipated to result in the creation of new sources of light that could negatively affect nighttime views," and that the cumulative impact related to nighttime lighting would be less than significant.

As it relates to spillover lighting on properties in the Alkali Flat neighborhood, because there were no other cumulative projects known that could add to potential spillover effects along 7th Street or on the northern edge of Alkali Flat between 7th and 12th streets, the RSP EIR found that there would be no cumulative impact associated with spillover lighting.

Proposed RSPU

Ambient Nighttime Light

As discussed above, additional development within the areas surrounding the project site would constitute further intensification of an already urban and nearly built-out area and would generally occur through infill development. Nighttime lighting currently exists in these surrounding areas.

Although cumulative new development or redevelopment could include direct illumination of project structures, features, and/or walkways, the increase in ambient nighttime lighting levels in these areas would only rise minimally because a significant amount of ambient lighting currently exists due to the urbanized nature of the City as a whole, and because lighting is addressed through the City's Site Plan and Design Review process. Increases in nighttime lighting that would occur under cumulative development would not significantly affect nighttime views of the sky because such views are already limited. Because the project site is currently vacant, future development under the proposed RSPU would increase the ambient nighttime lighting in the area. However, because nighttime views of the sky are already limited due to the urbanized nature of the City, cumulative development within the areas surrounding the project site, in combination with development under the proposed projects, is not anticipated to result in the creation of new sources of light that could negatively affect nighttime views. Therefore, cumulative impacts associated with ambient nighttime lighting would be considered less than significant.

Spillover Light

The cumulative context for spillover light would be other development that could add to the spillover light effects of the project on properties in the Alkalai Flat neighborhood or the Water Street residences, adjacent to the project site.

Spillover light is a site-specific effect that could only be added to by other projects in the immediate vicinity of the affected property. There are no other known projects along the 7th Street or northern edge of Alkali Flat between 7th Street and 12th Street, or in the North B Street/Bannon Street corridor. Therefore, there would be no cumulative impact associated with spillover lighting.

Mitigation Measure

None required.

Impact 4.1-8: The proposed projects could contribute to cumulative sources of glare.

This impact corresponds to RSP EIR Impact 6.13-8, page 6.13-36 and 6.13-37 of the RSP EIR.

Cumulative Context

The 2007 RSP EIR identified the cumulative context for glare effects as areas surrounding the RSP Area potentially affected by glare produced from development in the RSP Area. It noted that the only other known project in immediate proximity to the I-5 corridor was the Towers on Capitol Mall project, which was an approved high-rise residential and hotel project located at 3rd Street and Capitol Mall, about four blocks south of the RSP Area; that project is no longer considered a cumulative project today. Today, cumulative projects in close proximity to I-5 include the I Street Bridge Replacement project and the Powerhouse Science Center. Other cumulative projects in downtown Sacramento are sufficiently set back from I-5 as to not fall into the immediate viewshed of drivers; similarly, glare from cumulative projects in West Sacramento would be unlikely to affect drivers on north or southbound I-5.

Impact 6.13-8 noted that "[f]or potential glare effects internal to the Railyards area, there would be no cumulative projects that could add to the effect generated by the project itself." As a result, the cumulative glare analysis was limited to the effects in the I-5 corridor. Those same conditions remain today.

2007 RSP EIR Impact 6.13-8

The analysis in Impact 6.13-8 explained that the cumulative effects of potential glare from buildings constructed in the RSP Area, combined with the Towers on Capitol Mall project, and other existing buildings that could generate glare, such as the One Capitol Mall building (located on Capitol Mall west of I-5) "would result in potential glare effects along a longer stretch of I-5 as it passes through downtown Sacramento." While the analysis acknowledged that the potential increases in glare would likely be "minor and consistent with the existing built environment due to limited development potential and existing City regulations," and that CEQA review of other future projects would likely result in requirements for mitigation to avoid glare, since the buildings in the RSP Area would be designed in the future and could produce glare effects, cumulative daytime glare along I-5 could be potentially significant, and the buildings constructed in the RSP Riverfront District "could result in a *cumulatively considerable contribution to this significant cumulative impact*."

Implementation of Mitigation Measure 6.13-4, described in Impact 4.1-4, above, was determined to reduce the project contribution to a less-than-considerable level, thus reducing the impact to insignificance.

Proposed RSP Update

The cumulative effect of glare generated by the proposed projects in conjunction with the glare effect generated other buildings along I-5 that could generate glare include the One Capitol Mall building and the Embassy Suites Hotel, both on Capitol Mall immediately west of I-5. It is possible that in the future additional high-rise structures would be constructed near the I-5 corridor in downtown Sacramento, but those projects are not reasonably foreseeable today. These potential increases in glare are likely to be minor and consistent with the existing built environment due to limited availability of development parcels near I-5 and existing City regulations as articulated in the Planning and Development Code and Central City Urban Design Guidelines which would be implemented through the City's Site Plan and Design Review process. Further, future projects would in many cases be subject to CEQA review and the City would have the authority to require mitigation for glare effects, which could likely also reduce the impacts to a less-than-significant level. However, since the buildings to be developed pursuant to the proposed RSPU have yet to be designed and could produce glare effects, cumulative daytime glare along these major roadways in the project vicinity would be a potentially significant impact. The buildings built adjacent to I-5 in the Railyards could result in a significant daytime glare impact, therefore the proposed projects could result in a cumulatively considerable contribution to this **significant cumulative impact**.

Mitigation Measure

Mitigation Measure 4.1-8 (RSPU)

Implement Mitigation Measure 4.1-4.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.1-8 would substantially lessen and avoid potential glare impacts of the proposed RSPU by limiting the permitted construction materials of new buildings to non-reflective materials. With the implementation of **Mitigation Measure 4.1-8** listed above, the contribution of the proposed RSPU to this cumulative impact would be less than considerable, and the impact would be reduced to a **less-than-significant** level.

SECTION 4.2
Air Quality

This section addresses the potential impacts of construction and operation of the proposed projects on ambient air quality and the potential for exposure of people (especially sensitive individuals who consist of children, the elderly, acutely ill, and chronically ill) to unhealthful pollutant concentrations, and where significant impacts are disclosed, identifies feasible mitigation measures. Air pollutants of concern in the Sacramento region include ozone (O_3), carbon monoxide (CO), and particulate matter (PM) in size fractions of 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$). In addition, the potential for exposure to odors, toxic air contaminants is addressed, as well as the effects of tall buildings on ground-level wind accelerations.

Comments on the NOP (see Appendix B) included a letter from the Sacramento Metropolitan Air Quality Management District (SMAQMD) that requested assessment of air quality impacts for construction and operation of the proposed projects. In addition to requesting that the SEIR include estimates of short-term and long-term air pollutant emissions, it asked that the Air Quality Mitigation Plan (AQMP) that was prepared for the 2007 RSP be assessed for effectiveness and amended as necessary to maintain effectiveness. The letter requested disclosure of potential impacts from Toxic Air Contaminants (TACs), especially related to receptors in close proximity to existing and future sources of emissions (like Interstate 5). These issues are addressed in this section.

The letter noted the presence of the proposed MLS Stadium and suggested that features that facilitate use of sustainable modes of transportation be addressed in a transportation management plan. This issue is addressed in section 4.12, Transportation and Circulation. The letter also requested assessment of greenhouse gas emissions based on the SMAQMD's CEQA Guide to Air Quality Assessment, and consideration of the project's consistency with greenhouse gas reduction plans, such as SACOG's Metropolitan Transportation Plan/Sustainable Communities Strategy, and the City's Climate Action Plan. These issues are addressed in section 4.7, Global Climate Change.

The analysis included in this section is based on a set of project-specific construction and operational features, and data provided in the *2007 Railyards Specific Plan Draft Environmental Impact Report,*[1] the *City of Sacramento 2035 General Plan,*[2] the *City of Sacramento 2035*

[1] PBS&J/EIP, 2007. *Railyards Specific Plan Draft Environmental Impact Report (SCH No. 2006032058).* August 2007.

[2] City of Sacramento, 2015. *City of Sacramento 2035 General Plan.* Adopted March 3, 2015.

General Plan Master Environmental Impact Report,[3] traffic information provided by Fehr & Peers Associates,[4] and SMAQMD's *CEQA Guide to Air Quality Assessment.*[5]

Issues Addressed in the 2007 RSP EIR

The 2007 Railyards Specific Plan (RSP) EIR focused on the nature and magnitude of the change in the air quality, odors and wind environment due to construction and operation of the 2007 RSP. Development details of the 2007 RSP are discussed in Chapter 3.4.2 of the *2007 Railyards Specific Plan*. Those issues are still applicable to RSPU and other proposed projects in the RSP Area, and are discussed in this section.

4.2.1 Environmental Setting

The 2007 RSP EIR described the air quality setting of the RSP Area on pages 6.1.1 through 6.1-10. The environmental setting discussion in this section is consistent with the discussion in the 2007 RSP EIR but the existing ambient air quality conditions and citations are updated. SMAQMD is the primary local agency with respect to air quality for all of Sacramento County. 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 Topography

The climate and topography in the vicinity of the RSP Area has not changed since the certification of the 2007 RSP EIR. 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 (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.

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3 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 3, 2015.

4 Fehr and Peers, 2016. Railyards Traffic Impact Study.

5 Sacramento Metropolitan Air Quality Management District, 2009. Guide to Air Quality Assessment. Available: http://www.airquality.org/ceqa/ceqaguideupdate.shtml. December 2009.

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 Straits. 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 Straits 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 tends to keep air pollutants in the Sacramento Valley. This phenomenon's effect exacerbates the pollution levels in and increases the likelihood of area to violate state and/or federal air quality 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, persistent inversions occur frequently in the SVAB, especially during autumn and early winter, and restrict the vertical dispersion of pollutants released near ground level.

Criteria Air Pollutants

Criteria air pollutants are a group of pollutants for which federal or state regulatory agencies have adopted ambient air quality standards. Criteria air pollutants include O_3, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$ and lead. **Table 4.2-1** lists the health effects associated with these pollutants. Most of the criteria pollutants are directly emitted. Ozone, however, is a secondary pollutant that is formed in the atmosphere by chemical reactions between nitrogen oxides (NOx) and reactive organic gases (ROG).

Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified". The ambient state and national air quality standards can be found in **Table 4.2-2**. The County's attainment status for the criteria pollutants are summarized in **Table 4.2-3** and are compared to those presented in the 2007 RSP EIR.

On page 6.1-5, the 2007 RSP EIR presented air quality data from the California Air Resources Board (CARB) regional air quality monitoring network T Street Station for years ranging 2004 to 2006. Currently, the monitoring stations that include data representative of the proposed project sites are located in Sacramento on T Street (monitors ozone, PM_{10}, and $PM_{2.5}$) approximately 1.1 miles southeast of the proposed project and at El Camino and Watt (this station is at a busy intersection where CO is monitored) approximately 5.9 miles northeast of the project site. **Table 4.2-4** presents

a five-year summary of air pollutant concentration data collected at these monitoring stations for ozone, PM_{10}, $PM_{2.5}$ and CO, as well as the number of days the applicable standards were exceeded during the given year. As shown in Table 4.2-4, since the publication of the 2007 RSP EIR, the attainment status of PM_{10} and $PM_{2.5}$ has been updated to attained and not designated, respectively.

While the data gathered at these monitoring stations may not necessarily reflect the unique meteorological environment of the RSP Area, nor the proximity of site-specific stationary and mobile 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 classified as non-attainment with respect to specific air quality standards.

TABLE 4.2-1.
HEALTH EFFECTS OF MAIN CRITERIA AIR POLLUTANTS

Pollutant	Adverse Effects
Ozone	• Ozone can irritate lung airways and cause inflammation. Other symptoms include wheezing, coughing, and breathing difficulties during exercise or outdoor activities. People with respiratory problems are most vulnerable, but even healthy people that are active outdoors can be affected when O3 levels are high. • Repeated exposure to O3 pollution for several months may cause permanent lung damage. • Even at very low levels, ground-level O3 triggers a variety of health problems including aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis. • Ground-level O3 interferes with the ability of plants to produce and store food, which makes them more susceptible to disease, insects, Other pollutants, and harsh weather. • Ozone reduces crop and forest yields and increases plant vulnerability to disease, pests, and weather.
Carbon Monoxide	• The health threat from lower levels of CO is most serious for those who suffer from heart disease. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. • Healthy people can be affected by high levels of CO as well. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death • CO contributes to the formation of ground-level O3, which can trigger serious respiratory problems.
Particulate Matter	• Particle pollution, especially fine particles, contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including: increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; decreased lung function, aggravated asthma, development of chronic bronchitis; irregular heartbeat, nonfatal heart attacks; and premature death. • Particles can be carried over long distances by wind and then settle on ground or water. The effects of this settling include: making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.
Nitrogen Dioxide	• One of the main constituent involved in the formation of ground-level O3, which can trigger serious respiratory problems. • Reacts to form nitrate particles, acid aerosols, as well as NO2, which also cause respiratory problems. • Contributes to formation of acid rain; to nutrient overload that deteriorates water quality; and to atmospheric particles that cause visibility impairment. • Reacts to form toxic chemicals.

SOURCE: Environmental Protection Agency, 2006. https://www3.epa.gov/airtrends/aqtrnd95/sixpoll.html.

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	0.070 ppm	0.070 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 (PM_{10})	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 ($PM_{2.5}$)	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	12.0 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 SO_2.
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 $PM_{2.5}$.

NOTE:

ppb = parts per billion; ppm = parts per million; ug/m^3 = micrograms per cubic meter.

SOURCE: California Air Resources Board, 2015. *Ambient Air Quality Standards.* Available: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Standards last updated October 1, 2015; California Air Resources Board, 2009. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*. Available: 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

Pollutant	2007 RSP EIR Designation/Classification		2016 Designation/Classification	
	State Standards	Federal Standards	State Standards	Federal Standards
Ozone	Nonattainment/Serious	Nonattainment/Severe	Nonattainment/Serious	Nonattainment/Severe
Carbon Monoxide	Attainment	Attainment	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Attainment	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Attainment	Attainment	Unclassified
Fine Particulate Matter (PM_{10})	Nonattainment	Nonattainment	Nonattainment	Attainment*
Fine Particulate Matter ($PM_{2.5}$)	Not Designated	Not Designated	Nonattainment	Nonattainment/Moderate

NOTE:

* Effective October 28, 2013, the U.S. EPA formally re-designated Sacramento County as attainment for the federal PM_{10} standard.

SOURCES: City of Sacramento, 2007. Railyards Specific Plan Draft Environmental Impact Report. August 2007; California Air Resources Board, 2014. *Area Designation Maps*. Available: http://www.arb.ca.gov/desig/adm/adm.htm. Accessed December 4, 2015; U.S. Environmental Protection Agency, 2015. *U.S. EPA Fact Sheet – California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants.* October 1, 2015.

TABLE 4.2-4.
SUMMARY OF AIR QUALITY MONITORING DATA (2012–2014)

Pollutant	Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]		
		2012/2004	2013/2005	2014/2006
Ozone – T Street Station				
Days 1-hour State Std. Exceeded	>0.09 ppm[b]	1/1	4	6
Max. 1-hour Conc. (ppm)		**0.104/0.105**	0.091/0.108	0.085/0.106
Days 8-hour National Std. Exceeded[e]	>0.070 ppm[c]	4/0	0/1	0/3
Days 8-hour State Std. Exceeded[e]	>0.070 ppm[b]	9/NA	0/NA	4/NA
Max. 8-hour Conc. (ppm)		**0.093/0.075**	0.068/0.087	**0.072/0.090**
Nitrogen Dioxide (NO_2) – T Street Station				
Days 1-hour State Std. Exceeded	> 0.18 ppm	0/0	0/0	0/0
Days 1-hour National Std. Exceeded	>0.10 ppm	0/0	0/0	0/0
Max. 1-hour Conc. (ppm)		0.062/0.072	0.059/0.071	0.064/0.077
Annual Average Conc. (ppm)		12/NA	12/NA	11/NA
Suspended Particulates (PM_{10}) – T Street Station				
Estimated Days Over 24-hour National Std.[d]	>150 µg/m^3 [c]	0/1	NA/0	0/0
Estimated Days Over 24-hour State Std.[d]	>50 µg/m^3 [b]	0/0	NA/0	NA/8
Max. 24-hour Conc. National/State (µg/m^3)		36.2/36.7/58/**58**	53.1/**92.3**/53/**55**	105.7/**106.4/109/111**
State Annual Average (µg/m^3)	>20 µg/m^3 [b]	17.8/NA	NA/NA	NA/NA
Suspended Particulates ($PM_{2.5}$) – T Street Station				
Estimated Days Over 24-hour National Std.[d]	>35 µg/m^3 [c]	0/0	6.1/0	0/0
Max. 24-hour Conc. National (µg/m^3)		27.1/**46**	**39.2/59**	26.3/**54**
National Annual Average (µg/m^3)	>12.0 µg/m^3 [b]	8.3/NA	10.0/NA	8.0/NA
Carbon Monoxide (CO) – El Camino & Watt Station				
Days 8-hour State Std. Exceeded	>9.0 ppm[b]	0	0	0
Max. 8-hour Conc. (ppm)		2.1/2.96	NA/3.64	NA/NA
Days 1-hour State Std. Exceeded	>20 ppm[b]	0/0	0/0	0/0
Max. 1-hour Conc. (ppm)		2.7/NA	3/NA	2.5/NA

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/m^3 = 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. PM_{10} and $PM_{2.5}$ 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 of how many days concentrations would have been greater than the level of the standard had each day been monitored.
e. The CARB and U.S. EPA use different methods to calculate the emissions for comparisons to the state and national standards.

SOURCE: California Air Resources Board, 2015. *Summaries of Air Quality Data, 2012-2014*. Available: http://www.arb.ca.gov/adam/index.html. Accessed December 4, 2015.

Existing Ambient Air Quality

The criteria air pollutants most relevant to air quality planning and regulation in the SVAB include O_3, CO, PM_{10} and $PM_{2.5}$. Each of the relevant criteria pollutants is briefly described below in the context of the County's attainment status and compared to those presented in the 2007 RSP EIR.

Ozone (O_3)

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.

As described in Table 4.2-4, ozone levels in the project vicinity have resulted in numerous violations of ambient air quality standards between 2012 and 2014. Emissions in the project vicinity exceeded the 1-hour state standard twice, and exceeded the 8-hour state and national standards 8 and 1 times, respectively, during the 3-year study period.

As discussed on page 6.1-5 and shown in Table 6.1-3 of the 2007 RSP EIR, emissions in the project vicinity in years 2004 through 2006 exceeded the 1-hour state standard eleven times, and exceeded the 8-hour national standards four times, during the 3-year study period. Prior to the publication of the 2007 RSP EIR, there was no state 8-hour standard.

According to the American Lung Association, healthy adults and children are harmed by air pollution; most at risk are children, the elderly, those with heart and lung disease, diabetes, or who live in proximity to major sources of pollution, like ports, rail yards, or busy roadways.[6] For these vulnerable populations, particle pollution increases the risk of asthma attacks and respiratory distress, heart attacks, stroke, and premature death. The World Health Organization concluded in 2013 that breathing particle pollution causes lung cancer. Ground-level ozone triggers asthma attacks, increases the risk of hospital admissions and emergency room visits and even increases the risk of premature death.

Carbon Monoxide (CO)

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 of humans to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can

6 American Lung Association, 2015. State of the Air 2015: Sacramento Regional Summary.

cause headaches, nausea, dizziness, and fatigue, impaired central nervous system function, and angina (chest pain) in persons with serious heart disease. Very high concentrations of CO can be fatal.

As described in Table 4.2-4, there have been no recorded exceedances of the 1-hour or 8-hour state standards for CO in the project vicinity during the 5-year study period. As discussed on page 6.1-5 and shown in Table 6.1-3 of the 2007 RSP EIR, there have been no exceedances of the 1-hour or 8-hour state or national standards for CO in the project vicinity in years 2004 through 2006.

Fine Particulate Matter (PM_{10} and $PM_{2.5}$)

PM_{10} and $PM_{2.5}$ consist of fine 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). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Some sources of fine 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 fine particulate matter, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and state ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) has greater effects on health because these particles are small enough to be 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 PM_{10} and $PM_{2.5}$ 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.[7]

[7] 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.

Table 4.2-4 presents the ambient air quality monitoring data for PM_{10} and $PM_{2.5}$ in the project vicinity during the period of 2012 through 2014. It appears that the 24-hour standard was also exceeded at least once in 2013 and at least once in 2014; however, the number of exceedance days is not available for those years. Regarding $PM_{2.5}$, the study area was estimated to have exceeded the 24-hour national standard approximately six (6) times in 2013. There were no exceedances of the annual average standards for PM_{10} or $PM_{2.5}$ recorded during the 3-year study period.

As discussed on page 6.1-5 and shown in Table 6.1-3 of the 2007 RSP EIR, between years 2004 to 2006 there have been 13 exceedances of the state PM_{10} standards. In regards to $PM_{2.5}$, there have been no exceedances of the 24-hour $PM_{2.5}$ national standards; prior to the publication of the 2007 RSP EIR, there were no state 24-hour $PM_{2.5}$ standards.

According to the SMAQMD, exposure to PM pollution can cause coughing, wheezing, and decreased lung function even in otherwise healthy children and adults. EPA estimates that thousands of elderly people die prematurely each year from exposure to fine particles. CARB has estimated both the public health and economic impacts caused by exposure to $PM_{2.5}$. For the Sacramento Metropolitan Area, CARB estimates that: 90 people die prematurely; 20 people are admitted to hospitals; 1,200 asthma and lower respiratory symptoms cases; 1110 acute bronchitis cases; 7,900 lost work days; 42,000 minor restricted activity days; and total economic impact of PM is over $700 million per year.[8]

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.

Table 4.2-4 presents the ambient air quality monitoring data for NO_2 in the project vicinity during the period of 2010 through 2014. Emissions of NO_2 were found to not exceed either the state or national standards, which is consistent with the finds presented in the 2007 RSP EIR. As discussed on page 6.1-5 and shown in Table 6.1-3 of the 2007 RSP EIR, between years 2004 to 2006 there have been violations of the state or national air quality standards.

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 vicinity are well below federal and state standards.

8 Sacramento Metropolitan Air Quality Management District, 2016. Particulate Matter ($PM_{2.5}$) and Planning. Available: http://www.airquality.org/plans/federal/pm/PM2.5/index.shtml. Accessed April 8, 2016.

Accordingly, the region is currently designated as attainment with both the national and state SO_2 standards. The attainment status of SO_2 in the vicinity of the proposed project areas has not changed since the publication of the 2007 RSP EIR.

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. Accordingly, the region is currently designated as attainment with both the national and state lead standards. The attainment status of lead in the vicinity of the proposed project areas has not changed since the publication of the 2007 RSP EIR.

Toxic Air Contaminants

Since the certification of the 2007 RSP EIR, the RSP Area has undergone extensive soil and building remediation. The remediation within the RSP Area includes both soil and groundwater contamination and the removal of lead paint and asbestos from existing buildings. Most of the remediation activities are completed or in their final states. Details of the past remediation activities can be found in Section 4.8, Hazards.

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 be emitted from a variety of common sources including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations.

CARB has identified diesel particulate matter (DPM) as a TAC 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 DPM as determined by the CARB declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, CARB estimated that the average statewide cancer risk from DPM was 540 in one million.[9] These calculated cancer risk values from ambient air exposure generated by mobile sources can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is more

[9] California Air Resources Board, 2009. *California Almanac of Emissions and Air Quality - 2009 Edition.* Table 5-44 and Figure 5-12.

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.[10]

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, as well as any new sensitive receptors located near existing odor sources.

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 the most sensitive 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 the overall health risk associated with exposure to pollutants. Residential

[10] 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).* Available: http://seer.cancer.gov/csr/1975_2009_pops09/results_merged/topic_lifetime_risk_diagnosis.pdf. Accessed June 27, 2013.

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. Workers are not considered sensitive receptors because all employers are required to follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees. Descriptions of the existing sensitive receptors in the vicinity of the various sites associated with the proposed project are presented below.

The nearest sensitive receptors to the RSP Area are residents of homes near the intersection of Water, Bannon, and North B streets (adjacent to the northern boundary of the RSP Area); residents of homes located in the Alkali Flat neighborhood near the intersection of D and 8th streets (approximately 200 feet east of the RSP Area); residents of the Globe Mills multi-family residential development near 11th and B streets; future residents of the Creamery project, near 10th and D streets; and residents of the Ping Yuen Apartments, near 5th and I streets, across I Street from the southern boundary of the RSP Area.

The nearest sensitive receptors to the proposed KP Medical Center are the residences noted above, located near the intersection of Water, Bannon, and North B streets (approximately 560 feet north-east of the proposed KP Medical Center).

The nearest sensitive receptors to the proposed Stadium are residents of homes located in the Alkali Flat neighborhood near the intersection of D and 8th streets (approximately 200 feet east of the RSP Area); residents of the Globe Mills multi-family residential development near 11th and B streets; and the future residents of the Creamery project, near 10th and D streets.

The nearest residences to the proposed Stormwater Outfall would be located near the intersection of Kiline Street and 3rd Street (approximately 1,600 feet to the west, across the Sacramento River).

Wind and Microclimate

Background

Effect of Wind Speed on Pedestrian Comfort and Pedestrian Safety[11]

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four miles per hour (mph) have no noticeable effect on pedestrian comfort. With speeds from 4 to 8 mph, wind is felt on the face. Winds from 8 to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. For winds from 19 to 26 mph, the force of the wind will be felt on the body. With 26 to 34 mph winds, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily,

[11] Lawson, T.V. and A.D. Penwarden, 1976. "The Effects of Wind on People in the Vicinity of Buildings," Proceedings of the Fourth International Conference on Wind Effects on Buildings and Structures, London, 1975, Cambridge University Press, Cambridge, U.K., 605-622.

and wind noise is unpleasant. Winds over 34 mph increase difficulty with balance and gusts can blow people over. Higher-speed winds and gusts can cause safety hazards for pedestrians.[12]

Effects of Buildings on Wind Speed and Turbulence

Tall and/or massive buildings and exposed structures can strongly affect the wind environment for pedestrians. A building that stands alone or is much taller than the surrounding buildings can intercept and redirect winds that might otherwise flow overhead, and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence. These redirected winds can be relatively strong and turbulent, and incompatible with the intended uses of nearby ground-level spaces. Furthermore, building designs that present tall flat surfaces square to strong winds can create ground-level winds that can be hazardous to pedestrians. A building with a height that is similar to the heights of surrounding buildings typically would cause little or no additional ground-level wind acceleration and turbulence. In addition to the localized effects from individual buildings, larger groups of individual buildings interact with and tend to slow the approaching winds, due to the friction and drag created by the many individual structures. This slowing is typically greatest near ground level.

The strong and turbulent winds that tall buildings can cause at ground-level can lead to unsafe conditions for pedestrians, such as high speed gusts as mentioned in the previous section. Wind-tunnel tests of tall buildings proposed in cities such as San Francisco and Sacramento have shown evidence of unsafe ground-level wind speeds created by buildings of substantial size and height. Due to these known effects large buildings can have on the wind conditions at ground level, it is necessary to carefully evaluate developments of substantial size or height to ensure safety for pedestrians.

Existing Wind Conditions

Existing Climate and Wind Conditions in Sacramento

Sacramento's climate is typical of inland valleys in California. Summers are hot, with maximum temperatures frequently approaching or exceeding 100 degrees Fahrenheit. Winters are cool and wet. Rainfall averages near 20 inches per year, with almost all rainfall occurring between November and March.

Southwesterly winds predominate and are strongest on average due to the north-south orientation of the Sacramento Valley. During winter, when the sea breezes diminish, northerly winds of some strength occur more frequently but southerly winds still predominate. **Table 4.2-5** summarizes prevailing wind directions and corresponding speeds in Sacramento.[13]

[12] For example, San Francisco has adopted comfort and safety criteria for pedestrian-level winds that are included in the *San Francisco Planning Code* and enforced by City Planning in the project environmental review process.

[13] National Weather Service, 2010. *Climate of Sacramento, California*. August 2010.

TABLE 4.2-5.
AVERAGE WIND SPEED AND PREVAILING DIRECTION BY MONTH,
AND FASTEST MILE BY MONTH, DATE AND YEAR OF OCCURRENCE

Month	Average Speed	Prevailing Direction	Fastest Mile	Direction	Date	Year
January	7.2	Southeast	58	Southeast	4	2008
February	7.4	S-Southeast	58	Southeast	9	1938
March	8.5	Southwest	66	South	14	1952
April	8.6	Southwest	45	Southwest	25	1955
May	9.1	Southwest	40	Southeast	6	1912
June	9.7	Southwest	47	Southwest	23	1950
July	8.9	S- Southwest	36	Southwest	12	1956
August	8.5	Southwest	38	Southwest	19	1954
September	7.4	Southwest	42	Northwest	16	1965
October	6.4	Southwest	68	Southeast	26	1950
November	6.0	N-Northwest	70	Southeast	13	1953
December	6.6	S-Southeast	70	Southeast	7	1952
Annual	7.8	Southwest				

* Averages based on Climatological Normals 1971-2000

Sacramento's climate includes several wind regimes that have the greatest potential for adversely affecting outdoor comfort. The predominant wind direction is generally southwest, reflecting the orientation of the Sacramento Valley and the effect of marine breezes reaching Sacramento through the Carquinez Straits, a sea level gap in the Coast Range. Southwest winds are dominant in the spring and in the summer they have a profound positive effect on pedestrian comfort outdoors. In contrast, the Fastest Mile wind speeds, which relate to the highest speed component of these spring and summer winds, are relatively low, compared to fall and winter winds (see Table 4.2-5). These data indicate that southwest winds are the winds that most affect pedestrians' outdoor comfort, but their low speeds limits the potential of these spring and summer winds to result in wind hazards for pedestrians.

The highest speed winds measured in Sacramento occur from October through March, with the Fastest Mile wind speeds recorded up to 70 mph. These high winds are likely contributed from storms that occur in late fall and early spring. The highest wind speeds, which come from the south and south-southeast, are high enough to result in hazardous winds at pedestrian levels.

Another wind regime that affects outdoor comfort includes strong, dry winds from the north, north-northeast or north-northwest. These winds typically occur in the fall and winter months, and are associated with cold temperatures and low humidity. Strong winds from these directions are not particularly frequent, so they do not strongly affect the pedestrian wind environment, although in certain circumstances, speeds high enough to be hazardous can occur.

Existing Setting and Wind Conditions at the Railyard Specific Plan Update Area

Currently, the RSP Area is vacant, open space, with the exception of the southern boundary, which contains the Sacramento Valley Station (including the historic depot building and the associated rail platforms), the Steve Cohn Passageway, Sacramento Regional Transit light rail station, and associated walkways, and parking lots; office and retail uses in the adjacent Railway Express Annex (REA) building, and parking lots that front on 7th Street between F and H streets. Because the Railyards contain no development of substantial height or bulk to interact with and slow approaching winds, wind speeds over most of the existing Railyards site is expected to be higher than occurs in many other Sacramento neighborhoods, but is also expected to be similar to winds measured at Sacramento Executive Airport, where long-term weather and wind measurements have been made.

Winds in Downtown Sacramento

Previously, ESA conducted wind tunnel tests to characterize the wind conditions that would result upon construction of some buildings proposed in downtown Sacramento. The wind test data were calibrated to the full-scale wind speeds and annual frequency of occurrence using long term wind data recorded at Sacramento Executive Airport.

These previous wind tests showed that the pedestrian-level wind environment in and around downtown Sacramento is moderate, with pedestrian level wind speeds[14] exceeding the City's established comfort criterion of 13 mph in some locations as well as exceeding the City's established hazard criterion of 36 mph for a full hour during the year. The tests showed that these comfort and hazard criterion typically were exceeded for projects greater than 200-feet in height, that were located in areas surrounded by mid- to high-rise buildings. Overall, these test results found that wind speeds of less than 9 to 13 mph typically would occur 90% of the time at representative pedestrian-use locations in public areas downtown.

We conclude that these wind tests provide a sufficient basis upon which to make informed and reasonable estimates of the wind speeds that occur on sidewalks within the mix of low-, mid- and high-rise building development that comprise downtown Sacramento.

4.2.2 Regulatory Setting

On pages 6.1-10 through 6.1-14, the 2007 RSP EIR disclosed the federal, state, and local regulatory framework for air quality as it related to the RSP, including laws, ordinances, regulations, policies, and standards. Since the certification of the 2007 RSP EIR, there have been updates to the City of Sacramento 2035 General Plan and SMAQMD CEQA Guidance. The City's updated policies and SMAQMD regulations are discussed below. All other regulatory framework discussion in this section is consistent with those discussed in the 2007 RSP EIR.

[14] For the purpose of defining the comfort and hazard criterion for wind, the term "wind speed" refers to an equivalent wind speed-a mean wind speed adjusted to incorporate the effects of gustiness or turbulence-that is not exceeded more than 10% of the time.

State and federal regulations related to global climate change are discussed and evaluated in Section 4.7, Global Climate Change.

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.[15]

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 a comparison between the current and 2007 attainment status of NAAQS in the project vicinity. In summary, Sacramento County is classified as severe nonattainment for the 8-hour national ozone standard and moderate nonattainment for the 24-hour national $PM_{2.5}$ standard. Sacramento County is either classified as attainment or unclassified for the remaining NAAQS, which is consistent with what was presented in the 2007 RSP EIR.

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

[15] U.S. Environmental Protection Agency., 2006. Available: https://www3.epa.gov/airtrends/aqtrnd95/sixpoll.html.

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 retain the option to adopt more stringent standards and to include other pollutants. 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 some of the state standards and NAAQS, as shown in Table 4.2-2. Most of the 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 previously discussed, Sacramento County is located within the SMAQMD. 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. If an air district exceeds the California Air Quality Standards for a particular criteria pollutant, they are considered to be nonattainment of that criteria pollutant until the district can demonstrate compliance. As indicated in Table 4.2-3, Sacramento County is classified as nonattainment and serious nonattainment for the 8-hour and 1-hour state ozone standards, respectively, and is nonattainment of the 24-hour state PM_{10} standard. The attainment status shown in Table 4.2-3 is consistent with what was reported in the 2007 RSP EIR.

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

number substances designated as TACs under California Law has not changed since the certification of the 2007 RSP EIR. 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.

In 2000, 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 emissions 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, 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 a recommendation of the report is to: "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."[16] 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. CARB's position is that with careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, 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.

16 California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April 2005. p. 4.

Local

Sacramento Metropolitan Air Quality Management District

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 operators of stationary sources to obtain permits, can impose emission limits, set fuel or material specifications, and establish operational limits to reduce air emissions. The SMAQMD regulates new or modified 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. In order to demonstrate the District's ability to eventually meet the federal ozone standards, the SMAQMD, along with the other air districts in the nonattainment area, maintains the region's portion of the SIP for ozone. The Sacramento Air Basin's part of the SIP is a compilation of regulations that govern how the region and State will comply with the FCAA requirements to attain and maintain the federal ozone standard. The compilation of rules that comprises the Sacramento Nonattainment Area's portion of the SIP is contained in the Sacramento Area Regional Ozone Attainment Plan. Prior to the certification of the 2007 RSP EIR, the latest update SIP was adopted by the SMAQMD on January 26, 2006. Since then, the SMAQMD has made numerous SIP revisions. The latest revisions made to the SIP include the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*,[17] which addresses attainment of the federal 8-hour ozone standard, as well as the *2009 Triennial Report and Plan Revision*,[18] 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 SMAQMD's rules and regulations. With respect to the construction phase of the Proposed Project, the applicable 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).

[17] Sacramento Metropolitan Air Quality Management District, 2013. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*. September 26, 2013.

[18] Sacramento Metropolitan Air Quality Management District, 2009. *2009 Triennial Report and Plan Revision*. December 2009.

City of Sacramento 2035 General Plan

The 2007 RSP EIR referred to the 1988 City of Sacramento General Plan (see page 6.1-14 of the 2007 RSP EIR), which at the time did not contain any goals or policies related to air quality. Since the publication of the 2007 RSP EIR, the City of Sacramento has updated its general plan to include goals and policies to minimize air quality impacts. The following goals and policies from the *2035 General Plan*[19] 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 (PM_{10} and $PM_{2.5}$) 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 6.1.4 **Sensitive Uses.** The City shall coordinate with SMAQMD in evaluating exposure of sensitive receptors to toxic air contaminants, and will impose appropriate conditions on projects to protect public health and safety.

ER 6.1.10 **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 6.1.13 **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.

All proposed projects would be consistent with policies ER 6.1.1, ER 6.1.2, and ER 6.1.3 because each would implement all recommended SMAQMD mitigation measures during construction and operational, and comply with the SMAQMD's 15 percent emission reduction/mitigation guideline through the preparation of the Air quality Mitigation Plan. Also, the proposed projects would include residential units and/or other mixed-use development that would have access to transit and would not need to rely solely on automobile travel. All of the proposed projects would be energy efficient by exceeding Title 24 energy standards and would encourage the use of zero-emission and low emission vehicle use such as non-motorized vehicles or car-sharing programs, therefore all proposed projects would be consistent with policy ER6.1.13.

[19] City of Sacramento, 2009. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009.

Sacramento Central City Community Plan

The City's *Central City Community Plan*[20] does not contain goals and policies specific to air quality.

4.2.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this SEIR, impacts related to air quality may be considered significant if the proposed project would result in the following:

- Result in short-term (construction) emissions of NOx above 85 pounds per day;
- Result in short-term (construction) emissions of PM_{10} above zero pounds per day without implementation of all best management practices and above 80 pounds per day or 14.6 tons per year after implementation of all best management practices;
- Result in short-term (construction) emissions of $PM_{2.5}$ above 0 pounds per day without implementation of all best management practices and above 82 pounds per day or 15.0 tons per year after implementation of all best management practices;
- Result in long-term (operational) emissions of NOx or ROG above 65 pounds per day;
- Result in long-term (operational) emissions of PM_{10} above 0 pounds per day without implementation of all best management practices and above 80 pounds per day or 14.6 tons per year after implementation of all best management practices;
- Result in long-term (operational) emissions of $PM_{2.5}$ above 0 pounds per day without implementation of all best management practices and above 82 pounds per day or 15.0 tons per year after implementation of all best management practices;
- 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.
- The project could cause substantial ground-level winds, resulting in hazardous conditions for pedestrians.

[20] City of Sacramento, 2015. *Central City Community Plan*. Adopted March 3, 2015.

The proposed project's significance criteria, listed above, are consistent with those assessed under the 2007 RSP with the exception of the SMAQMD's recently established PM_{10} and $PM_{2.5}$ operation and construction thresholds. In June 2015, the SMAQMD updated its CEQA Guidance with new PM_{10} and $PM_{2.5}$ thresholds, which were not evaluated in the 2007 RSP EIR.

Development that causes a hazardous wind environment for pedestrians in public areas of substantial pedestrian use would be considered to cause a significant adverse environmental impact. A hazardous wind environment is defined as a pedestrian-level wind speed – a mean speed adjusted to include the adverse effects of wind turbulence – that exceeds 36 mph for more than one hour per year. If a proposed development has the potential to create a hazardous wind environment, the recommended preventive and mitigation measures shall be implemented to prevent or reduce the severity of the significant impact.

Methodology and Assumptions

Air quality emissions from construction and operation of the RSPU and other proposed projects in the RSP Area could result in significant impacts. Construction emissions would affect local particulate and ozone (ROG and NOx) concentrations, primarily due to fugitive dust sources and diesel exhaust. Project operations would increase emissions from motor vehicle trips and on-site stationary sources such as emergency backup generators and boilers. Other operational sources include fuel combustion associated with landscaping activities, space and water heating in buildings, and the use of consumer products. The air quality section individually analyzes the air impacts from the RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and Stormwater Outfall.

Much of the methodology and assumptions described in this section are similar to those used in the previous 2007 RSP EIR. However, this section evaluates land uses designations that were not evaluated under the previous 2007 RSP EIR. These include the KP Medical Center, the MLS Stadium, and the Stormwater Outfall. The 2007 RSP used the Urban Emissions Model (URBEMIS) 2002 version to estimate emissions. SMAQMD now recommends that CalEEMod be used to estimate project emissions. Consequently, the latest CalEEMod version 2013.2.2 was used to estimate construction and operational emissions for the projects analyzed in this SEIR.

Construction Impacts

The proposed RSPU would allow for construction of 6,000 – 10,000 residential units, 3,857,027sf of office uses, 510,000 sf of medical office uses, 718,003 sf of hospital facilities, 514,270 sf retail uses, 771,405 flexible mix uses, a 25,000-capacity MLS Stadium, a 1,100-room hotel, 485,390 sf of historic and cultural uses, and 30 acres of open space. The only existing structures onsite are the Central Shops structures, the historic Depot, and the train platforms. These structures will remain. Several of the surface streets within the RSP Area have already been completed, which includes 7th Street, 6th Street and 5th Street south of Railyards Boulevard, and Railyards Boulevard west of 7th Street.

CalEEMod was used to determine if emissions of criteria air pollutants would exceed SMAQMD's applicable regional significance thresholds. Modeling was based on project-specific construction estimates for the KP Medical Center, MLS Stadium, and Stormwater Outfall. For this analysis, it is conservatively assumed that the construction of the KP Medical Center, MLS Stadium and developments proposed under the RSPU would overlap. Project-specific information was not available for construction of the full RSPU or Land Use Variant. Consequently, reasonable assumptions and default CalEEMod settings were used to estimate criteria air pollutant and ozone precursor emissions. The CalEEMod default values used in this analysis are found in Appendix A and B of the CalEEMod user guide, which include quantity, horsepower, and load factors of off-road equipment, and typical construction phasing.[21]

Railyards Specific Plan Update and Land Use Variant

For modeling purposes, construction of the proposed RSPU and the Land Use Variant is assumed to occur in five phases commensurate with phases assumed in the CalEEMod model: site preparation, grading, building construction, paving, and architectural coating (i.e., application of paint and other finishes). The only structures onsite are the existing railyard buildings and there would be no demolition required. Construction was assumed to occur over 19 years starting in 2016. However, construction of residential units and commercial buildings would be built incrementally as warranted by market conditions. Appendix C.1 of this SEIR includes the CalEEMod input and output files used for this analysis.

Approximately 750,000 cubic yards (cy) of earth would be imported to the project site, an average of 2,055 cy per day for 365 days. Assuming haul trucks would be filled to full capacity and can hold 14 cy of soil per round trip, the import of clean soil to the project site for grading would equate to 294 round trips per day. Employee trips and vendor round trips are based on CalEEMod default assumptions.

KP Medical Center

The proposed KP Medical Center is assumed to be constructed in two separate phases. The first phase would include construction of a 658,000 sf in-patient hospital building, an adjacent 210,000 sf hospital support building (HSB), and a 1,500 space parking structure. This first phase also includes a 60,000 sf Central Utility Plant (CUP) and a helistop pad. Phase 1 is anticipated to begin construction in 2018 and be open to the public in 2022.

The second phase would include construction of two 150,000 sf medical office buildings, a 1,500 space parking garage, and minor changes to the interior of the CUP in order to provide energy to the phase two buildings. Phase 2 is expected to be initiated no sooner than ten years after completion of Phase 1. There would be no expansion in overall space at the CUP and no change to the footprint of the structure. Phases one and two would be constructed over a period of approximately 2.5 and 1.5 years, respectively. **Table 4.2-6** shows the assumed construction

[21] ENVIRON International Corporation and the California Air Districts, 2013. CalEEMod User's Guide. Available: http://www.caleemod.com/. Accessed March 15, 2016.

phasing for the KP Medical Center. CalEEMod was used to estimate construction-related emissions from construction of the KP Medical Center. Appendix C.1 includes the CalEEMod input and output files.

TABLE 4.2-6.
KP MEDICAL CENTER
CONSTRUCTION PHASING AND DURATION

Phasing	Duration (days)
Phase 1	
Site Preparation	25
Grading	75
Building Construction	750
Paving	50
Architectural Coating	50
Phase 2	
Site Preparation	10
Grading	30
Building Construction	300
Paving	20
Architectural Coating	20

SOURCE: Kaiser Permanente, 2015. Kaiser Dublin Construction Assumptions

MLS Stadium

Construction of the proposed MLS Stadium would take 1.5 years. Construction would start once a soccer team has been awarded to Sacramento by Major League Soccer. Depending on the timing of this event, construction could start as early as fall 2016 and would conclude in early 2018. **Table 4.2-7** shows the assumed construction phasing and duration of the Stadium. CalEEMod was used to determine whether construction-related emissions of criteria air pollutants associated with the construction of the proposed MLS Stadium would exceed SMAQMD's applicable regional significance thresholds. Appendix C.1 includes CalEEMod modeling input and output files for the Stadium.

TABLE 4.2-7.
SACRAMENTO MLS STADIUM
CONSTRUCTION PHASING AND DURATION

Phasing	Duration
Grading	15 days
Dewatering	1 month
Foundations/Footings	2months
Building Construction	11 months
Sitework/Landscaping/paving	15 days

SOURCE: Legends, 2015

Stormwater Outfall

The proposed Stormwater Outfall would result in a brief construction duration and minimal ground disturbance. Although the timing of construction of the Stormwater Outfall is unknown at this time, it was assumed that construction would occur in 2017 and last thirty days. The proposed Stormwater Outfall structure would be 135 feet long and 40 feet wide, most of which would be located underground and located under the I-5 viaduct immediately south of Railyards Boulevard. The CalEEMod software was used to estimate the maximum daily NOx, PM_{10} and $PM_{2.5}$ emissions associated with Stormwater Outfall construction and model output data and assumptions are included in Appendix C.1.

Operational Impacts

In a change since the certification of the 2007 RSP EIR, the California Supreme Court recently found that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents." In *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369, the Supreme Court explained that an agency is only required to analyze the potential impact of such hazards on future residents if the project would exacerbate those existing environmental hazards or conditions. CEQA analysis is therefore concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents. Thus, because the projects would not substantially increase or otherwise affect the number of vehicle trips along I-5 or affect any nearby facilities that could emit objectionable odors, the City is not required to consider the effects of bringing a new population into an area where such TAC and odor emissions exist. Nonetheless, in order to provide a complete picture of how the effects of the proposed projects compare to the effects that were disclosed in the 2007 RSP EIR, these impacts are addressed below (see specifically Impact 4.2-5 and Impact 4.2-11).

Operation of the proposed projects would increase emissions of ozone precursors (ROG and NOx), PM_{10} and $PM_{2.5}$ from vehicle trips, area sources (landscape maintenance, consumer products such as hairsprays, deodorants, and cleaning products), and energy sources (e.g., natural gas combustion for space and water heating, natural gas combustion in boilers, and diesel fuel combustion in backup generators).

CalEEMod was used to estimate vehicle, area and energy use emissions associated with the RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium and Stormwater Outfall. For on-road vehicles, emissions were calculated using CalEEMod default trip rates and trip lengths. A separate CalEEMod run was used to adjust CalEEMod's default vehicle miles travelled (VMT) to match the VMT data provided by Fehr & Peers (presented in section 4.12, Transportation). The operational emissions were estimated for 2035, the year assumed for buildout in this analysis.

Stationary sources include one backup diesel generator for the Stormwater Outfall, five diesel generators at the KP Medical Center, and one generator at the MLS Stadium. The KP Medical Center will also operate four boilers to generate steam and hot water. They also include four boilers

for the hospital. Generator and boiler emissions were estimated using emission factors found in AP-42 and power outputs (e.g., horse power, BTU's) from the project applicants.

The Aviation Environmental Design Tool (AEDT), Version 2B, was used to quantify helicopter pollutant emissions from the proposed helistop at the KP Medical Center. The AEDT is the FAA-approved noise model for quantifying aircraft criteria pollutant emissions. To estimate emissions, the model requires information specific to the helistop, including the total number of helicopter operations, the flight paths that would be used to access and depart the helistop, the specific helicopter types, and the time of day at which the operations would occur. The characteristics of the KP Medical Center helistop operations were obtained from the *Initial Assessment of Helicopter Flight-Track for Kaiser Permanente's Scope of Work.*[22]

Appendix C.1 includes additional information and modeling results.

Localized CO Concentrations

CO concentration levels are highest near crowded or congested intersections where traffic is slow or idling. The proposed projects would increase traffic volumes on surrounding roadways, degrading the existing level of service (LOS) and increasing CO concentrations at nearby intersections. According to the SMAQMD, a project would not result in a significant CO impact if one of following tiers is met:[23]

First Tier

The proposed projects would result in a less-than-significant impact to air quality for local CO if:

- Traffic generated by the proposed project will not result in deterioration of intersection level of service (LOS) or LOS E or F; and

- The project will not contribute additional traffic to an intersection that already operates at LOS E or F.

Second Tier

If all of the following criteria are met, the proposed projects would result in a less-than-significant impact to air quality for local CO.

- The projects would not result in an affected intersection experiencing more than 31,600 vehicles per day;

[22] Flight Safety Institute, 2015. *Initial Assessment of Helicopter Flight-Track for Kaiser Permanente's Scope of Work.* August 28, 2015.

[23] South Coast Air Quality Management District, 2015. *The CEQA Guidance.* Available: http://www.airquality.org/ceqa/ceqaguideupdate.shtml. December 2009.

- The projects would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited; and

- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or CalEEMod models).

The CALINE4 dispersion model is the preferred method of estimating CO pollutant concentrations at sensitive land uses near congested roadways and intersections. For each intersection analyzed, CALINE4 uses traffic volumes, CO emission rates, and receptor locations to estimate peak hour CO concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure and CO emissions rates for Sacramento County from the California Air Resources Board's Emissions Factors (EMFAC) 2014 model. The model is used to identify potential CO hotspots. The modeling methodology assumed worst-case conditions to provide a maximum, worst-case CO concentration. To ensure that an adequate margin of safety was used, the highest 1-hour and 8- hour CO readings from Sacramento County were used as the background concentration. Year 2016 and 2035 was selected for the baseline and cumulative analysis, respectively, in order to generate conservative emission factors and emission estimates. Appendix C.1 contains the CO modeling results.

Air Quality Mitigation Plan

SMAQMD has developed guidance to mitigate operational emissions for projects subject to the California Environmental Quality Act.[24] SMAQMD's guidance recommends that project applicants prepare an Air Quality Mitigation Plan (AQMP) for all projects that exceed SMAQMD's operational significance thresholds of 65 pounds per day for ROG and/or 65 pounds per day for NO_x.

If a project exceeds these thresholds, mitigation must be identified to reduce on-road mobile source emissions by 15 percent if the project is within the current State Implementation Plan (SIP), or by 35 percent if not within the SIP. Since the proposed projects are included within the SIP, the 15 percent reduction applies to these projects.

The following steps were used to determine if the proposed project meets the 15 percent reduction goal. The first step involves estimating total unmitigated ROG and NOx emissions using CalEEMod default values. Since this project includes a traffic analysis, the second step involves estimating mitigated ROG and NOx emissions using CalEEMod but adjusted for the VMT estimates included in Section 4.12, Transportation. Then, the decrease in ROG and NO_x mobile source emissions between unmitigated and mitigated is calculated, and the difference is converted to NO_x equivalents or NO_xe. NO_xe is the sum of NO_x reductions plus one-third of ROG

[24] Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions, Version 3.2 (for Operational Emissions)*. Available: http://www.airquality.org/ceqa/RecommendedGuidanceLandUseEmissionReductions.pdf. Accessed April 14, 2015.

reductions. If the project meets the 15 percent NO_xe reduction goal, it is considered consistent with the SIP and other resent SMAQMD air quality management plans. Appendix C.2 includes additional information and modeling results.

Toxic Air Contaminants and Health Risk Assessment

A health risk assessment (HRA) was conducted to evaluate the cancer risks and non-cancer related health effects associated with exposure to TACs emitted by the proposed projects (see also Appendix C.3). Health risks from TACs are a function of the concentration of emissions and the duration of exposure. Cancer risks are evaluated based on 30-year exposure, whereas non-cancer health risks include adverse health effects from both acute (highest 1-hour and/or 8-hour concentration, depending on the TAC) and chronic (average annual) exposure. The HRA methods are designed to estimate the highest possible, or "upper bound" risks to the most sensitive members of the population (i.e., children, elderly, infirm), as well as those that are potentially exposed to TACs on a routine and prolonged basis (i.e., residents). The HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including the Sacramento Metropolitan Air Quality Management District, California Environmental Protection Agency (CalEPA) and the California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance*.[25,26]

The primary TACs during construction would be DPM from construction equipment exhaust. DPM exhaust is a complex mixture of thousands of gases and fine particles commonly known as soot. Although construction activities within the proposed project sites could be ongoing incrementally for several years, construction within the RSP Area would be intermittent and occur in different areas for varying durations. TAC emissions would be spread out geographically over time, reducing exposure at any individual sensitive receptor. Based on guidance from the SMAQMD, the health risk resulting from exposure to DPM emissions from construction equipment was evaluated qualitatively.[27]

A health risk evaluation was conducted to evaluate the operational effects of area and stationary sources. Area sources include chemicals used by the hospital for various functions including sterilization, medication preparation, and surgical procedures. Stationary sources include emergency diesel backup generators and onsite boilers. Diesel backup generators would be located at the Stormwater Outfall, the KP Medical Center, and at the MLS Stadium. The KP Medical Center would also operate natural gas-fired boilers. For the area sources, the chemicals used in the hospital are evaluated qualitatively. For the stationary sources, air dispersion modeling was conducted using the American Meteorological Society/Environmental Protection

25 Sacramento Metropolitan Air Quality Management District, 2011. *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways.* March 2011.

26 California Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance*, February 2015.

27 Philley, Paul, Huss, Karen, Dubose, Rachel, 2015. Meeting with Paul Philley, Karen Huss, Rachel Dubose with SMAQMD and Brian Boxer, Tim Rimpo, Matt Fagundes and Stan Armstrong to discuss the Air Quality Section of the Railyards SEIR. November 30, 2015.

Agency Regulator Model (AERMOD). AERMOD is a steady-state, multiple-source, Gaussian dispersion model. AERMOD is the U.S. EPA's regulatory dispersion model specified in the Guideline for Air Quality Methods (Code of Federal Regulations, Title 40, Part 51, Appendix W).

In addition to the stationary sources described above, SMAQMD's roadway protocol was used to evaluate the potential health risks from diesel vehicles traveling on I-5.[28] Due to the high traffic volumes on I-5 and locations of future residences to be located near I-5, a detailed site-specific analysis was conducted using AERMOD. Based on recommendations from SMAQMD, DPM from trains was not included in the analysis.

The AERMOD model was used to estimate the highest hourly and annual concentrations of toxic air contaminants (TACs) at future residential locations. These concentrations were then converted to acute, chronic, and carcinogenic health risks using the most recent guidance issued by the California Office of Environmental Health Hazard Assessment (OEHHA). The health risk results should not be interpreted as actual expected rates of cancer or other potential health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available.[29]

Odors

An odor analysis typically evaluates the potential for a project to generate odors and for the project to be affected by odors from nearby sources of odors. General land uses to be developed under the proposed RSPU are not generally considered sources of substantial odors. Consequently, the focus of the odor analysis is on the potential for existing sources of odors to affect future occupants.

Potential odor impacts were evaluated by examining the distances from existing odor sources to residential receptors in the RSP Area. The analysis also considers existing odor complaints, prevailing wind direction, and policies designed to minimize odor impacts. Odor sources typically include industrial land uses, such as fiberglass manufacturing, coating operations, foundries, refineries, sewage treatment plants, landfills, and recycling facilities.

Wind and Microclimate

Previous Wind Tests

The assessment of wind effects for the proposed projects was based on prior wind tunnel testing that has been conducted on buildings in downtown Sacramento. The wind-tunnel tests performed to assess the wind effects of development in Sacramento include: the R Street Corridor wind test for the Capitol Center Golden State Tower, the Environmental Protection Agency (EPA) building

[28] Sacramento Metropolitan Air Quality Management District, 2009. Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways Version 2.1. January 2009.

[29] Office of Environmental Health Hazard Assessment, 2015. Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments. February 2015.

on I and 10th streets, a proposed mixed-use building on J and 8th streets, and a proposed mixed-use building on 14th and L streets. Pedestrian-level wind speeds were measured at selected points for the proposed project sites as they existed, and then with the project to quantify resulting pedestrian-level winds in nearby public spaces at each stage of development.

The results from these wind tests, and the physical similarities to other areas downtown, provide a resource for characterizing the wind environment downtown and also provide understanding of the wind environment expected at the RSP Area.

All four projects listed above were tested at the Atmospheric Boundary Layer Wind Tunnel at the University of California, Davis, under the direction of Bruce White, PhD. These wind tests, however, were performed independent of the University. Scaled models of each project were wind-tunnel tested for the major wind regimes judged likely to result in the worst case with respect to pedestrian level effects. The results of the measurements taken during the wind-tunnel tests were analyzed using the comfort and hazard criterion for pedestrians established, discussed below.

A wind test was conducted for the R Street Corridor / California Capitol Center / Golden State Tower EIR, an analysis of the 24-block corridor infrastructure and the two projects that proposed constructing three high-rise towers that ranged 29- to 39-stories along Q and R streets, between 3rd and 5th streets, as well as a 20-story tower at Q and 7th streets. The R Street Corridor wind test measured wind speeds at locations in or near the 24-block corridor under the existing setting and the proposed project setting for two wind directions – northwest and west-southwest. Unlike the subsequent wind tests discussed here, these two wind directions were chosen for this test because they are at right angles to each other and move nearly diagonally to the R Street Corridor street grid. Therefore, the northwest and southwest winds were expected to reveal more about any adverse wind effects of the structures.[30] The results showed that for the west southwest winds, wind speeds would not increase from existing to project any higher than a moderate speed of 13 to 18 mph wind speed exceeded 10% of the time. For the northwest winds, the existing wind speeds increased from the previously moderate speeds to moderately high speeds above 18 mph wind speed exceeded 10% of the time. Because these results are based on data for predominant wind directions, these results apply to considerations of wind comfort, but they may not be able to identify wind hazard locations that may have existed in some of these test scenarios.

The mixed-use project on J and 8th streets was the tallest among the projects that were previously wind-tunnel tested. The project was tested in 2003 and was a proposed 33-story, 435-ft. tall building at a site approximately four blocks southeast of the RSPU Area. The results from the wind-tunnel test showed locations where winds up to 3 mph greater than the establish 13 mph comfort criteria were exceeded, with an average wind speed of 12.4 mph with the 33-story project

[30] Subsequent analyses and wind tests showed that other wind directions with high wind speed components needed to be included in wind tests for Sacramento buildings to obtain an accurate estimate of the occurrence of wind hazards at pedestrian levels.

in place. The results also showed locations where the wind hazard criteria were exceeded. Similar results were seen for the 1997 EPA project, which is an approximately 350- to 400-foot building. The established wind comfort criterion was exceeded at some pedestrian locations and the overall average wind speed was 11.1 mph with the EPA building in place. The wind test also showed locations where the hazard criterion was exceeded. The project tested at 14th and L streets was a 15-story building and was wind-tunnel tested in 2002. The wind speeds for this project were fairly calm, and were below the 13 mph comfort criterion.

Test Models and Wind Testing Protocols

A 1 inch equals 50 feet scale model of the project and surrounding several blocks was constructed in order to simulate the project and its existing context. The scale model was then tested in a Boundary Layer wind tunnel at the University of California, Davis, under the direction of Dr. Bruce White. These tests, however, were performed independent of the University.

Wind-tunnel testing of the project simulated winds from the north-northeast (NNE), northwest (NW), south-southwest (SSW) and south-southeast (SSE) wind directions. These directions were selected for testing because they represent the major wind regimes, or are relatively frequent or particularly strong, or were judged likely to result in the worst case with respect to pedestrian level effects for this project.

Wind Evaluation and Acceptance Criteria

The City of Sacramento has not established criteria for determining the acceptability of wind conditions that might exist. The City of San Francisco, however, has established such criteria. The San Francisco Planning Code establishes wind comfort criteria: 7 mph equivalent wind speeds for public seating areas and 11 mph equivalent wind speeds for areas of substantial pedestrian use. These levels may be exceeded no more than 10 percent of the time. In addition, San Francisco established a wind hazard criterion, which also is used there as an indicator of significant adverse environmental impact. In the San Francisco Planning Code, an average speed of 26 mph for a full hour is defined to be a wind hazard condition. Given the differences in the ways their criteria are defined, the hazard criterion is equal to a 36-mph wind when restated to the same basis as the 7-mph and 11 mph comfort criteria. The San Francisco wind comfort criteria should not be applied directly to Sacramento conditions, primarily because the climates of the two cities are quite different. Sacramento's hot and sunny summer weather makes some wind desirable, and discomfort due to no wind is probably more frequent than discomfort due to too much wind. The San Francisco hazard criterion, however, can be used as an indicator of pedestrian safety, so is useful here. The evaluation criteria have been considered separately here in defining impacts for each wind direction. For each wind direction, a wind speed of 13 mph, not exceeded more than 10 percent of the time, is considered a pedestrian comfort criterion. A wind speed exceeding the 13-mph pedestrian comfort criterion is considered to be a significant impact. In addition, those winds that would cause a hazard condition are considered to be a significant adverse impact.

Southwest (SW) winds are most frequent and strongest on average in the summer when temperatures are warm. Although soft winds can be pleasant in the heat of the summer, even these winds begin to become uncomfortable when the velocity exceeds 13 mph. A wind speed of 13 mph, not exceeded more that 10% of the time, is the threshold of pedestrian comfort for SW winds.

Discomfort due to north-northeast (NNE) winds would occur in winter, since it is the cold air that causes discomfort a more stringent wind criterion is appropriate. However, winter is not a time of the year that individuals would usually consider sitting outside. For that reason, the same criterion, a wind speed of 13 mph, not exceeded more than 10% of the time, is the threshold of pedestrian comfort for NNE winds.

The third important wind direction in Sacramento is south-southeast (SSE). This is a winter storm wind direction. Since winds from this direction often occur with clouds and rain outdoor, comfort is unlikely to be determined by wind, since all outdoor areas would be already uncomfortable due to rain and/or cold.

For all directions, the threshold of pedestrian comfort has been set at winds exceeding 13 mph exceeded more than 10% of the time and the significance for wind hazards has been set at winds exceeding 36 mph, which is considered a potentially wind hazard speed, for effectively more than one hour per year. These criteria apply only to winds that occur in areas that are accessible to the public.

Impacts and Mitigation Measures

Impact 4.2-1: The proposed projects could conflict with or obstruct implementation of an applicable air quality plan.

Railyards Specific Plan Update

The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*,[31] which addresses attainment of the federal 8-hour ozone standard, and the *2015 Triennial Report and Plan Revision*,[32] 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). 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),[33] a comparison of the project's projected vehicle-miles travelled (VMT) and population growth rate.

[31] Sacramento Metropolitan Air Quality Management District, 2013. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions).* September 26, 2013.

[32] Sacramento Metropolitan Air Quality Management District, 2009. *2009 Triennial Report and Plan Revision*. December 2009.

[33] Sacramento Area Council of Governments, 2016. *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted February 18, 2016.

The 2016 MTP/SCS assumes 9,900 housing units and 6,500 jobs in the Railyards development by 2036.[34]

Development of the RSPU would result in between 6,000 to 10,000 multi-family residential dwelling units, and up to approximately 22,903 jobs as a result of the non-residential development, which would consist of 15,142 office jobs, 2,263 retail jobs, 120 historic and cultural museum jobs, 1,100 hotel jobs, and 4,247 jobs at the proposed KP Medical Center, and 30 permanent jobs at the proposed MLS Stadium. While SACOG will make the final determination of consistency with the SCS, the land uses provided for in the proposed RSPU would be consistent with the growth forecast assumptions of the MTP/SCS, and are consistent with the general land use, density, and intensity of the Center and Corridor Community type identified in the MTP/SCS.

Although the RSPU would be consistent with the SACOG 2016 MTP/SCS, as discussed in Impact 4.2-3 below (see Tables 4.2-20 and 4.2-21), after full-buildout of the RSPU unmitigated operational emissions would generate ROG and NOx emissions that would exceed the threshold of 65 pounds per day and would be considered significant for CEQA purposes. If not mitigated, the pollutant emissions generated during future operations of the RSPU could conflict with or obstruct implementation of applicable air quality plans.

Mitigation Measure 6.1-3 (on page 6.1-24 of the 2007 RSP DEIR) required the applicant to develop an Air Quality Mitigation Plan (AQMP) demonstrating that the project can reduce onsite ozone emissions (ROG and NOx) by 15 percent or more, subject to the approval of the SMAQMD. The Railyards Final Air Quality Mitigation Plan achieved the required reduction through identification and commitment to a series of mitigation measures, each of which is assigned a point value representing the approximate percentage reduction in emissions.[35] The emission reduction measures are organized into the following categories:

- Bicycle, Pedestrian and Transit;
- Parking;
- Commercial Building Design;
- Residential Development;
- Mixed Use;
- Building Components; and
- Transportation Demand Management (TDM) measures.

[34] Lizon, Kacey, Planning Manager, Sacramento Area Council of Governments. Telephone communication with Christina Erwin of ESA. April 8, 2016.

[35] Thomas Enterprises, The Railyards-Final Air Quality Mitigation Plan, prepared by Jones & Stokes, November 9, 2007.

The AQMP identified the measures shown in **Table 4.2-8** to achieve the 15 percent onsite emission reducing required by SMAQMD.

TABLE 4.2-8.
2007 AQMP APPLICABILITY TO RSPU

2007 AQMD Measure	Applicability to the Proposed RSPU and RSPU Land Use Variant
1. Bike Parking	This measure is included as part of the proposed RSPU and is also required by the CAP.
4. Proximity to Bike Path/Bike Lanes	This measure is included as part of the proposed RSPU and is also required by the CAP.
5. Pedestrian Network	This measure is included as part of the proposed RSPU and is also required by the CAP.
6. Pedestrian Barriers Minimized	This measure is included as part of the proposed RSPU and is also required by the CAP.
7. Bus and Transit Service	This measure is included as part of the proposed RSPU and is also required by the CAP.
9. Traffic Calming	This measure is included as part of the proposed RSPU and is also required by the CAP.
10a. Employee and/or Customer Parking	Most parking for non-employees/residents would be charged at a rate at least equal to the cost of a Sacramento Regional Transit pass plus 20%.
14. Off Street Parking	Most parking structures would wrapped by other uses or screened from ground level views. Parking structures on parcels under I-5 and adjacent to the elevated portions of 5th and 6th streets may be exceptions.
18. Residential Density	This measures is included as part of the proposed RSPU and is also required by the CAP
19. Street Grid	The proposed RSPU meets the street grid requirements of the 2007 AQMP.
21. Affordable Housing Component	The proposed RSPU would comply with the Mixed Housing Ordinance for the City of Sacramento and is required to include approximately 267 deed restricted affordable housing units.
22. Urban Mixed-Use	The proposed RSPU would be consistent with the urban mixed-use requirements required in the 2007 AQMP.
25. No Fireplaces	The proposed RSPU would include no fireplaces or woodstoves and is consistent with the 2007 AQMP.
27. Energy Star Roof	All roofing materials used in the RSPU would comply with CALGreen energy efficiency standards. Following 2019 it is expected that requirements will be for zero net energy demand.
30. Solar Orientation	The proposed RSPU would be consistent with the requirement that at least 75% of buildings will be laid out in a north south grid that does not vary by more than 30% from N/S.

Source: ESA, 2016.

The proposed RSPU incorporates most of the measures that were included in the 2007 AQMP. In addition, changes in policies, regulations, and building standards have reduced direct and indirect emissions of new development (e.g., CALGreen, Title 24). Table 4.2-8, below, summarizes the measures from the 2007 AQMP and describes how they are being applied to the proposed RSPU.

The SMAQMD recommends that lead agencies require projects exceeding their daily thresholds of ROG and/or NOx reduce their ozone precursor emissions from transportation sources by 15 percent. This percentage is based on the project location within the Sacramento Urban Core, which is part of the Sacramento Area Ozone Implementation Plan (SIP). SMAQMD calculates this 15 percent using NO_{xe}, which is calculated by adding the mitigated ROG emissions (divided

by 3) to mitigated NOx emissions. Using the SMAQMD Recommended Guidance for Land Use Emission Reduction,[36] the percent reduction of NO_{xe} after mitigation for each proposed project that exceeds the SMAQMD significance threshold for ROG and NO_X are presented in **Table 4.2-9**.

TABLE 4.2-9.
PERCENT REDUCTION OF MOBILE EMISSIONS OF NO_Xe AFTER MITIGATION[1]

Alternative	Unmitigated Emissions (ppd)			Mitigated Emissions (ppd)			Percent Reduction	Exceed 15%?
	ROG	NO_X	NO_{Xe}[2]	ROG	NO_X	NO_{Xe}[2]		
RSPU (without MLS Match)	346	531	646	322	426	533	17%	Yes
RSPU (with MLS Match)	394	629	760	371	526	650	15%	Yes
RSPU Land Use Variant	358	535	654	336	439	551	16%	Yes

NOTES:

1. Operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOX.

SOURCE: ESA, 2016

Because the proposed RSPU would facilitate the development of a high-density, mixed-use, transit-oriented development, combined with the effects of regular updates to Title 24 and the California Building Codes (including CALGreen), much of the reduction would be achieved by project design. Most of the selected measures listed above would not require monitoring beyond completion of project design and construction.

As shown in Table 4.2-9, the RSPU without an MLS match and the RSPU Land Use Variant would result in a 17 and 16 percent reduction in NO_{xe} emissions by simply implementing the design features proposed under the Railyards Specific Plan.[37] The RSPU with MLS match operation would result in a 15 percent reduction in NO_{xe} emissions after mitigation, respectively. All proposed projects would exceed the 15 percent emission reduction/mitigation guideline established by the SMAQMD.

Because the proposed RSPU would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed RSPU would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the proposed RSPU would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would

36 NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOx.

37 NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOx.

reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**.

Railyards Specific Plan Update Land Use Variant

The RSPU Variant would result in similar impacts as those discussed under the RSPU. Under the RSPU Land Use Variant, the KP Medical Center would be replaced with office land uses and the MLS Stadium would be replaced with residential units. Development of the RSPU Variant would result in between 7,000 to 10,000 multi-family residential dwelling units, and up to approximately 22,578 jobs, which would consist of 18,673 office jobs, 2,686 retail jobs, 120 historic and cultural museum jobs, and 1,100 hotel jobs. While SACOG will make the final determination of consistency with the SCS, the proposed RSPU Land Use Variant would be consistent with the growth forecast assumptions of the MTP/SCS, and are consistent with the general land use, density, and intensity of the Center and Corridor Community type identified in the MTP/SCS.

Although the RSPU Land Use Variant would be consistent with the SACOG 2016 MTP/SCS, as discussed in Impact 4.2-3 below (see Table 4.2-22), after full-buildout of the RSPU Land Use Variant, unmitigated operational emissions would generate ROG and NOx emissions that would exceed the threshold of 65 pounds per day and would be considered significant for CEQA purposes Because the Land Use Variant would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed RSPU would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the proposed RSPU would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**.

KP Medical Center

The KP Medical Center includes a hospital facility, medical support office, clinic, and an energy center (central utility plant). At full buildout, the KP Medical Center would generate 4,247 jobs, which is based on information from other recently constructed Kaiser Permanente medical centers in northern California. While SACOG will make the final determination of consistency with the SCS, as part of the proposed RSPU the proposed KP Medical Center would be consistent with the growth forecast assumptions of the MTP/SCS, and would be consistent with the general land use, density, and intensity of the Center and Corridor Community type identified in the MTP/SCS.

Although the KP Medical Center would be consistent with the SACOG 2016 MTP/SCS, as discussed in Impact 4.2-3 below (see Table 4.2-23), after full-buildout of the KP Medical Center, unmitigated operational emissions would generate ROG and NOx emissions that would exceed the threshold of 65 pounds per day and would be considered significant for CEQA purposes

Because the proposed RSPU would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed KP Medical Center would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the KP Medical Center would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**.

MLS Stadium

The proposed MLS Stadium would include a 25,000-capacity outdoor stadium on the north eastern side of the project site. The MLS Stadium would generate 30 permanent jobs onsite, including security, maintenance, grounds keeping, and ticket sales. In addition, the MLS Stadium would employ up to 280 temporary employees for a typical soccer match, and would additionally require an assortment of different staff, including ushers, food service employees, ticketing staff, security, and janitorial staff. For larger events, such as Tier I concerts, temporary event-related employment is estimated to be about 330. For medium-sized events, including MLS special games, CONCACAF/Cup matches, other soccer events, or Tier II concerts, temporary event-related employment would range from 200 to 225 jobs. For smaller community-scale events, about 70 temporary event jobs would be generated. While SACOG will make the final determination of consistency with the SCS, as part of the proposed RSPU the proposed MLS Stadium would be consistent with the growth forecast assumptions of the MTP/SCS, and would be consistent with the general land use, density, and intensity of the Center and Corridor Community type identified in the MTP/SCS.

Although the MLS Stadium would be consistent with the SACOG 2016 MTP/SCS, as discussed in Impact 4.2-3 below (see Tables 4.2-24 and 4.2-25), after full-buildout of the MLS Stadium unmitigated operational emissions would generate ROG and NOx emissions that would exceed the threshold of 65 pounds per day and would be considered significant for CEQA purposes. Because the proposed RSPU would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed MLS Stadium would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the proposed MLS Stadium would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**.

Stormwater Outfall

There would be no employment, housing units, or population generated by the proposed Stormwater Outfall. Other than trips associated with maintenance and operation, the Stormwater Outfall would not increase daily VMT. As discussed in Impact 4.2-3 below, unmitigated operational emissions would generate ROG and NOx emissions that would not exceed the 65 pounds or more of NOx or 65 pounds or more of ROG per day and would be considered consistent with the latest air quality management plan issued by the SMAQMD. Therefore, the proposed Stormwater Outfall would not conflict with or obstruct implementation of applicable air quality plans and would result in **no impact**.

Summary

The RSPU, RSPU Land Use Variant, MLS Stadium and KP Medical Center would be consistent with the SACOG growth projections for the Railyards area. However, all of the proposed projects, with the exception of the Stormwater Outfall, would generate unmitigated operational emissions of ROG and NOx that would exceed the 65 pounds or more of NOx or 65 pounds or more of ROG per day and would be considered operationally significant for CEQA purposes Because the proposed projects would incorporate a majority of emission reduction measures that were proposed under the 2007 RSP AQMP, it would as proposed achieve the minimum 15 percent reduction in operational mobile source emissions estimated using the latest SMAQMD guidance. Since the proposed projects would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Thus, the proposed projects would be consistent with the land use parameters established for the RSP Area in the SACOG MTP/SCS and would incorporate provisions, similar to the 2007 AQMP, that would reduce unmitigated emissions by at least 15 percent, this impact is considered **less than significant**.

Mitigation Measure

None required.

Impact 4.2-2: Construction of the proposed projects could result in short-term emissions of NOx, PM_{10} and $PM_{2.5}$.

The 2007 RSP EIR discussed project-related construction air quality impacts under Impacts 6.1-1 and 6.1-1, on pages 6.1-20 through 6.1-23. Under Impact 6.1-2, the 2007 RSP EIR found that as long as the RSP maximum acreage per day falls into one of the acreage ranges under the SMAQMD's Guide to Air Quality Assessment in Sacramento County, and the appropriate mitigation measures are applied, the RSP would be considered to have a less-than-significant impact for particulate matter. Since these mitigation measures were not included as design

features in the 2007 RSP, the 2007 RSP EIR found this impact to result in a significant impact without mitigation.

As described under Impact 6.1-2 of the 2007 RSP EIR, construction of the 2007 RSP was estimated to take 20 years and consist of site grading, excavation for infrastructure and building foundations, building construction, and paving and landscaping installation. The results of the construction emissions analysis found that the construction-related emissions of NOx would exceed the SMAQMD's 85 pounds per day significance threshold during every year of construction. This impact was found to result in a significant impact under the 2007 RSP EIR. Details and assumptions uses to estimate the construction emissions from the 2007 RSP can be found in Appendix D of the 2007 RSP EIR.

Since the publication of the 2007 RSP EIR, the SMAQMD has updated its CEQA Guidance with new PM_{10} and $PM_{2.5}$ construction emission thresholds, which were not evaluated under the 2007 RSP EIR. The proposed projects construction-related PM_{10} and $PM_{2.5}$ emissions are evaluated below and compared to the SMAQMD's latest significance thresholds.

Railyards Specific Plan Update

Construction pursuant to the proposed RSPU, like the 2007 RSP, would consist of site grading, excavation for infrastructure and building foundations, building construction, and paving and landscaping installation. Unlike the 2007 RSP, the proposed RSPU would include the construction of a major medical center and a sports and entertainment stadium. Construction pursuant to the RSPU is anticipated to begin in late 2016 and, assuming completion by 2035, would last approximately 19 years. Construction of individual residences and commercial buildings under the RSPU would occur sequentially as dictated by market conditions. For this analysis, it is conservatively assumed that the construction of the KP Medical Center, MLS Stadium and developments proposed under the RSPU would overlap.

Construction emissions were estimated for the RSPU using the methods contained in SMAQMD's *Guide to Air Quality Assessment in Sacramento County*.[38] The CalEEMod model was used to quantify construction NO_X, PM_{10}, and $PM_{2.5}$ emissions from off-road equipment, haul trucks associated with demolition and imported soils, on-road worker vehicle emissions, and vendor delivery trips. The unmitigated and mitigated construction emissions for the worst-case day for each construction year can be found in Tables 4.2-10 and Table 4.2-11, respectively. Those tables compare emissions to SMAQMD's NO_X, PM_{10}, and $PM_{2.5}$ construction thresholds.

As shown in **Table 4.2-10**, maximum daily construction NO_X, PM_{10}, and $PM_{2.5}$ emissions would exceed the SMAQMD significance thresholds for each construction year. The predominant construction activity associated with these emissions would be off-road diesel equipment and on-road haul trucks during construction of the RSPU. PM_{10} and $PM_{2.5}$, in the form of fugitive

[38] Sacramento Metropolitan Air Quality Management District, 2009. *Guide 80 to Air Quality Assessment*. Adopted December 2009 and last updated October 2013. pp. 3-1 - 3-11.

dust, would be emitted during the transport of off- and on-road vehicles on unpaved surfaces. Overall, the RSPU would have a **significant impact** related to construction emissions. This impact conclusion is consistent with the 2007 RSP EIR.

TABLE 4.2-10.
UNMITIGATED RSPU CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2016	**408**	**101**	**35**	**5**	**2**
2017	**454**	**164**	**51**	**19**	**6**
2018	**408**	**163**	**49**	**14**	**4**
2019	**372**	**163**	**49**	**21**	**6**
2020	**327**	**162**	**48**	**21**	**6**
2021	**280**	**161**	**48**	**16**	**5**
2022	**126**	**80**	**24**	**10**	**3**
2023	**115**	**80**	**23**	**10**	**3**
2024	**112**	**80**	**23**	**10**	**3**
2025	**110**	**80**	**23**	**10**	**3**
2026	**108**	**80**	**23**	**10**	**3**
2027	**107**	**80**	**23**	**10**	**3**
2028	**106**	**80**	**23**	**10**	**3**
2029	**105**	**80**	**23**	**10**	**3**
2030	**100**	**80**	**23**	**10**	**3**
2031	**99**	**80**	**23**	**10**	**3**
2032	**197**	**159**	**46**	**13**	**4**
2033	**105**	**80**	**23**	**6**	**2**
2034	3	**13**	**3**	**2**	**<1**
SMAQMD Thresholds[3]	85	0	0	0	0
Maximum	**454**	**164**	**51**	**21**	**6**
Significant (Yes or No)?	Yes	Yes	Yes	Yes	Yes

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when project do not implement their Best Available Practices (BMP).

SOURCE: ESA, 2016

Implementation of the emission reduction portion of Mitigation 4.2-2 would reduce RSPU construction emissions to levels shown in **Table 4.2-11**. PM_{10} and $PM_{2.5}$ emissions would be reduced to levels below their respective thresholds. Emissions of NO_X would remain in excess of the thresholds.

TABLE 4.2-11.
MITIGATED RSPU CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2016	**326**	47	16	2	1
2017	**363**	77	24	9	3
2018	**326**	76	24	7	2
2019	**298**	75	23	10	3
2020	**262**	75	23	10	3
2021	**224**	75	22	7	2
2022	**101**	37	11	5	1
2023	**92**	37	11	5	1
2024	**90**	37	11	5	1
2025	**88**	37	11	5	1
2026	**86**	37	11	5	1
2027	**86**	37	11	5	1
2028	85	37	11	5	1
2029	84	37	11	5	1
2030	80	37	11	5	1
2031	79	37	11	5	1
2032	**158**	74	22	6	2
2033	84	37	11	3	1
2034	2	6	2	1	<1
SMAQMD Thresholds	85	80	82	14.6	15
Maximum	**363**	77	24	10	3
Significant (Yes or No)?	Yes	No	No	No	No

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2016

Railyards Specific Plan Update Land Use Variant

Under the Land Use Variant, the KP Medical Center would be replaced with office land uses and the Stadium would be replaced with residential units. Unlike the proposed RSPU (discussed above), the Land Use Variant would not include pollutant emissions generated during the construction of the MLS Stadium (between years 2016 and 2018) or the KP Medical Center (between 2016 and 2035). Since the RSPU Land use Variant would not include Phase 2 construction activities associated with the KP Medical Center, construction would be expected to be completed within the year 2034. Since the Land Use Variant would not include the construction of the MLS Stadium and KP Medical Center, there would be no overlapping construction activities, and as a result, there would be lower construction-related emissions as

compared to the RSPU. Predicted unmitigated and mitigated construction emissions for the worst-case day for each of the construction years are presented in **Table 4.2-12** and **Table 4.2-1-13**, respectively, and compared to the SMAQMD threshold. Model output data and assumptions are included in Appendix C.1.

TABLE 4.2-12.
UNMITIGATED RSPU LAND USE VARIANT CONSTRUCTION EMISSIONS MAXIMUM CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2016	**153**	**92**	**10**	**3**	**1**
2017	**225**	**84**	**26**	**11**	**3**
2018	**202**	**84**	**25**	**11**	**3**
2019	**184**	**83**	**25**	**11**	**3**
2020	**162**	**83**	**25**	**10**	**3**
2021	**139**	**82**	**24**	**10**	**3**
2022	**125**	**82**	**24**	**10**	**3**
2023	**114**	**82**	**24**	**10**	**3**
2024	**111**	**82**	**24**	**10**	**3**
2025	**109**	**82**	**24**	**10**	**3**
2026	**107**	**82**	**24**	**10**	**3**
2027	**106**	**82**	**24**	**10**	**3**
2028	**105**	**82**	**24**	**10**	**3**
2029	**104**	**82**	**24**	**10**	**3**
2030	**99**	**82**	**23**	**10**	**3**
2031	**98**	**82**	**23**	**10**	**3**
2032	**97**	**82**	**23**	**7**	**2**
2033	7	**13**	**4**	**<1**	**<1**
2034	3	**13**	**4**	**2**	**<1**
SMAQMD Thresholds[3]	85	0	0	0	0
Maximum	**225**	**92**	**26**	**11**	**3**
Significant (Yes or No)?	Yes	Yes	Yes	Yes	Yes

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when project do not implement their Best Available Practices (BMP).

SOURCE: ESA, 2016

Implementation of the emission reduction portion of Mitigation 4.2-2 would reduce RSPU Variant construction emissions to levels shown in Table 4.2-13. PM_{10} and $PM_{2.5}$ emissions would be reduced to levels below the $PM_{2.5}$ thresholds. Emissions of NO_X would still exceed the thresholds.

TABLE 4.2-13.
MITIGATED RSPU VARIANT CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2016	**122**	9	5	1	1
2017	**180**	39	12	5	2
2018	**162**	39	12	5	2
2019	**147**	39	12	5	2
2020	**130**	38	12	5	1
2021	**111**	38	11	5	1
2022	**100**	38	11	5	1
2023	**91**	38	11	5	1
2024	**89**	38	11	5	1
2025	**87**	38	11	5	1
2026	**86**	38	11	5	1
2027	85	38	11	5	1
2028	84	38	11	5	1
2029	83	38	11	5	1
2030	79	38	11	5	1
2031	78	38	11	5	1
2032	78	38	11	3	1
2033	6	6	2	<1	<1
2034	2	6	2	1	<1
SMAQMD (lbs/day)	85	80	82	14.6	15
Maximum	**180**	39	12	5	2
Significant (Yes or No)?	Yes	No	No	No	No

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2016

As shown in Table 4.2-12 and Table 4.2-13, from 2016 through 2034 the maximum daily construction NO_X emissions would exceed the SMAQMD significance threshold. Overall, the RSPU Land use Variant would have a **significant impact** related to construction emissions. This impact conclusion is consistent with the 2007 RSP EIR.

KP Medical Center

The proposed KP Medical Center is assumed to be constructed in two phases. Phase 1 construction is anticipated to begin in 2018 and be open to the public in 2022. Phase 2 is expected to be initiated no sooner than approximately 10 years after completion of Phase One. Although Phase 1 and Phase 2 would involve the construction of difference facilities and structures, both phases would have similar construction schedules and phasing. The CalEEMod software was

used to estimate the maximum daily NO_X, PM_{10} and $PM_{2.5}$ emissions associated with KP Medical Center construction and model output data and assumptions are included in Appendix C.1. Predicted unmitigated and mitigated construction emissions for the worst-case day for each of the construction years are presented in **Table 4.2-14** and **Table 4.2-15** and compared to the SMAQMD threshold.

TABLE 4.2-14.
UNMITIGATED KP MEDICAL CENTER CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2018	60	**21**	**12**	**1**	**1**
2019	43	**9**	**4**	**1**	**<1**
2020	38	**9**	**3**	**1**	**<1**
2021	34	**9**	**3**	**1**	**<1**
2032	32	**29**	**11**	**3**	**1**
2033	32	**29**	**8**	**2**	**1**
SMAQMD Thresholds[3]	85	0	0	0	0
Maximum	60	**29**	**12**	**3**	**1**
Significant (Yes or No)?	No	Yes	Yes	Yes	Yes

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when project do not implement their Best Available Practices (BMP).

SOURCE: ESA, 2016

TABLE 4.2-15.
MITIGATED KP MEDICAL CENTER CONSTRUCTION EMISSIONS MAXIMUM DAILY CONSTRUCTION EMISSIONS

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2018	48	10	6	1	<1
2019	34	14	2	1	<1
2020	30	4	2	1	<1
2021	27	4	2	<1	<1
2032	26	14	5	1	<1
2033	26	14	4	1	<1
SMAQMD Threshold	85	80	82	14.6	15
Maximum	48	14	6	1	<1
Significant (Yes or No)?	No	No	No	No	No

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2016

As shown in Table 4.2-14, maximum daily and annual construction PM_{10}, and $PM_{2.5}$ emissions would exceed the SMAQMD significance thresholds for each construction year. The predominant construction activity associated with these emissions would be exhaust and fugitive dust from off-road diesel equipment and on-road haul trucks. Overall, the KP Medical Center would have a **significant impact** related to construction emissions.

Implementation of the emission reduction portion of Mitigation Measure 4.2-2 would reduce KP Medical Center construction emissions to levels shown in Table 4.2-15. NOx, PM_{10} and $PM_{2.5}$ emissions would be reduced to levels below their respective SMAQMD significance thresholds.

MLS Stadium

The construction of the MLS Stadium and related entry plaza and open spaces would occur over an approximately 18-month period. Since the expected start date of the MLS Stadium is unknown at this time, it is conservatively assumed for this analysis that construction would begin in late 2016. Predicted unmitigated and mitigated construction emissions for the worst-case day for each of the construction years are presented in **Table 4.2-16** and **Table 4.2-17**, respectively, and compared to the SMAQMD threshold. Model output data and assumptions are included in Appendix C.1.

TABLE 4.2-16.
UNMITIGATED MLS STADIUM CONSTRUCTION EMISSIONS MAXIMUM DAILY CONSTRUCTION EMISSIONS (PPD)

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2016	75	**12**	**7**	**<1**	**<1**
2017	32	**4**	**2**	**<1**	**<1**
2018	17	**1**	**1**	**<1**	**<1**
SMAQMD Threshold[3]	85	0	0	0	0
Maximum	75	**12**	**7**	**<1**	**<1**
Significant (Yes or No)?	No	Yes	Yes	Yes	Yes

NOTES:

1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when project do not implement their Best Available Practices (BMP).

SOURCE: ESA, 2016

As shown in Table 4.2-16, maximum daily and annual construction PM_{10}, and $PM_{2.5}$ emissions would exceed the SMAQMD significance thresholds for each construction year. The predominant construction activity associated with these emissions would be off-road diesel equipment and on-road haul trucks during construction of the MLS Stadium. PM_{10} and $PM_{2.5}$, in the form of fugitive dust, would be emitted by off- and on-road vehicle travel on unpaved surfaces. Overall, the MLS Stadium would have a **significant impact** related to construction emissions.

TABLE 4.2-17.
MITIGATED MLS STADIUM CONSTRUCTION EMISSIONS MAXIMUM DAILY CONSTRUCTION NOX EMISSIONS (PPD)

Construction Year	NOx (ppd)	PM_{10} (ppd)	PM2.5 (ppd)	PM_{10} (tpy)	PM2.5 (tpy)
2016	60	6	3	<1	<1
2017	26	2	1	<1	<1
2018	14	1	0	<1	<1
SMAQMD Threshold	85	80	82	14.6	15
Maximum	60	6	3	<	<
Significant (Yes or No)?	No	No	No	No	No

NOTES:
1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.

SOURCE: ESA, 2016

Implementation of the emission reduction portion of Mitigation 4.2-2 would reduce MLS Stadium construction emissions to levels shown in Table 4.2-17. PM_{10} and $PM_{2.5}$ emissions would be reduced to levels below their respective SMAQMD significance thresholds.

Stormwater Outfall

Construction of the proposed Stormwater Outfall could begin as early as 2017 and last approximately one month. The CalEEMod software was used to estimate the maximum daily NOx, PM_{10} and $PM_{2.5}$ emissions associated with Outfall construction and model output data and assumptions are included in Appendix C.1. Predicted unmitigated and mitigated construction emissions for the worst-case day for each of the construction years are presented in **Table 4.2-18** and **Table 4.2-19** and compared to the SMAQMD threshold.

TABLE 4.2-18.
UNMITIGATED STORMWATER OUTFALL MAXIMUM DAILY CONSTRUCTION EMISSIONS (PPD)

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2017	14	**2**	**1**	**<1**	**<1**
SMAQMD Threshold[3]	85	0	0	0	0
Maximum	14	**2**	**1**	**<1**	**<1**
Significant (Yes or No)?	No	**Yes**	**Yes**	**Yes**	**Yes**

NOTES:
1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
3. SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement their Best Available Practices (BMP).

SOURCE: ESA, 2016

TABLE 4.2-19.
MITIGATED STORMWATER OUTFALL CONSTRUCTION EMISSIONS MAXIMUM DAILY CONSTRUCTION EMISSIONS (PPD)

Construction Year	NO_X (ppd)	PM_{10} (ppd)	$PM_{2.5}$ (ppd)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2017	11	1	1	<1	<1
SMAQMD NOx Threshold (ppd)	85	80	82	14.6	15
Maximum	11	1	1	<1	<1
Significant (Yes or No)?	No	No	No	No	No

NOTES:
1. Project construction emissions estimates were made using CalEEMod version 2013.2.2. See Appendix C.1 for model outputs and more detailed assumptions.
2. Values in bold are in excess of the applicable SMAQMD significance threshold.
SOURCE: ESA, 2016

As shown in Table 4.2-18, maximum daily and annual construction PM_{10}, and $PM_{2.5}$ emissions would exceed the SMAQMD significance thresholds for each construction year. The predominant construction activity associated with these emissions would be off-road diesel equipment during construction of the Stormwater Outfall. PM_{10} and $PM_{2.5}$, in the form of fugitive dust, would be emitted during off- and on-road vehicle travel on unpaved surfaces. Overall, the proposed Stormwater Outfall would have a **significant impact** related to construction emissions.

Implementation of Mitigation 4.2-2 would reduce Stormwater Outfall construction emissions to levels shown in Table 4.2-19. PM_{10} and $PM_{2.5}$ emissions would be reduced to levels below their respective SMAQMD significance thresholds.

Summary

Construction of the proposed RSPU, including the RSPU Land Use Variant, as well as the KP Medical Center, MLS Stadium, and Stormwater Outfall projects would result in emissions of PM_{10} and $PM_{2.5}$ that would exceed the SMAQMD significance thresholds. This is because SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$. All construction projects are required to implement the SMAQMD's Basic Construction Emission Control Practices to control PM_{10} and $PM_{2.5}$. If BMPs are implemented, then SMAQMD uses different thresholds to determine significance as listed in the above tables.

Also, buildout of the RSPU, including the RSPU Land Use Variant, would generate unmitigated NOx emissions that would exceed SMAQMD's thresholds. Consequently, construction of any of the land uses would result in a **significant impact**.

Mitigation Measure

Since the publication of the 2007 RSP EIR, the SMAQMD has updated its Basic Construction Emission Control Practices. Mitigation Measure 4.2-2 described below reflects the latest SMAQMD Basic Construction Emission Control Practices, which are different than those

identified in Mitigation Measures 6.1-1 and Mitigation Measure 6.1-2 on pages 6.1-20 through 6.1-23 of the 2007 RSP EIR.

Mitigation Measure 4.2-2(a) (RSPU, KPMC, MLS, SO)

City approval of any grading or improvement plans shall include the following SMAQMD Basic Construction Emission Control Practices:

- *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.*

Mitigation Measure 4.2-2(b) (RSPU, KPMC, MLS, SO)

City approval of any grading or improvement plans shall include the following SMAQMD Enhanced Exhaust Control Practices:

- *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 projects, 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 supersede 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.*

Mitigation Measure 4.2-2(c) (RSPU, KPMC, MLS, SO)

City approval of any grading or improvement plans shall include the following SMAQMD Fugitive Dust Control Practices:

- *Water exposed soil with adequate frequency for continued moist soil.*

- *Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.*

- *Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.*
- *Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.*
- *Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.*
- *Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads.*
- *Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.*

Mitigation Measure 4.2-2(d) (RSPU)

Project applicants shall pay into the SMAQMD's construction mitigation fund to offset construction-generated emissions of NOx that exceed SMAQMD's daily emission threshold of 85 lbs/day. Fees shall be paid to SMAQMD based upon the previously agreed upon Railyards Specific Plan fee of $2,603 per acre developed.

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 of NOx to **less than significant**.

Impact 4.2-3: The proposed projects could result in long-term (operational) emissions of NO_X ROG, PM_{10}, and $PM_{2.5}$.

The 2007 RSP EIR evaluated operational ozone precursor and particulate matter emissions under impact 6.1-3 (on pages 6.1-23 through 6.1-26), and concluded that implementation of the RSP would result in ROG and NOx emissions that would exceed the SMAQMD significance thresholds. This impact was found to be significant under the 2007 RSP EIR. Details and assumptions uses to estimate the construction emissions from the 2007 RSP can be found in Appendix D of the 2007 RSP EIR.

As described above under Impact 4.2-1, 2007 RSP EIR Mitigation Measure 6.1-3 (on page 6.1-24 of the 2007 RSP DEIR) required the applicant to develop an Air Quality Mitigation Plan (AQMP) demonstrating that the project can reduce onsite ozone emissions (ROG and NOx) by 15 percent or more, subject to the approval of the SMAQMD. The 2007 Railyards Final Air Quality Mitigation Plan achieved the required reduction through identification and commitment to a series of mitigation measures, each of which is assigned a point value representing the approximate percentage reduction in emissions.[39] The 2007AQMP identified the measures shown in Table 4.2-8 to achieve the 15 percent onsite emission reducing required by SMAQMD.

With implementation of the emissions reducing measures described above, the 2007 RSP AQMP concluded that the project would achieve an emissions reduction of 21.55 percent. This exceeded the 15 percent emissions reduction/mitigation guideline established by the SMAQMD. Because the proposed RSPU would facilitate the development of a high-density, mixed-use, transit-oriented development, combined with the effects of regular updates to Title 24 and the California Building Codes (including CALGreen), much of the reduction would be achieved by project design. Most of the selected measures listed above would not require monitoring beyond completion of project design and construction.

The 2007 RSP EIR concluded that since onsite operational emissions of NO_x and ROG would still exceed the SMAQD threshold of 85 pounds per day, even after implementation of the 2007 RSP AQMP, the 2007 RSP would result in a significant and unavoidable impact.

Railyards Specific Plan Update

Over the long-term, the proposed RSPU would increase emissions from 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 thresholds for ozone precursors, PM_{10} and $PM_{2.5}$ are daily measures, and because events would occur at the MLS Stadium on only approximately 37 days each year, the evaluation below includes an analysis of ROG, NOx, PM_{10}, and $PM_{2.5}$ emissions on event days and non-event days.

CalEEMod was used to estimate operational emissions for build-out year 2035 for an event day (assuming a full capacity MLS game) (**Table 4.2-20**) and for a non-event day (**Table 4.2-21**). These two scenarios were developed to show the daily incremental increase of the RSPU, including MLS Stadium, for the greatest attendance events, as well as the daily incremental increase of the RSPU without operation of the MLS Stadium.

RSPU with Event Day Analysis

Table 4.2-20 shows operational emissions for an event day. Based on the estimates shown in Table 4.2-20, for MLS game days, the RSPU's ROG NOx, PM_{10} and $PM_{2.5}$ emissions would exceed SMAQMD's significance thresholds. Thus, the emissions impact of a major event at the

[39] Thomas Enterprises, The Railyards-Final Air Quality Mitigation Plan, prepared by Jones & Stokes, November 9, 2007.

proposed MLS Stadium combined with emissions from full operation of the RSPU at buildout would be **significant**.

TABLE 4.2-20.
RSPU OPERATIONAL UNMITIGATED EMISSIONS – MLS MATCH

		RSPU Year 2035 Build-out Operation Emissions[1,2,3,4]						
Pollutant	SMAQMD Thresholds	Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	Significant (Yes or No)?
ROG (ppd)	65 (ppd)	442	61	7	<1	371	881	**Yes**
NOx (ppd)	65 (ppd)	6	11	60	1	526	604	**Yes**
PM_{10} (ppd)	0 (ppd)	3	5	5	<1	894	907	**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	3	5	5	<1	248	261	**Yes**
PM_{10} (tpy)[5]	0 (tpy)	<1	<1	<1	<1	126	126	**Yes**
$PM_{2.5}$ (tpy)[5]	0 (tpy)	<1	<1	<1	<1	35	35	**Yes**

NOTES:

1. RSPU operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Aircraft emissions at the proposed helistop were estimated using the AEDT model. See Appendix C.1 for details.
4. Emission fact`ors for the emergency generators and boilers were obtain from the Offroad2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.
5. The annual tons per year of PM_{10} and $PM_{2.5}$ were estimated based on the combined emissions during event and non-event days.

SOURCE: ESA, 2016

TABLE 4.2-21.
RSPU OPERATIONAL UNMITIGATED EMISSIONS – NON MLS MATCH

		RSPU Year 2035 Build-out Operation Emissions [1,2,3,4]						
Pollutant	SMAQMD Thresholds	Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	Significant (Yes or No)?
ROG (ppd)	65 (ppd)	442	61	7	<1	322	832	**Yes**
NOx (ppd)	65 (ppd)	6	11	60	1	426	504	**Yes**
PM_{10} (ppd)	0 (ppd)	3	5	5	<1	684	697	**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	3	5	5	<1	193	206	**Yes**
PM_{10} (tpy)[5]	0 (tpy)	<1	<1	<1	<1	125	125	**Yes**
$PM_{2.5}$ (tpy)[5]	0 (tpy)	<1	<1	<1	<1	35	35	**Yes**

NOTES:

1. RSPU operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Aircraft emissions at the proposed helistop were estimated using the AEDT model. See Appendix C.1 for details.
4. Emission factors for the emergency generators and boilers were obtain from the Offroad2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.
5. The annual tons per year of PM_{10} and $PM_{2.5}$ were estimated based on the combined emissions during event and non-event days.

SOURCE: ESA, 2016

RSPU with Non-Event Day Analysis

Table 4.2-21 shows operational emissions for a non-event day. For non-event days, the incremental ROG NO_X, PM_{10} and $PM_{2.5}$ emissions attributable to the RSPU would exceed the significance thresholds specified by the SMAQMD. This impact would be **significant**.

Railyards Specific Plan Update Land Use Variant

Under the Land Use Variant, the major medical center and stadium uses would be replaced with office and residential land uses. Generally, the operational emissions of the Land Use Variant would be less than the RSPU on event days, but somewhat less than the non-event day emissions. Since the RSPU Land Use Variant would not include a major medical center, there would be no pollutant emissions generated by helicopter trips. Operational emissions after full build-out of the RSPU Land Use Variant are presented in **Table 4.2-22**. The RSPU Land Use Variant's criteria pollutant contribution to regional air quality would be above the significance thresholds for ROG NO_X, PM_{10} and $PM_{2.5}$. This would be considered a **significant impact**. This impact conclusion is consistent with the 2007 RSP EIR.

TABLE 4.2-22.
RSPU VARIANT OPERATIONAL UNMITIGATED EMISSIONS

		RSPU Variant Year 2035 Build-out Operation Emissions [1,2,3,4]						
Pollutant	SMAQMD Thresholds	Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	Significant (Yes or No)?
ROG (ppd)	65 (ppd)	445	<1	5	0	336	341	**Yes**
NO_X (ppd)	65 (ppd)	7	<1	45	0	439	491	**Yes**
PM_{10} (ppd)	0 (ppd)	3	<1	4	0	711	718	**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	3	<1	4	0	197	204	**Yes**
PM_{10} (tpy)	0 (tpy)	<1	<1	<1	0	123	123	**Yes**
$PM_{2.5}$ (tpy)	0 (tpy)	<1	<1	<1	0	34	34	**Yes**

NOTES:

1. Specific Plan operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Aircraft emissions at the proposed helistop were estimated using the AEDT model. See Appendix C.1 for details.
4. Emission factors for the emergency generators and boilers were obtain from the Offroad 2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.

SOURCE: ESA, 2016

KP Medical Center

As previously discussed, the KP Medical Center would be constructed on the north-west portion of the proposed project site, north of Railyards Boulevard. The primary sources of pollutant emissions during the operation of the KP Medical Center would be from project-related motor vehicle trips, occasional helicopter trips, and onsite area and energy sources (e.g., natural gas combustion for space and water heating and landscape maintenance). Onsite operational

emissions from motor vehicle trips, stationary and energy sources were quantified using CalEEMod 2013.2.2. Aircraft emissions at the helistop were estimated using the AEDT model. Emissions would be identical irrespective of the location of the helistop. Operational emissions for the full build-out year (2035) are presented in **Table 4.2-23** below. Based on the estimates shown in Table 4.2-23, the KP Medical Center's criteria pollutant contribution to regional air quality would be above the significance thresholds specified by the SMAQMD for ROG, NOX and PM_{10} would be considered a **significant impact**.

TABLE 4.2-23.
KP MEDICAL CENTER OPERATIONAL UNMITIGATED EMISSIONS

		KP Medical Center Variant Year 2035 Build-out Operation Emissions [1,2,3,4]						
Pollutant	SMAQMD Thresholds (lbs/day)	Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	Significant (Yes or No)?
ROG (ppd)	65 (ppd)	53	61	2	<1	61	177	**Yes**
NOx (ppd)	65 (ppd)	<1	9	18	1	92	119	**Yes**
PM_{10} (ppd)	0 (ppd)	<1	5	1	<1	162	167	**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	<1	5	1	<1	45	51	**Yes**
PM_{10} (tpy)	0 (tpy)	<1	<1	<1	<1	28	28	**Yes**
$PM_{2.5}$ (tpy)	0 (tpy)	<1	<1	<1	<1	8	8	**Yes**

NOTES:

1. Specific Plan operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Aircraft emissions at the proposed helistop were estimated using the AEDT model. See Appendix C.1 for details.
4. Emission factors for the emergency generators and boilers were obtain from the Offroad2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.

SOURCE: ESA, 2016

MLS Stadium

The MLS Stadium would increase emissions due to motor vehicle trips and onsite area and energy sources (e.g., natural gas combustion for space and water heating and landscape maintenance). Events at the MLS Stadium would only occur 33 days per year. Since the significance thresholds are a daily measure, the operational pollutant emissions during an event day and non-event day were modeled to represent worst-case emissions. Operational emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ for year 2018 of the MLS Stadium have been estimated for an event day (assuming a full capacity MLS game) (**Table 4.2-24**) and for a non-event day (**Table 4.2-25**).[40] These two scenarios were developed to show the daily incremental increase of the MLS Stadium for the greatest attendance events, as well as when the Stadium is not in use.

[40] Year 2018 represents the earliest possible year for operations of the proposed MLS Stadium. In the event that the proposed Stadium does not open until later years, emissions in the first year of operation would be decreased due to lower emission factors that take into account expected improvements in the emissions of the vehicle fleet.

TABLE 4.2-24.
MLS STADIUM OPERATIONAL UNMITIGATED EMISSIONS – MLS MATCH

Pollutant	SMAQMD Thresholds	MLS Stadium Variant Year 2018 Build-out Operation Emissions [1,2,3]						Significant
		Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	(Yes or No)?
ROG (ppd)	65 (ppd)	11	<1	<1	0	73	84	**Yes**
NO_X (ppd)	65 (ppd)	<1	1	3	0	177	181	**Yes**
PM_{10} (ppd)	0 (ppd)	<1	<1	<1	0	197		**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	<1	<1	<1	0	56	56	**Yes**
PM_{10} (tpy)[4]	0 (tpy)	<1	<1	<1	0	4	4	**Yes**
$PM_{2.5}$ (tpy)[4]	0 (tpy)	<1	<1	<1	0	1	1	**Yes**

NOTES:

1. MLS Stadium operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Emission factors for the emergency generators and boilers were obtain from the Offroad2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.
4. The annual tons per year of PM_{10} and $PM_{2.5}$ were estimated based on the combined emissions during event and non-event days.

SOURCE: ESA, 2016

TABLE 4.2-25.
MLS STADIUM OPERATIONAL EMISSIONS – NON MLS MATCH

Pollutant	SMAQMD Thresholds	MLS Stadium Year 2018 Build-out Operation Emissions [1,2,3]						Significant
		Area Sources	Generator/ Boiler Sources	Energy Sources	Aircraft Sources	Mobile Sources	Total Emissions	(Yes or No)?
ROG (ppd)	65 (ppd)	11	<1	<1	0	<1	11	No
NO_X (ppd)	65 (ppd)	<1	1	3	0	1	5	No
PM_{10} (ppd)	0 (ppd)	<1	<1	<1	0	<1	<1	**Yes**
$PM_{2.5}$ (ppd)	0 (ppd)	<1	<1	<1	0	<1	<1	**Yes**
PM_{10} (tpy)[4]	0 (tpy)	<1	<1	<1	0	3	3	**Yes**
$PM_{2.5}$ (tpy)[4]	0 (tpy)	<1	<1	<1	0	1	1	**Yes**

NOTES:

1. RSPU operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix C.1 for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Emission factors for the emergency generators and boilers were obtain from the Offroad 2011 Model (Tier 4 Engines) and the Natural Gas Boilers Emission Factors (AP-42, Table 1.4-1), respectively. See Appendix C.1 for details.
4. The annual tons per year of PM_{10} and $PM_{2.5}$ were estimated based on the combined emissions during event and non-event days.

SOURCE: ESA, 2016

Event Day Analysis

Table 4.2-24 shows operational emissions for an event day. Based on the estimates shown above in Table 4.2-24, during an event day the MLS Stadium's incremental ROG, NOX, $PM_{2.5}$ and PM_{10} would contribution to regional air quality and would exceed the significance thresholds

specified by the SMAQMD. Thus, the impact of operational emissions from the MLS Stadium on an event day would be **significant**.

Non-Event Day Analysis

Table 4.2-25 shows operational emissions for a non-event day. During a non-event day, the MLS Stadium's emissions would exceed the significance thresholds specified by the SMAQMD for $PM_{2.5}$ and PM_{10}. Thus, the impact of operational emissions from the MLS Stadium during a non-event day would be **significant**.

Stormwater Outfall

Since construction of the proposed Stormwater Outfall would likely be completed in the first year of construction, it is likely be operational in the year 2018. Although the Stormwater Outfall would not generate any criteria air pollutants during its normal daily operations, it could generate criteria pollutant emissions through the use of an onsite emergency backup generator. The emergency backup generator would be used to supply the Stormwater Outfall with power during power outages. Emissions generated by the emergency backup generator were calculated using emission factors found ARB's Offroad2011 model. Unmitigated emissions generated by the emergency backup generator assuming 24 hours of operation were found to be approximately less than 1 pound of ROG per day, less than 1 pound of NOx per day, less than 1 pound of PM_{10} and less than 1 pound of $PM_{2.5}$ per day, less than 1 ton of PM_{10} per year and less than 1 ton of $PM_{2.5}$ per year, which are all below the SMAQMD significance threshold. This would result in a **less-than-significant impact**.

Summary

The incremental build-out of the RSPU, RSPU Land Use Variant, and KP Medical Center, MLS Stadium (during both an event day non-event day) would result in emissions of ROG and NOx that would exceed the significance thresholds specified by the SMAQMD. The operation of the Stormwater Outfall would not emit a substantial amount of criteria pollutant emissions during its operation; however, the combined operation emissions of all the proposed projects would result in ROG and NOx emissions that would exceed SMAQMD significance threshold, creating a **significant impact**.

As is described under Impact 4.2-1, the SMAQMD recommends that lead agencies require projects creating emissions that would exceed the District's daily thresholds of ROG and/or NOx reduce their ozone precursor emissions from transportation sources by 15 percent. This percentage is based on the project location within the Sacramento Urban Core, which is part of the Sacramento Area Ozone Implementation Plan (SIP). SMAQMD calculates this 15 percent using NO_{xe}, which is calculated by adding the mitigated ROG emissions (divided by 3) to mitigated NOx emissions. As described under Impact 4.2-1, and presented in the Draft RSPU AQMP in Appendix C.2, using the SMAQMD Recommended Guidance for Land Use Emission

Reduction,[41] the percent reduction of NO_{xe} after mitigation for each proposed project that exceeds the SMAQMD significance threshold for ROG and NO_X are presented in Table 4.2-9.

As shown in Table 4.2-9, the RSPU without an MLS match and the RSPU Land Use Variant would result in a 17 and 16 percent reduction in NO_{xe} emissions by simply implementing the design features proposed under the Railyards Specific Plan.[42] The RSPU with MLS match operation would result in a 15 percent reduction in NO_{xe} emissions after mitigation, respectively. All proposed projects would meet or exceed the 15 percent emission reduction/mitigation guideline established by the SMAQMD.

Even with achievement of the SMAQMD-required 15 percent reduction in operational mobile source emissions, NOx and ROG emissions associated with RSPU and RSPU Land Use Variant would exceed the SMAQMD threshold of 65 pounds per day. Thus, this impact would remain **significant and unavoidable**. This impact conclusion is consistent with the 2007 RSP EIR.

Mitigation Measure

Consistent with the direction of the SMAQMD, no further mitigation required.

Impact 4.2-4: The proposed projects could increase CO concentrations.

The 2007 RSP EIR discussed operational CO impacts from project-related traffic under Impact 6.1-4 on page 6.1-26, which concluded that CO concentrations at the intersection affected by the RSP would not exceed the 1- and 8-hour CO concentration threshold under the NAAQS or CAAQS. As described in the methodology section of the 2007 RSP EIR (page 6.1-15), all intersections affected by the RSP were modeled using the CALINE4 dispersion model. These included at intersections where LOS would be "D" or worse under future near-term (2013) or long-term (2030) conditions during a.m. or p.m. peak hours. Results of the CO modeling can be found in Table 6.1-7 of the 2007 RSP EIR. Details and assumptions uses to estimate the CO concentrations provided in Table 6.1 can be found in Appendix D of the 2007 RSP EIR. The 2007 RSP EIR found this impact to result in a less-than-significant impact.

Railyards Specific Plan Update

CO is a localized pollutant of concern. Due to the temporary operation of equipment in any one area, construction of individual development or infrastructure projects pursuant to the proposed RSPU would not emit CO in quantities that could pose health concerns. For RSPU operation, traffic was analyzed to determine its potential to affect CO concentrations near surface streets and intersections in and around the RSP Area. The analysis presented in section 4.12, Transportation and Circulation, shows that twelve intersections would result in a LOS below E during the AM, PM, or pre-event peak hours. CO modeling was conducted for these intersections using CALINE4.

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41 NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOx.

42 NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOx.

Table 4.1-26 shows the CO results. Conservative assumptions were used to estimate worst-case CO concentrations. Those assumptions included 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 baseline plus project (2016) traffic volumes, and the use of 2016 CO emission rates.

TABLE 4.2-26.
CARBON MONOXIDE CONCENTRATIONS AT AFFECTED INTERSECTIONS
PROPOSED RSPU

Intersection	CO Concentrations	
	1-hour (ppm)	8-hour (ppm)
Richards Blvd / I-5 SB Ramps	6.3	5.26
Richards Blvd / Bercut Dr	7.2	5.98
Richards Blvd / N 7th St	6.2	5.18
Richards Blvd / N 12th St / 16th St	10.6	8.7
Bannon St / Bercut Dr	5.7	4.78
N B St / N 7th St	5.6	4.7
N B St / N 12th St	5.4	4.54
J St / 3rd St / I-5 Off-Ramps	6.3	5.26
J St / 5th St	6.2	5.18
South Park St / Bercut Dr	5.5	4.62
Railyards Blvd / 7th St	6.5	5.42
Railyards Blvd / 8th St	5.6	4.7
Threshold	**20**	**9**
Exceed Threshold?	No	No

NOTES:

CO concentrations include a worst case 1-hour CO background concentration of 2.1 ppm and a worst case 8-hour background concentration of 1.9 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 C.1.

SOURCE: ESA, 2016

As shown in Table 4.2-26, the analysis finds that no exceedances of the CO 1- hour or 8-hour standard would occur at any of the twelve intersections. Thus, the RSPU would have a less-than-significant impact on local CO concentrations. This impact conclusion is consistent with the 2007 RSP EIR.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the potential for adverse intersection impacts would be similar to those discussed above for the proposed RSPU. This is because the RSPU Land Use Variant would generate an equivalent amount of AM peak hour traffic, but 14 percent more PM peak hour traffic when compared to the RSPU. In addition, the RSPU Land Use Variant would not include a stadium, which would result in no pre-event peak hour traffic. Since the RSPU Land

Use Variant would have nearly identical AM peak hour traffic as the RSPU and would only increase PM peak hour traffic by 14 percent, CO concentration increases at intersection effected by the project would be very similar to those shown in Table 4.2-26. Thus, the RSPU Land Use Variant would be expected to result a **less-than-significant** impact on local CO concentrations. This impact conclusion is consistent with the 2007 RSP EIR.

KP Medical Center

A review of the traffic data under the KP Medical Center shows that eleven intersections would result in a LOS below E during the AM and PM peak hours. CO modeling was conducted for these intersections using CALINE4. **Table 4.2-27** shows that there would be no exceedances of the CO 1-hour or 8-hour standard at any of the receptor locations. Thus, the proposed KP Medical Center would have a **less-than-significant impact** on local CO concentrations.

TABLE 4.2-27.
CARBON MONOXIDE CONCENTRATIONS AT AFFECTED INTERSECTIONS
PROPOSED KP MEDICAL CENTER

Intersection	CO Concentrations	
	1-hour (ppm)	8-hour (ppm)
Richards Boulevard/I-5 SB Ramps	6.4	5.3
Richards Boulevard/Bercut Drive	7.4	6.1
Bannon Street/Bercut Drive	5.6	4.7
South Park Street/Bercut Drive	5.4	4.5
N. B Street/7th Street	6.1	5.1
J Street/3rd Street/I-5 NB Off-Ramp	6.0	5.0
Railyards Boulevard/Jibboom Street	6.0	5.0
Railyards Boulevard/Bercut Drive	5.1	4.3
Railyards Boulevard/HSB Entry / Stanford St	5.4	4.5
Railyards Boulevard/5th Street	6.0	5.0
Railyards Boulevard/7th Street	6.5	5.4
Threshold	**20**	**9**
Exceed Threshold?	No	No

NOTES:

CO concentrations include a worst case 1-hour CO background concentration of 2.1 ppm and a worst case 8-hour background concentration of 1.9 ppm. The modeled 1-hour concentrations were converted to 8-hour concentrations using a persistence factor of 0.70. CALINE4 modeling results and additional assumptions are included in Appendix C.1.

SOURCE: ESA, 2016

MLS Stadium

A review of the traffic data associated with the MLS shows that five intersections would result in a LOS below E during the pre-event peak hour. CO modeling was conducted for these intersections using CALINE4. As shown in **Table 4.2-28**, 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 MLS Stadium would have a **less-than-significant** impact on local CO concentrations.

TABLE 4.2-28.
CARBON MONOXIDE CONCENTRATIONS AT AFFECTED INTERSECTIONS
PROPOSED MLS STADIUM

Intersection	CO Concentrations	
	1-hour (ppm)	8-hour (ppm)
Richards Blvd / N 7th St	6.4	5.3
J St / 3rd St / I-5 Off-Ramps	6.0	5.0
Railyards Blvd / 5th St	5.9	4.9
Railyards Blvd / 6th St	5.4	4.5
Railyards Blvd / 7th St	5.6	4.7
Threshold	20	9
Exceed Threshold?	No	No

NOTES:

CO concentrations include a worst case 1-hour CO background concentration of 2.1 ppm and a worst case 8-hour background concentration of 1.9 ppm. The modeled 1-hour concentrations were converted to 8-hour concentrations using a persistence factor of 0.70. CALINE4 modeling results and additional assumptions are included in Appendix C.1.

SOURCE: ESA, 2016

Stormwater Outfall

The operation of the Stormwater Outfall would not result in added traffic to any of the intersection effect by the proposed projects. There would be **no impact**.

Summary

As shown in Tables 4.2-26 through 4.2-28, none of the intersections resulting in an LOS below E during the AM, PM, or pre-event peak hours affected by the proposed projects would result in significant CO concentrations. This impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.2-5: Implementation of the proposed projects could result in short-term and long-term exposure to Toxic Air Contaminants (TACs).

The 2007 RSP EIR evaluated health risks that focused on potential exposure from four sources of DPM: the use of off-road diesel equipment during construction, diesel trucks operating on the site and along I-5, diesel powered trains that use the UPRR tracks that traverse the RSP Area, and diesel emissions from vehicles that would use the proposed Sacramento Intermodal

Transportation Facility. The 2007 RSP EIR found that DPM emissions generated during construction or after full-build out of the RSP would not result in a significant health risk within the RSP Area or at the nearest existing residential receptor. Results of the health risk assessment can be found in Appendix O of the 2007 RSP EIR. The 2007 RSP EIR concluded that the project health risks would be **less than significant**.

Railyards Specific Plan Update

Construction activities would produce diesel 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 RSPU 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 OEHHA, health risk assessments should be based on a 30-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 under the RSPU would only constitute a small percentage of the total 30-year exposure 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 RSPU would result in **less-than-significant** construction-related health risks. In addition, DPM exhaust emissions from construction equipment would 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. Health risks associated with construction of the RSPU would be **less than significant**.

Operational DPM emissions were evaluated through the preparation of an HRA assuming full RSPU buildout conditions. The HRA was prepared based on guidance provided by the CARB and SMAQMD, and is presented in its entirety in Appendix C.3. The HRA evaluation considered the combined health risks from operation of the diesel generators at the proposed Stormwater Outfall, KP Medical Center, and MLS Stadium, the operation of emergency generators and boilers located in the Central Utility Plant at the KP Medical Center, the use of hazardous chemicals at the KP Medical Center, and from diesel truck traffic on I-5. The analysis examines pollutant concentrations on future proposed residences nearest to the KP Medical Center in Block 6. The RSPU would result in a maximum cancer risk of 5.0 per million and a chronic health hazard of 0.002, which is below the significance thresholds of 10 in a million for cancer risks and 1.0 for chronic health hazards. The maximum concentration and associated health risk occurs at a future proposed residence in Block 35 located south of the hospital generators and just south of

Railyards Boulevard. Health risks associated with buildout operation of the RSPU would be **less than significant**.

Railyards Specific Plan Update Land Use Variant

As previously discussed above under the RSPU, health risks are based on a 30-year exposure period. Since the construction duration of the RSPU Land Use Variant would only constitute a small percentage of the total 30-year exposure period, TACs generated during construction would not be expected to result in concentrations causing significant health risks. Construction of the proposed RSPU Variant 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. Health risks associated with construction of the RSPU would be **less than significant**.

For the RSPU Land Use Variant, the health risk evaluation found in Appendix C.3 examined the combined health risks from operation of the Stormwater Outfall diesel generator and I-5 on future residents and on residents bordering the site. The health risks from the KP Medical Center and MLS Stadium stationary sources are not evaluated in this assessment because they are not part of the Variant. The RSPU Variant would result in a cancer risk of 4.4 per million and a chronic health hazard of 0.0013, which is substantially below the significance thresholds of 10 in a million for cancer risks and 1.0 for chronic health hazards. The maximum concentration and associated health risks is located at a potential future residence located just east of I-5 near the northwestern corner of the RSP Area on Block 35. This represents the health risk increase from operation of the backup diesel generator at the proposed Stormwater Outfall and from I-5 traffic. This impact would be **less than significant**.

KP Medical Center

As previously discussed, health risks are based on a 30-year exposure period. Since the construction duration of the KP Medical Center would only constitute a small percentage of the total 30-year exposure period, TACs generated during construction would not be expected to result in concentrations causing significant health risks. Construction of the proposed KP Medical Center would result in less-than-significant construction-related health risks. In addition, DPM exhaust emissions from construction equipment would 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. Health risks associated with construction of the KP Medical Center would be **less than significant**.

Operation of the KP Medical Center would emit TACs from area and stationary sources. Area source emissions would be generated from chemicals used for sterilization, to prepare medications, and for surgical procedures. Several chemicals to be used at the hospital and medical

offices pose acute, chronic, and/or carcinogenic health risks. These chemicals include methanol, formaldehyde, isopropyl alcohol, sodium hydroxide, and isopropanol.[43] These chemicals are used in small quantities, resulting in only minor amounts being vented. The health risks associated with venting these hazardous chemicals is expected to have negligible health risks to sensitive receptors near the hospital because of the small quantities of chemicals that would be used, the large airflow typical of hospital HVAC systems (and therefore low concentrations of vented TACs), and the distances between the hospital and the closest sensitive receptors.

All stationary KP Medical Center sources - the backup generators and boilers - were evaluated for their health risks. The hospital would be powered by a combination of natural gas fired boilers and electricity. Five diesel-powered backup generators would provide emergency backup power in the case of an electrical outage. Four natural-gas fired boilers would be used to provide steam and heat for daily hospital operation. Although natural gas combustion produces TACs, the amount of those TACs are extremely low, and the health risks associated with those TACs pose substantially lower risks than DPM produced by diesel fuel combustion. The cancer health risks and chronic and acute health hazard from natural gas combustion were found to be negligible (see also Appendix C.3). The KP Medical Center's cancer risk from the backup generators combined with the risks from I-5 freeway traffic emissions equals 3.2 per million for sensitive receptors at the hospital, to be located east of the CUP combustion sources. The chronic health index equals 0.001. Both cancer risk and the chronic health index are below the significance thresholds of 10 in a million for cancer risks and 1.0 for chronic health hazards. This impact is **less than significant**.

MLS Stadium

Construction of the MLS Stadium would take approximately three years to complete. Due to the relatively short period of exposure that construction would pose, TACs generated during construction would not be expected to result in concentrations causing significant health risks. Construction of the proposed MLS Stadium 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 construction equipment 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. Health risks associated with construction of the MLS Stadium would be **less than significant**.

Operation of the MLS Stadium would be powered primarily by electricity. However, in the event of an electrical outage, a diesel powered generator would be used to provide backup electrical power. Operation of this generator would result in a small health risk equivalent to a cancer risk of 0.5 per million and a chronic health hazard of 0.0002, which is substantially below the significance thresholds of 10 in a million for cancer risks and 1.0 for chronic health hazards. This

[43] Kaiser Permanente, 2016. Hazardous materials in use at the Westside HMIS Hospital (Levels 1, 2, and 3).

represents the health risk increase only from operation of the backup diesel generator at the MLS Stadium. This impact would be **less than significant**.

Stormwater Outfall

Construction of the Stormwater Outfall would take less than one year to complete. 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 Stormwater Outfall 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. Health risks associated with construction of the Stormwater Outfall would be **less than significant**.

Operation of the Stormwater Outfall would be powered by electrically powered pumps. However, in the event of an electrical outage, a diesel powered generator would be used to power the pumps. Operation of this generator would result in a small health risk equivalent to a cancer risk of 0.5 per million and a chronic health risk of 0.0002, which is substantially below the significance thresholds of 10 in a million for cancer and 1.0 for chronic health risks. This represents the health risk increase only from operation of the backup diesel generator at the MLS Stadium. This impact would be **less than significant**.

Summary

In summary, construction durations for each of the proposed projects would constitute a small percentage of the total 30-year exposure period used for health risk evaluations. Since construction of the proposed projects would only represent between 3 to 63 percent of the 30-year evaluation period, and because DPM exhaust emissions from construction equipment will be reduced by 45% as compared to the state fleet average (based on Mitigation Measure 4.2-2 (b)), TACs generated during construction would not be expected to result in concentrations causing significant health risks. Also, operation of the proposed projects would result in less-than-significant health risks. This impact is **less than significant**.

For operations, all of the land use options would result in cancer risks below the SMAQMD's threshold of 10 per million and acute and chronic health hazards below SMAQMD's threshold of 1.0. Consequently, the operational health risks for all options would be **less than significant**.

Mitigation Measure

None required.

Impact 4.2-6: Implementation of the proposed projects could create objectionable odors.

The 2007 RSP EIR discussed odor impacts under Impact 6.1-6 on pages 6.1-30 through 6.1-31. The 2007 RSP EIR identified the nearest existing odor source near the RSP to be the Sacramento River Water Treatment Plant (SRWTP), located adjacent to the RSP site's northwestern boundary. The 2007 RSP EIR concluded that uses proposed within the RSP adjacent to the SRWTP would not be odor-sensitive and would provide a buffer of several hundred feet between the SRWTP and the nearest onsite odor-sensitive use. The 2007 RSP EIR found this impact to result in a **less-than-significant impact**.

Railyards Specific Plan Update

The SMAQMD has identified typical odor sources in its *CEQA Guide to Air Quality Assessment.* These 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.[44] The proposed RSPU would not include uses that have been identified by SMAQMD as potential sources of objectionable odors. In addition, the RSPU would not be located within one mile of any facilities or uses known to generate objectionable odors. The RSPU would include a major medical center, a sports and entertainment stadium, and mixed use development. Restaurants and other 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. The RSPU would include land uses located near the SRWTP, but the operations at the water treatment plant would not include in any activities that would result in objectionable odors. This impact would be **less than significant**. This impact conclusion is consistent with the 2007 RSP EIR.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would result in similar odor impacts as discussed under the RSPU. Under the Land Use Variant, the KP Medical Center and the MLS Stadium would be replaced with office and residential land uses. Proposed restaurants and other food and drinking places within the RSPU Land Use Variant site would not result in objectionable odors, since these types of uses already exist in the project vicinity and are not considered significant sources of odor. Construction the RSPU Land Use Variant could produce odorous exhaust, but equipment use in any one construction site in the RSP Area would be temporary and potential odors would not affect a substantial number of people. Much like the proposed RSPU, the RSPU Land Use Variant would include land uses near the SRWTP, but the operations at the water treatment plant would not include in any activities that would result in objectionable odors. This impact would be **less than significant**. This impact conclusion is consistent with the 2007 RSP EIR.

[44] Sacramento Metropolitan Air Quality Management District, 2009. *Guide to Air Quality Assessment*. Adopted December 2009 and last updated October 2013. pp. 7-2.

KP Medical Center

None of the activities associated with the KP Medical Center would have the potential to expose nearby sensitive receptors (e.g., residential areas, schools, nursing homes) to objectionable odors. Since the proposed KP Medical Center would not be a source of objectionable odors, and would not be exposed to odors from surrounding land uses, this impact would result in a **less-than-significant** impact.

MLS Stadium

Operation of the MLS Stadium would not add any new odor sources, and any odors generated would be similar to existing odors associated with land uses in the area. The MLS Stadium would generate large quantities of solid waste during MLS Matches. However, there would be onsite staff available to quickly dispose of trash and recycle material, which would eliminate the potential for odors to be generated at the MLS Stadium site. The MLS Stadium would not be located near any facilities or uses known to generate objectionable odors. As a result, the MLS Stadium's construction and operational activities would not create objectionable odors affecting a substantial number of people. The impact would be **less than significant.**

Stormwater Outfall

The Stormwater Outfall 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**.

Summary

In summary, none of the proposed activities or uses proposed within any of the proposed project sites would be classified by the SMAQMD as typical odor sources. Although odors could be generated by diesel exhaust from off-road equipment during the construction of the proposed projects, these odors would be temporary and would not affect a substantial number of people. The proposed projects could place sensitive land uses adjacent to the existing SRWTP, located north-west of the proposed project site. However, operation of the SRWTP would not involve any activities that would produce odorous emissions. Therefore, this impact would result in **less–than-significant** impact. No additional mitigation is recommended.

Mitigation Measure

None required.

Impact 4.2-7: Implementation of the proposed projects could alter wind speed at ground level (pedestrian level).

The 2007 RSP EIR discussed wind impacts under Impact 6.1-7 on page 6.1-31. The 2007 RSP EIR discussed the potential for development pursuant to the 2007 RSP to create a new microclimate, especially for buildings over 100 feet in height. The 2007 RSP EIR concluded that

the RSP Area could experience strong southwest winds which could exacerbate wind risks. The 2007 RSP EIR found this impact to be **significant**.

Railyards Specific Plan Update

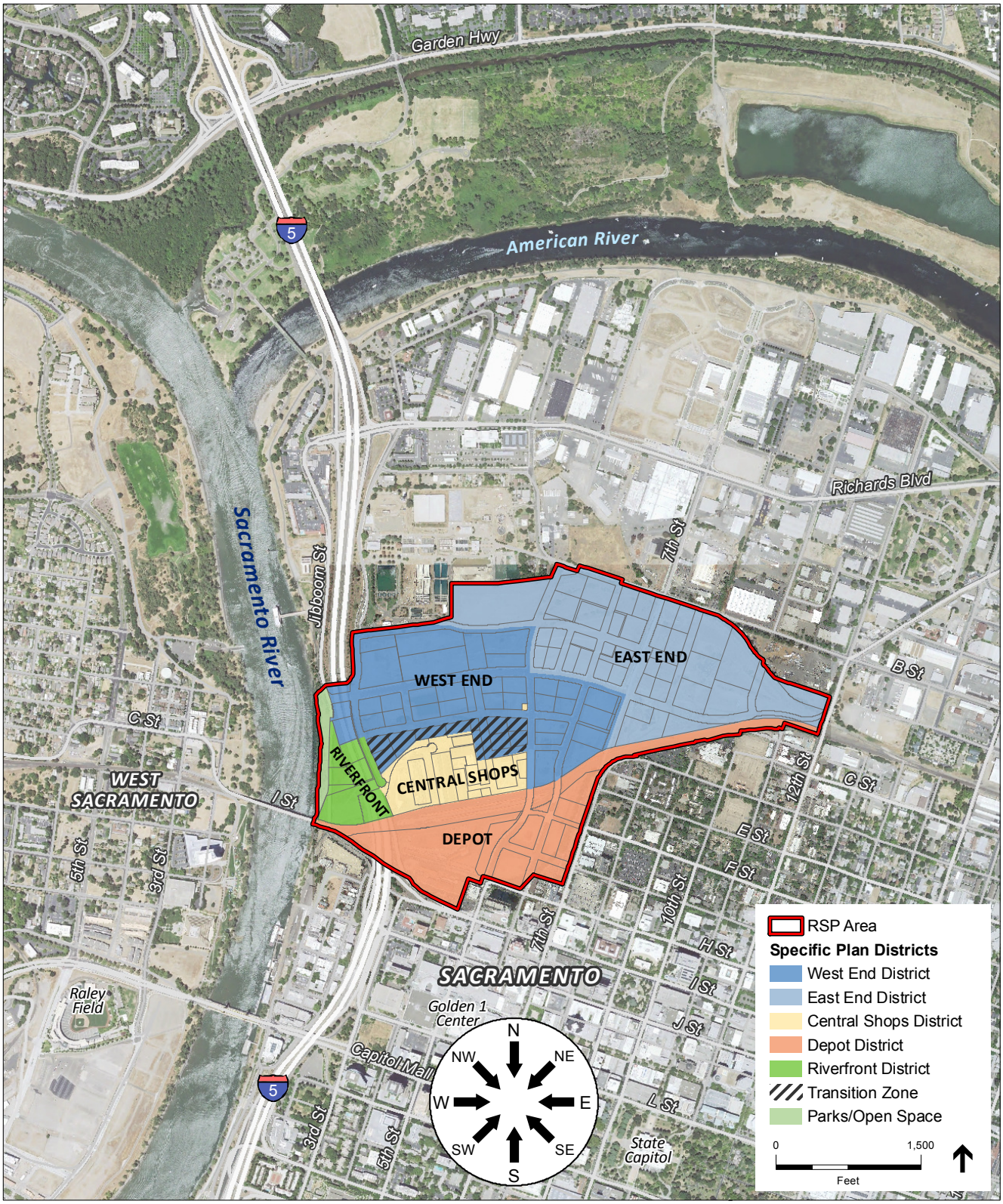
As discussed in the Existing Wind Conditions section, the most frequent winds are the southwest winds. Less frequent but stronger winds that could create hazardous wind conditions are the north, northwest, south, and southeast winds. Previous wind-tunnel tests conducted for buildings in downtown Sacramento show that constructing a mid- to high-rise building could be expected to result in increased ground-level wind speeds, and may also result in a wind hazard. The RSP Area is located northwest from the Sacramento downtown area, where the sites of the previously wind-tunnel tested buildings are located. The RSP Area is fairly exposed to approaching wind in comparison to the locations of these previously wind-tested buildings. With the exception of downtown Sacramento to the southeast, there is not much development of substantial size to slow down wind approaching the RSP Area.

These wind directions are the focus in the following discussion of wind expected from the proposed RSPU. **Figure 4.2-1** shows the view of the RSP Area and wind directions. In the following discussions, the effects are considered for each important wind direction; the prevailing southwest winds are important because they affect pedestrian comfort, but have little effect on wind hazard, while the other directions are important because they have the potential to result in a wind hazard in pedestrian areas if buildings bring these strong winds down to street level.

Southwest Winds

To the southwest of the RSP Area is Old Sacramento, which consist of low-rise buildings with a few mid-rise buildings, and the Sacramento River. With the exception of the Ziggurat and the CalSTRS Headquarters Building in West Sacramento, development along the Sacramento River is primarily a mix of low- to mid-rise residential and industrial development. The lack of taller buildings to the southwest of the RSP Area allows for wind to approach mostly unobstructed. Development along the western edge of the RSP Area – the West End District and the Riverfront District – would be fully exposed to southwest winds.

The high-rise and bulky buildings that are fully exposed to southwest winds have the potential to create turbulent winds at the ground level around the buildings. Future buildings at the northern edge of the West End and East End Districts in the RSP Area are most exposed to winds from the northeast through northwest. In the West End District, especially north of Railyards Boulevard, If they are fully exposed to exceptionally strong winds during a high-wind event, buildings taller than 85-feet have the potential for creating hazardous ground level winds, which, have the potential to be unsafe for pedestrians during a high-wind event. If no other structures are present in the immediate vicinity upwind to the north of future buildings, the development and its context should be carefully evaluated as with mid- to high-rise residential buildings (see **Figure 4.2-2**).



SOURCE: ESRI, 2012; City of Sacramento, 2015; Kimley-Horn, 2016; ESA, 2016

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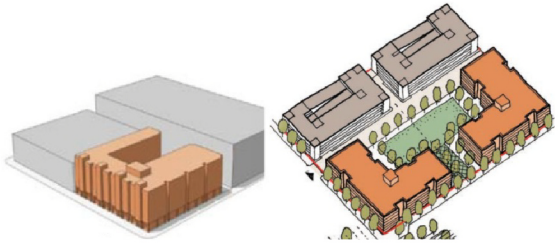
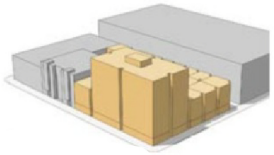
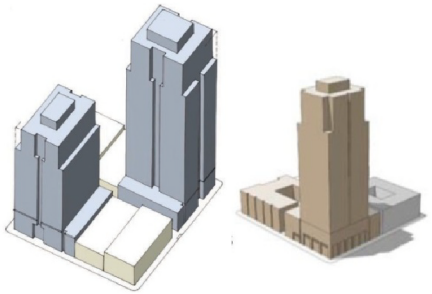
Figure 4.2-1
Wind Direction

Design Guidelines Development Type	Design Guidelines Example	Expected Effect on Winds at Pedestrian Level	Mitigation or Preventive Measure
Residential Low-Rise (Up to 50-feet) Commercial Low/Mid-Rise (Up to 85-feet)		Adverse pedestrian-level wind effects could occur. A wind hazard would be unlikely.	No wind evaluation necessary
Residential Mid-Rise (50-feet to 100-feet)		Adverse pedestrian-level wind effects could occur. A wind hazard could occur for some building configurations.	Final design and vicinity context shall be evaluated by wind expert to determine if a wind hazard would be likely to occur. If the available evidence is insufficient to support a conclusion that no wind hazard would result, a wind test may be required.
Residential High-Rise (>100-feet) Commercial High-Rise (250-feet to 500-feet)		Adverse pedestrian-level wind effects likely. A wind hazard may occur. for some building configurations. Adverse pedestrian-level wind effects likely. A wind hazard is likely to occur.	

SOURCE: ESA 2015

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Figure 4.2-2

Effect of Development on Wind Environment

Development in the West End District south of Railyards Boulevard has the potential to redirect and slow down approaching winds as well, depending on the bulk and size of the development. Low-rise development, as defined in Figure 4.2-2, would have only a small effect in slowing down southwest approaching winds, as the wind would easily move across low-rise development, whereas mid- to high-rise buildings would help in slowing down southwest winds.

In the East End District, development that includes 200-ft high-rise buildings would have the potential to cause wind hazards for pedestrians, depending upon the building configurations proposed. The East End District also would contain the proposed MLS Stadium at the eastern edge. The site of the proposed MLS Stadium would be protected from the southwest winds by the development in the West End and East End Districts, depending of the height and density of the completed development. In the intervening open space and over the MLS Stadium site, the ground-level speed of southwest winds would be expected to increase, but not substantially. The MLS Stadium and site would be relatively open and not affect the wind speed, except in near the Stadium structure, where it would offer shelter to people on site.

The Riverfront District is at the southwest edge of the RSP Area. High-rise development proposed in this fully exposed area would have a strong potential to increase pedestrian level wind speeds. Prevailing winds redirected to ground level by high-rise buildings could adversely affect wind comfort in the area, but there is only a small potential to result in wind hazards due to southwest winds. Furthermore, although they would typically not result from southwest winds, wind hazards may result due to strong winds from other directions.

The Depot District and the Central Shops District are anticipated to have development similar size and bulk to the existing buildings and structures on the Railyards site and the surrounding neighborhoods. This development is not anticipated to increase winds and may rather decrease existing wind speeds at ground level by adding buildings of similar height in the area.

North to Northwest Winds

Winds generally from the north, but ranging from the northeast to northwest, of the RSP Area approach the site mostly unimpeded. North of the RSP Area is low-rise development in the River District that, in turn, is bordered on the north by the American River, which runs east to west. North of the River, Discovery Park is a large, open recreational area with low-rise residential of South Natomas farther upwind.

Future development at the northern edge of the West and East End Districts are most exposed to winds from the northeast through northwest. Buildings 85-feet to 100-feet tall have the potential for creating hazardous ground level winds if they are fully exposed to exceptionally strong winds. Other development in the West and East End Districts could include high-rise towers to a maximum height of 200 feet or more. Such buildings would be of sufficient height to potentially cause hazardous winds at ground levels under certain conditions. Strong winds at ground levels could occur where these high-rise towers are at the corners of blocks or otherwise have direct exposure to northerly winds.

South to Southeast Winds

The winds approaching the RSP Area from the south to southeast will have been slowed somewhat by the mass of mid- to high-rise buildings that are present in downtown Sacramento. Regardless, the potential for unsafe wind conditions caused by high-rise buildings would remain, as seen in the previous wind-studies of buildings in the downtown area, but such events would be expected to occur less frequently when winds are coming from the south and southeast directions.

Future development of mid- and high-rise buildings, especially in the western and northern portions of the RSP Area, has the potential to create hazardous ground-level wind conditions. This is considered a **potentially significant impact**.

Railyards Specific Plan Update Land Use Variant

Wind effects of the RSPU Land Use Variant would be essentially the same as those under the proposed RSPU. As a result of replacing the proposed MLS Stadium with mixed-use development, higher buildings could be built on Blocks 52 through 55, but the wind effects of high-rise development in this area is similar to those described for high-rise development in other parts of the East End District under the proposed RSPU. The effect of potential wind hazards under the RSPU Land Use Variant is considered a **potentially significant impact**.

KP Medical Center

The project applicant has prepared illustrative site plans for the proposed KP Medical Center. These illustrative site plans would be revised and refined as part of the final design process, and would be reviewed by the City as part of the Site Plan and Design Review permit process. The following analysis of potential wind effects of the KP Medical Center is based on the illustrative site plans presented in Chapter 2, Project Description.

Southwest Winds

The proposed KP Medical Center would be located at the northwest corner of the West End District, and would contain buildings up to 230-feet tall. Depending on final designs, the heights and bulks of the proposed buildings in an area that is fully exposed to southwest winds have the potential to create turbulent winds at the ground level around the buildings. These winds have potential to be unsafe for pedestrians during a high-wind event.

Based on the illustrative site plans, the six-story Phase 1 Parking Garage at the west boundary of the KP Medical Center site would be most exposed to the southwest wind, and would redirect some of the wind around the structure and some wind down to the ground, but an open-sided structure, as is expected of a parking structure, also would allow wind to enter the substantial openings at every floor and dissipate within the parking decks. This would substantially reduce the amount of wind that would be directed downward to ground level from the six-story structure.

Southwest winds would then approach the hospital tower; lower-level winds would have been slowed by the garage, while winds above the garage level would not be slowed. While the height

of the proposed hospital indicates a strong potential for winds to be brought down to ground level, the presence of the 3- to 4-story building base (and the HSB) would likely intercept and dissipate these tower "downwash" winds before they reach pedestrian level in public areas. By the time southwest winds reach the Phase 2 medical office buildings, they should be slowed. The medical office buildings would be too short to create a wind hazard and the Phase 2 Parking Structure, approximately 85-ft in height, would not likely create a wind hazard, because it would be sheltered from southwest winds by the adjacent 85 to 90-foot medical office buildings which would likely intercept and dissipate these tower "downwash" winds before they reach pedestrian level in public areas.

North to Northwest Winds

Northerly winds would approach the proposed KP Medical Center and cross the site at its most narrow dimension. Based on the illustrative site plans, an approximately 230-foot hospital, located near the center of the KP Medical Center site, would have the potential for increased wind speeds at pedestrian level. Depending on final design features, winds from the north could strike the side of the tower. Northerly winds are of concern because they have a higher-speed component that occurs just often enough to result in wind hazards if redirected downward by high-rise buildings. Even buildings 85-feet to 100-feet tall have the potential for creating hazardous ground level winds if they are fully exposed to exceptionally strong winds. If a proposed development has no other structures in the immediate vicinity upwind to the north, the potential exists for significant wind hazards to be created. Because the hospital tower could be of sufficient height to create pedestrian level wind hazards, this is considered a **potentially significant** impact.

MLS Stadium

The proposed MLS Stadium site would be located at the eastern edge of the East End District. As presented in Chapter 2, the height of the Stadium ranges 70 to 90 feet, with a canopy roof raised up to 5-feet above the height of the seating bowl. This is not a tall structure compared to high-rise buildings known to cause hazardous wind environments; however, the Stadium bowl would be a large structure and due to its exposure to winds from the north, could have a potential to increase existing pedestrian-level wind speeds. The rounded shape, open air canopy, and the permeable design of the Stadium façade would help redirect and reduce any potentially high or unsafe winds. Due to the relatively low height of the proposed MLS Stadium, this is considered a **less-than-significant** impact.

Stormwater Outfall

The Stormwater Outfall would be largely below grade and would have a profile so low as to avoid any material redirection of wind. This impact is considered **less than significant**.

Summary

In summary, buildings and other structures of approximately 85 feet or less would be unlikely to result in adverse pedestrian-level wind effects. Buildings over that height, especially if located on

the western or northern edges of the West End District or the northern edge of the East End District, could create pedestrian-level wind hazards. Therefore, this impact would result in a **potentially significant** impact.

Mitigation Measure

Mitigation Measure 4.2-7 described below is an update of Mitigation Measure 6.1-7 on page 6.1-31 of the 2007 RSP EIR.

Mitigation Measure 4.2-7 (RSPU, KPMC)

The following measures are recommended to assure that future buildings developed in the RSP Area do not cause hazardous wind conditions for pedestrians in areas of substantial public use:

1) *New buildings with heights of more than 85-feet shall be evaluated by a qualified wind expert to determine the potential to cause a new wind hazard or aggravate an existing wind hazard for pedestrians in areas of substantial public use. Based on a review of wind conditions, other development in the vicinity, and the project design, the evaluator may have sufficient evidence to form a professional opinion about the potential for the project to cause a hazardous wind environment. If sufficient evidence is available to conclude that no wind hazards will be created, no further mitigation is required. If sufficient evidence to establish safe pedestrian conditions is not available, the City shall require wind-tunnel testing to provide the evidence that a wind hazard would not result in public areas.*

2) *If required wind tunnel testing identifies wind hazards, the qualified wind expert shall work with the City and/or project proponent to develop corrective measures such as building design changes, protective structures, or landscaping modifications to help reduce pedestrian-level wind speeds to acceptable levels. The City shall require implementation of such corrective measures as a condition of the building permit.*

Cumulative Impacts

The geographic context for changes in the air quality environment due to development of the proposed projects would be both regional and local. Ozone and $PM_{2.5}$ would be the primary pollutants of regional concern, meaning that the cumulative context would include the SVAB.

Particulates (fugitive dust and fine particulate matter, including DPM) and TACs could result in localized impacts in close proximity to pollutant sources. In addition to the proposed projects, the other active cumulative construction projects in the immediate vicinity are the I Street Bridge Replacement project and the Powerhouse Science Center, Vanir Tower (6^{th}/J Street), Township 9 (later phases), other potential future ESC development and the High Speed Train.

As described above in Impact 4.2-1, the proposed projects 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 is not discussed further in the cumulative analysis. 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 projects result in odor sensitive-receptors being located in close proximity to substantial sources of odor. This impact would not be affected by cumulative development.

Impact 4.2-8: The proposed projects could contribute to cumulative increases in short-term (construction) emissions.

NOx, PM_{10}, and $PM_{2.5}$ are the pollutants that SMAQMD has identified as the primary concerns from construction. The project plus other concurrent construction activities in the SVAB could contribute to cumulative construction-related NO_X, PM_{10} and $PM_{2.5}$ emissions. Construction of the proposed projects would result in significant emissions of NO_X, PM_{10} and $PM_{2.5}$, which could combine with emissions generated by other existing and future development within the SVAB to contribute to an air quality impact in the region. Since the proposed projects exceed the SMAQMD project level thresholds, they would also be considered significant contributors to cumulative emissions. Consequently, without mitigation, the proposed projects would have a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures

Mitigation Measure 4.2-8 described below is the same as Mitigation Measures 6.1-1 on pages 6.8-20 through 6.8-21 of the 2007 RSP EIR, respectively.

Mitigation Measure 4.2-8 (RSPU)

Implement Mitigation Measure 4.2-2.

Impact Significance After Mitigation: With implementation of the above mitigation measures for the proposed project, exhaust emissions would be reduced onsite and mitigation fees would be provided to SMAQMD to offset project NOx emissions that exceed the SMAQMD significance threshold. SMAQMD uses these fees to fund off-site projects that would offset the project's NOx emissions. Although cumulative NO_X emissions in the SVAB would be significant due to existing violations in the region, with implementation of Mitigation Measure 4.2-2 the proposed projects' contributions would be reduced to a level that would result in a less than considerable contribution to the significant cumulative impact. Thus, this impact would be mitigated to **less than significant**.

Impact 4.2-9: The proposed projects could contribute to cumulative increases in long-term (operational) emissions of NOx ROG, PM_{10} and $PM_{2.5}$.

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 NO_X emissions. As described in Impact 4.2-3, under non-event day conditions, the proposed project would result in substantial emissions of ROG and NO_X, 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 projects 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**.

As is also described under Impact 4.2-3, the RSPU would result in a 15 to 17 percent reduction in NO_{xe} emissions by implementing the design features proposed under the RSPU, Design Guidelines, and SPD, and would meet or exceed the 15 percent emission reduction/mitigation guideline established by the SMAQMD. Nevertheless, even with achievement of the SMAQMD-required 15 percent reduction in operational mobile source emissions, NOx and ROG emissions associated with RSPU would exceed the SMAQMD threshold of 65 pounds per day, contributing to significant cumulative air emissions. Consequently, this cumulative impact would remain **significant**.

Mitigation Measures

Consistent with the direction of the SMAQMD, no further mitigation required.

Impact Significance After Mitigation: As is described under Impact 4.2-3, above, the traffic reduction variables and other emission reductions built into the design and locality of the proposed projects would exceed 15 percent reduction in NO_xe emissions after mitigation.[45] Since the proposed RSPU would be designed as a high-density, mixed-use, transit-oriented development, much of the reduction would be achieved by project design and location within the Sacramento urban core with access to a variety of transportation options. Nonetheless, even with the inclusion of the above-mentioned design features, NO_X and ROG emissions associated with either of the project scenarios would still exceed the SMAQMD threshold of 85 lbs/day. Thus, operational emissions of ozone precursors would be **significant and unavoidable**.

Impact 4.2-10: The proposed projects could contribute to cumulative increases in CO concentrations.

Cumulative traffic was analyzed to determine its potential to affect CO concentrations along surface streets near sensitive receptors in the vicinity of the proposed project. A review of the traffic data shows that twenty five intersections would result in a LOS below E during the AM, PM, or pre-event peak hours during cumulative year 2035. **Table 4.2-29** shows the results of the

[45] NOxe as defined by the SMAQMD is the reduction in ROG divided by 3 plus the reduction in NOx.

cumulative CO modeling. As shown in Table 4.2-29, there would be no exceedances of the CO 1-hour or 8-hour standard at any of the twenty five intersections. Thus, the proposed project would rest in a **less-than-significant** cumulative impact on local CO concentrations.

TABLE 4.2-29.
CARBON MONOXIDE CONCENTRATIONS AT AFFECTED INTERSECTIONS UNDER CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	CO Concentrations	
	1-hour (ppm)	8-hour (ppm)
Richards Blvd / I-5 SB Ramps	5.3	4.46
Richards Blvd / Sequoia Pacific Blvd	5.4	4.54
Richards Blvd / N 7th St	5.3	4.46
N B St / N 7th St	5.4	4.54
F St / 7th St	5.3	4.46
H St / 5th St	5.1	4.3
I St / 6th St	5.4	4.54
J St / 3rd St / I 5 NB Off-Ramp	5.2	4.38
C St / 5th St	5.3	4.46
C St / 3rd St	5.4	4.54
South Park St / Bercut Dr	4.8	4.06
South Park St / 5th St	5.9	4.94
South Park St / 6th St	4.8	4.06
Railyards Blvd / Jibboom St	5.6	4.7
Railyards Blvd / Bercut Dr	5.6	4.7
Railyards Blvd / Huntington St	5.1	4.3
Railyards Blvd / 5th St	5.2	4.38
Railyards Blvd / Judah St	4.9	4.14
Railyards Blvd / 6th St	5.2	4.38
Railyards Blvd / 7th St	5.5	4.62
Railyards Blvd / 8th St	4.8	4.06
Camille Ln / Bercut Dr	4.8	4.06
Camille Ln / Huntington St	4.8	4.06
Camille Ln / Stanford St	4.8	4.06
Camille Ln / 6th St	4.8	4.06
Threshold	**20**	**9**
Exceed Threshold?	No	No

NOTES:

CO concentrations include a worst case 1-hour CO background concentration of 2.1 ppm and a worst case 8-hour background concentration of 1.9 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 C.1.

SOURCE: ESA, 2016

Mitigation Measure

None required.

Impact 4.2-11: The proposed projects could contribute to cumulative increases in short- and long-term exposures to Toxic Air Contaminants.

The evaluation of health risks from TAC represents a local rather than regional analysis. The analysis described in Impact 4.2-5 and in Appendix C.3 shows that TACs and resulting health risks produced during construction and full-buildout of the proposed projects would result in less-than-significant impacts. Impact 4.2-5 also includes an evaluation of the toxic air contaminants generated by I-5 on future residents and other sensitive receptors. The SMAQMD considers the project-level threshold of significance for evaluating TACs generated by a project as also applicable to a project's contribution to cumulative TACs. Therefore, since the project would not have a significant project-specific health risk, it would also not cause or contribute to a significant cumulative health risk. This impact is **less than significant.**

Mitigation Measure

None required.

Impact 4.2-12: The proposed projects could contribute to cumulative changes in wind levels in downtown Sacramento.

Development proposed near the RSP Area would not have a significant effect on wind approaching the Area unless that development is of substantial height and/or bulk. As discussed, the southwest winds and north to northwest winds are the most influential wind directions at the RSP Area. The existing development upwind in these wind directions are either low to mid-rise residential or commercial or open spaces. Generally, any new development in open areas would decrease wind speeds in the downwind direction, however, because there is already low rise development upwind of the RSP Area, development would need to be similar to the height and bulk of downtown Sacramento to effectively reduce approaching wind speeds. Therefore, taller development upwind of the RSP Area would mostly benefit the site; else wind conditions would be expected to be the same as existing conditions. As such, the proposed projects would not contribute to a cumulative increase in wind levels in downtown Sacramento. This is considered a **less-than-significant cumulative impact**.

Mitigation Measure

None required.

SECTION 4.3
Biological Resources

This section examines the potential significant impacts of the proposed projects on biological resources and identifies mitigation measures to avoid or reduce those impacts. The discussion includes a summary of the current regulatory status relevant to biological resources potentially present within and near the RSP Area. 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. and of the State. The results of this assessment are based upon field reconnaissance, literature searches, and 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 surveys were conducted on September 8-10, 2015, and February 24, 2016. 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. The sources of reference data reviewed for this evaluation included the following:

- 2007 Railyards Specific Plan Draft and Final EIRs (2007 RSP EIR);[2]
- Sacramento West,[3] Sacramento East,[4] California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles;
- Federal Endangered and Threatened Species that may occur in the proposed project location, and/or may be affected by the proposed project;[5]

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. 2007. Railyards Specific Plan Environmental Impact Report. Certified December 11, 2007.

3 U.S. Department of the Interior, Geological Survey, 2015. Sacramento West, California 7.5-minute Quadrangle Series. Available: http://store.usgs.gov/b2c_usgs/usgs/maplocator/(ctype=areaDetails&xcm=r3standardpitrex_prd&carea=%24ROOT&layout=6_1_61_48&uiarea=2)/.do. Accessed April 11, 2016.

4 U.S. Department of the Interior, Geological Survey, 2015. Sacramento West, California 7.5-minute Quadrangle Series. Available: http://store.usgs.gov/b2c_usgs/usgs/maplocator/(ctype=areaDetails&xcm=r3standardpitrex_prd&carea=%24ROOT&layout=6_1_61_48&uiarea=2)/.do. Accessed April 11, 2016.

5 U.S. Fish and Wildlife Service, 2015. List of Threatened and Endangered Species that May Occur in the Proposed Project Location, and/or May be Affected by the Proposed Project. Available: www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm. Accessed on: December 2, 2015.

- CNDDB list of special-status species occurrences within the Sacramento East and Sacramento West and ten surrounding USGS 7.5-minute topographic quadrangles (Grays Bend, Taylor Monument, Rio Linda, Citrus Heights, Carmichael, Elk Grove, Florin, Clarksburg, Saxon, and Davis);[6]
- CNPS list of rare and endangered plants known to occur within the Sacramento East and Sacramento West and ten surrounding USGS 7.5-minute topographic quadrangles;[7]
- Special Vascular Plants, Bryophytes, and Lichens List;[8] and
- Special Animals List.[9]

No comment letters related to biological resources were received in response to the NOP circulated for the proposed project.

The analysis below examines the potential impacts of the proposed projects on biological resources. The analysis included in this section was developed based on project-specific construction and operational features, and information provided by the City of Sacramento 2035 General Plan, City of Sacramento 2035 General Plan Master EIR, literature and database searches, field reconnaissance data collected in 2015 and 2016, and the 2007 RSP EIR.

Issues Addressed in the 2007 RSP EIR

The 2007 RSP EIR addressed several potential impacts to biological resources resulting from the implementation of the Specific Plan, as proposed at that time. The potential impacts included:

- loss of potential foraging habitat for Swainson's hawk (less than significant);
- loss of potential nesting habitat for Swainson's hawk, white-tailed kite, and other sensitive riparian-nesting species, and burrowing owls (less than significant with mitigation);
- effects to endangered and threatened fish species (endangered Sacramento River winter-run Chinook salmon; threatened Central Valley spring-run Chinook salmon, Central Valley steelhead, threatened delta smelt, and green sturgeon) and degradation of designated critical habitat (less than significant with mitigation);

6 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 8, 2015.

7 California Native Plant Society, 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed September 8, 2015.

8 California Department of Fish and Wildlife. 2016. State and Federally Listed Endangered and Threatened Plants of California. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. Data dated January 2016.

9 California Department of Fish and Wildife. 2016. State and Federally Listed Endangered and Threatened Animals of California. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. Data dated January 2016.

- removal of habitat for the valley elderberry longhorn beetle (VELB) (less than significant when project is in compliance with federal regulatory requirements for the recovery of VELB);
- effects to habitat for the western pond turtle (less than significant);
- loss of roosting site(s) for a sensitive bat species (less than significant with mitigation);
- increase mortality and decrease reproductive success of purple martins (less than significant with mitigation);
- reduce sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands (less than significant with mitigation);
- isolate or interrupt contiguous habitat which could interfere with the movement of resident or migratory fish or wildlife species, migratory wildlife corridors, or impede the use of native wildlife nursery sites (less than significant with mitigation); and
- conflict with local policies protecting trees (less than significant with mitigation).

The 2007 RSP EIR addressed several cumulative impacts to biological resources resulting from the implementation of the 2007 RSP, as proposed at that time. The potential cumulative impacts included:

- contribution to the cumulative loss of special-status plant and wildlife or their habitat in the region (less than significant); and
- contribution to the cumulative reduction in open space or impact to riverine habitat, which would interfere substantially with the movement of resident migratory fish or wildlife, or impede the use of native wildlife nursery sites in within the region (less than significant).

4.3.1 Environmental Setting

The biological resources setting is described Section 6.2 of the 2007 RSP Draft EIR (pages 6.2-1 through 6.2-23). Since the certification of the 2007 RSP EIR, environmental conditions within the RSP Area have changed. This section describes the habitat types, plant species, and wildlife species observed within or adjacent to the RSP Area during biological surveys conducted on September 8-10, 2015, and February 24, 2016.

Surveys were conducted by driving and walking meandering transects across the entire site to identify potential wetlands, special-status species habitat, and document the general biota associated with the RSP Area. Areas within 100 feet of the RSP Area were also evaluated for the potential occurrence of sensitive species and habitats. The location of any observed special-status species or any signs indicating that such species could nest, forage, or otherwise use the RSP Area (e.g., scat, prints, or sounds), as well as boundaries of wetlands and other waters of the U.S.,

were recorded using an iPad® tablet equipped with ArcGIS Collector Application, Version 10.3.5.

Railyards Specific Plan Update

Regional Setting

The RSP Area is located in the City of Sacramento, within the Sacramento Valley floristic province of the Great Central Valley[10] (see Figure 2-1 in Chapter 2, Project Description). Historically, this region supported extensive marshes and 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 project sites.

TABLE 4.3-1.
SUMMARY OF BIOLOGICAL RESOURCES WITHIN THE RSP AREA

Project Site	Existing Habitat Types	Potentially Jurisdictional Wetlands and other Waters of the U.S.	Potential to Support Special-Status Species	Protected Trees
Kaiser Permanente (KP) Medical Center	Vacant	None	Low (nesting and foraging habitat for Swainson's hawk and other bird species)	Present
Major League Soccer (MLS) Stadium	Vacant and developed	None	Low (nesting and foraging habitat for Swainson's hawk and other bird species)	Present
Stormwater Outfall	Valley-foothill riparian, and developed	None	Moderate (special-status fish species, nesting habitat for Swainson's hawk and other bird species, and special-status bat species)	Present
Other Areas Proposed For Development	Vacant, developed, constructed basin, and annual grassland	None	Moderate (nesting and foraging habitat for Swainson's hawk and other bird species; Valley elderberry longhorn beetle; and other species)	Present

Source: ESA, 2016.

Specific Plan Area Setting

The RSP Area has been extensively disturbed by past and ongoing transportation, commercial, and industrial activities, as well as soil remediation work. In the 2007 RSP EIR, the majority of the RSP Area was classified as vacant, with small areas of remnant riparian, valley-foothill riparian, and emergent wetland habitats. In the 2007 RSP EIR, vacant habitat was defined to

[10] 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.

include commercial, industrial, transportation land uses, or other hardscaped areas. Vacant habitat also included disturbed areas associated with soil remediation activities.

Vegetation in vacant areas predominantly included ornamental vegetation and ruderal weed species.

Due to past and ongoing environmental remediation activities, between 2007 and 2016 habitats present onsite have undergone change. Some remnant riparian trees have since grown from saplings into mature trees in areas where remediation have been completed. It should be noted that ongoing remediation of the RSP Area is a separate project that has already been authorized and granted necessary permits. **Figure 4.3-1** illustrates habitats and sensitive biological resources observed onsite in 2015. Habitats observed onsite in 2015 and 2016 include annual grassland, constructed basin, developed, vacant, and valley foothill riparian. Emergent wetland and remnant riparian habitats described in the 2007 RSP EIR are no longer present in the RSP Area.

Existing development within the RSP Area present in both 2007 and 2016 include the Amtrak Sacramento Valley Station (including the historic depot building and the associated rail platforms, the Steve Cohn Passageway, Sacramento Regional Transit light rail station, and associated walkways, and parking lots), office and retail uses in the adjacent Railway Express Annex (REA) building, parking lots that front on 7th Street between F and H streets, and the historic Central Shops. The 2007 RSP EIR classified these areas as vacant habitat; however, it is more accurate to classify permanent structures and associated parking lots and walkways as developed. Currently, there are also several portable buildings placed on the site for the use of workers involved in the ongoing hazardous materials remediation activities.

Since the certification of the 2007 RSP Draft EIR, several streets planned for in the 2007 RSP were constructed, including 5th and 6th streets, between H Street and Railyards Boulevard, as well as Railyards Boulevard from 7th Street to Bercut Drive. These streets are classified as developed habitat.

Soils in the RSP Area consist of alluvial deposits of the Sacramento and American Rivers. Prior to human development, the dominant geomorphic feature at the RSP Area was China Lake (also known as Sutter Slough, Sutter Lake, or China Slough), which was filled in by the early 20th Century. The RSP Area previously contained another lake (Willow Lake) on the north end of the property. The two lakes and associated marshland covered a portion of the RSP Area. Dredging and filling of the RSP Area continued until 1913 when the entire area was filled. Fill material consists of river sand, coarse gravel, cobbles and granite brought from Rocklin, California, as well as discarded railroad equipment such as boilers and miscellaneous pieces of iron. Near the surface and to a depth of 30 to 50 feet are deposits of silt and sand (commonly referred to as the upper sand unit), including fill placed over the area in the past 130 years. Underlying the upper sand unit is a layer of sandy gravel. The top of the gravel unit is between 60 and 80 feet below the ground surface.

KP Medical Center

The proposed KP Medical Center site is located on the northwest portion of the RSP Area and is comprised of vacant habitat. This is consistent with conditions described in the 2007 RSP EIR, in which this area was described as "vacant land."[11] Remediation activities have decreased significantly in this area since the 2007 RSP EIR and there are no longer soil stockpiles in the Medical Center project footprint. One blue elderberry (*Sambucus nigra* subsp. *caerulea*) shrub cluster occurs adjacent to the eastern side of the northern I-5 bridge abutment, within 100 feet of the KP Medical Center footprint (Figure 4.3-1).

MLS Stadium

The proposed MLS Stadium site is located in the eastern portion of the RSP Area and is characterized by vacant habitat, which includes disturbed/ruderal habitat, barren access roads, soil and rock stockpiles, and small patches of remnant riparian plant species. Elderberry shrub clusters occur north of the site along the RSP Area boundary adjacent to SIMS Metal Management, and east of the site near 12th Street, just south of North B Street (Figure 4.3-1). Current habitat character is consistent with the 2007 RSP EIR; however, it should be noted that vegetation cover has decreased significantly since 2007 due to remediation activities that have increased disturbance and stockpiling in this area.

Stormwater Outfall

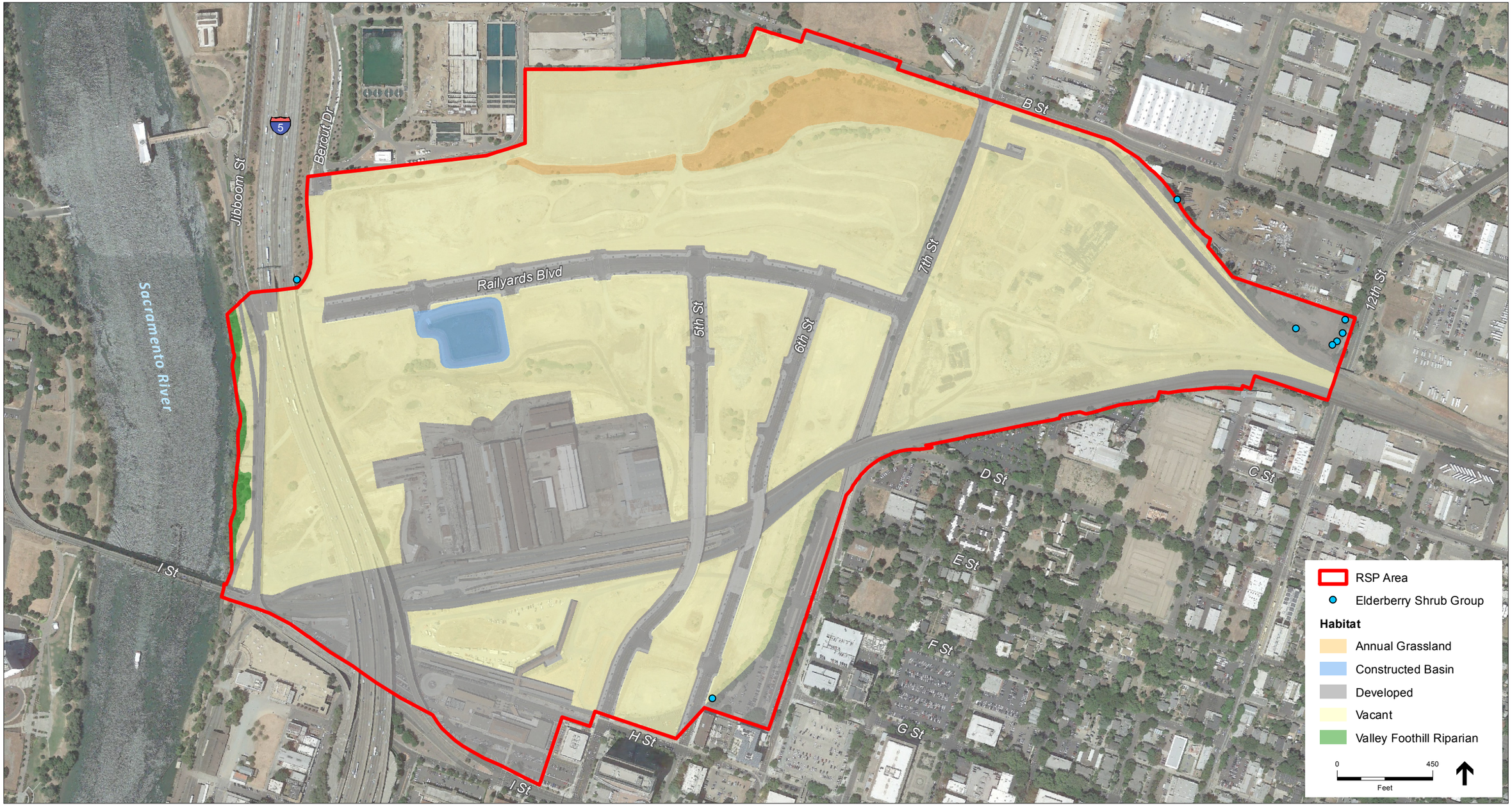
The site of the proposed Stormwater Outfall would be located along the western boundary of the RSP Area and is comprised of valley-foothill riparian and developed habitats (Figure 4.3-1). Site conditions at this location are relatively unchanged from conditions described in the 2007 RSP Draft EIR.

Wildlife Habitat and Vegetation Types

Wildlife habitats are generally described in terms of vegetation types along with landform, disturbance regime, and other unique environmental characteristics. Vegetation types are assemblages of plant species that occur together in the same area and are repeated across landscapes, and are defined by species composition and relative abundance. Wildlife habitats generally correspond to vegetation types. This section is organized into habitats based on Section 6.2 of the 2007 RSP Draft EIR (see pages 6.2-5 through 6.2-8). Where a new habitat is referenced, classification conforms to CDFW's *A Guide to Wildlife Habitats of California*[12] that is used in CDFW's California Wildlife Habitat Relationships System. Habitat types described in the 2007 RSP EIR that remain consistent with current site conditions include vacant, valley-foothill riparian, and riverine. Remnant riparian and emergent wetland habitat types no longer

[11] Section 6.2 of the 2007 RSP DEIR classifies vacant habitat to include areas that support ruderal weedy vegetation, bare earth, and hardscape.

[12] Mayer, K. E., and W.F. Laudenslayer, Jr., 1988. A Guide to Wildlife Habitats of California. State of California Resources Agency, California Department of Fish and Game. Sacramento, CA. Available: www.dfg.ca.gov/whdab/html/wildlife_habitats.html. Accessed August 4, 2015.



SOURCE: Kimley-Horn, 2016; ESA, 2016

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Figure 4.3-1
Habitat

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occur onsite. Developed and annual grassland habitats are added in this section of the SEIR based on surveys conducted in 2015 and 2016 (**Table 4.3-2**). A total of 47 plant species were observed during the 2006 surveys and 47 species were observed in September of 2015 (Table 6.2-2 of the 2007 RSP Draft EIR and Appendix D.1 of this Draft SEIR, respectively).

TABLE 4.3-2.
HABITATS PRESENT WITHIN THE RSP AREA

Habitat/Land Cover	Area (acres)	Area within the Medical Center (acres)	Area within the Stadium (acres)	Area within the Outfall (acres)
Vacant	155.54	17.06	13.26	0.55
Developed	76.10	0.75	-	0.06
Annual Grassland	7.59	0.02	-	-
Constructed Basin	2.54	-	-	-
Valley-Foothill Riparian	1.06	-	-	0.04
Total	**242.83**	**17.83**	**13.26**	**0.65**

Source: ESA, 2016; City of Sacramento, 2007[13]

Vacant

Due to past and ongoing remediation activities, most of the vacant habitat is void of vegetation. Vacant habitat occupies most of the 244-acre RSP Area (155.54 acres). These areas are currently undergoing succession from barren to annual grassland. Where vegetation has been removed during remediation activities, new species of plants have begun to colonize the area by means of either intentional plantings (ornamental species), or volunteer weed species.

Dominant herbaceous species in vacant areas include wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), yellow star-thistle (*Centaurea solstitialis*), vetch (*Vicia* sp.), field bindweed (*Convolvulus arvensis*), milk thistle (*Silybum marianum*), and tarweed (*Holocarpha* sp.), cutleaf geranium (*Geranium dissectum*), wild mustard (*Brassica* spp.), Italian thistle (*Carduus pycnocephalus*). Common emergent trees in the vacant habitat include tree of heaven (*Ailanthus altissima*) and Freemont cottonwood (*Populus fremontii*).

Common wildlife species that occur within this habitat include killdeer (*Charadrius vociferous*) which rely on open ground covered with sand or gravel for constructing small scrape nests. Species found within annual grassland habitat, and developed habitats are also likely to occur in the vacant habitat within the RSP Area.

At the northern edge of the RSP Area, there is an area the 2007 RSP EIR identified as seasonal wetland/willow-cottonwood riparian habitat. Subsequent to the 2007 RSP EIR, as part of the remediation-related permitted fill of the wetlands in the Former Oil Storage Area, seasonal

[13] City of Sacramento. 2007. Railyards Specific Plan Environmental Impact Report. Certified December 11, 2007.

wetland/willow-cottonwood riparian habitat in this area was removed. This area is now void of vegetation and has been classified as vacant habitat.

Developed

Developed habitat consists of buildings, roadways, and other built infrastructure. Urban and developed habitat (76.10 acres) in the RSP Area include the Amtrak Sacramento Valley Station (including the historic depot building and the associated rail platforms, the Steve Cohn Passageway, Sacramento Regional Transit light rail station), office and retail uses in the adjacent REA building, parking lots that front on 7th Street between F and H streets, and the historic Central Shops. Typically, urban vegetation associated with developed habitat consists of landscaping, including lawns, ornamental shrubs, shade trees and hedges.

Wildlife use of landscaped areas increases with the distance from urban areas. The RSP Area is in close proximity to the downtown Sacramento area, and surrounded to the north, east, and south by urban areas. Mammals typically found in this habitat include raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), house cat (*Felis silvestris catus*), house mouse (*Mus musculus*), and black rat (*Ratus ratus*). Common birds found within developed areas include rock dove (*Columba livia*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), yellow-billed magpie (*Pica nuttalli*), and starling (*Poeoptera kenricki*).

In 2006, six bat roosts were observed under the elevated sections of I-5 and I Street Bridge within the urban habitat. Purple martins (*Progne subis*), a state species of concern, have historically used weep holes on the I Street Bridge for nesting. To date, these species continue to use the I-5 and I Street Bridge structures as roosting/nesting habitat.

Annual Grassland

Annual grassland habitat (approximately 7.59 acres) occurs in the northern portion of the RSP Area, west of 7th Street and is primarily dominated by Bermuda grass (*Cynodon dactylon*) and nonnative Mediterranean annual grasses such as wild oats, soft chess (*Bromus hordeaceus*), and ripgut brome. Forb species noted in annual grassland habitat include yellow star-thistle and stinkwort (*Dittrichia graveolens*).

Common wildlife species that occur in this habitat include the western fence lizard (*Sceloporus occidentalis*) and common garter snake (*Thamnophis sirtalis*). Mammals typically found in this habitat include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), and coyote (*Canis latrans*). Common birds found in annual grassland habitats include horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), and barn owl (*Tyto alba*).

Constructed Basin

One constructed basin (2.54 acres) occurs within the RSP Area, south of Railyards Boulevard. The constructed basin within the RSP Area does not retain water throughout the year, as evident during field reconnaissance in September 2015. Due to routine maintenance, such as mowing or spraying to maintain or remove vegetation, the constructed basin provides limited habitat for wildlife species. When water is present, the constructed basin has the potential to provide suitable habitat for waterfowl, and shore bird species. The constructed basin does not likely support western pond turtle (*Emys marmorata*), a state species of concern, due to its isolation from other suitable western pond turtle habitat, and because it does not retain water during the summer months.

Valley-Foothill Riparian Habitat

Within the RSP Area, valley-foothill riparian habitat exists along the bank of the Sacramento River (1.06 acres). Valley-foothill riparian habitat is found regionally in valleys bordered by sloping alluvial fans, terraces, and lower foothills. It generally occurs where there are deep alluvial soils and a high water table, such as on floodplains or on flat to gently sloping areas adjacent to low-velocity streams. The tree species typically associated with this habitat type include cottonwood, willows, California sycamore (*Platanus racemosa*), and valley oak. Sub-canopy trees include white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), Oregon ash (*Fraxinus latifolia*), and the invasive tree of heaven (*Ailanthus altissima*).

Valley-foothill riparian habitats provide food, water, migration, and dispersal corridors, escape, nesting, and thermal cover for many species of wildlife. Trees within the valley-foothill riparian area provide suitable nesting habitat for the state threatened Swainson's hawk, white-tailed kite, and other protected bird species, and roosting habitat for special-status bat species.

Riverine

The Sacramento River (open-water, riverine habitat) is located adjacent to the RSP Area and the proposed Stormwater Outfall project has the potential to impact this habitat type. This habitat type is distinct from valley-foothill riparian habitat which occurs on the riverbanks, adjacent to riverine habitat.

The open water zones of the Sacramento River provide cover and foraging for bird species. Many species of waterfowl, such as American coot (*Fulica americana*), use the open water for resting and escape. Gulls (*Larus* sp.) forage on open water, and species of insectivorous birds, such as black phoebe (*Sayornis nigricans*) and violet-green swallow (*Tachycineta thalassina*), hunt insect prey over the water.

In addition to the terrestrial species identified above, native and non-native, resident and migratory fish species use the Sacramento River. Fish species residing within the Sacramento River include native channel hardhead (*Mylopharodon conocephalus*), Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), and tule perch

(*Hysterocarpus traski*); and non-native channel catfish (*Ictalurus punctatus*), white catfish (*Ictalurus catus*), largemouth bass (*Micropterus salmoides*), and redeared sunfish (*Lepomis microlophus*). The native Sacramento splittail (*Pogonichthys macrolepidotus*) spawns in the Sacramento River near the RSP Area, but occupies habitat in the Sacramento-San Joaquin Delta (Delta) for much of its life history. The native delta smelt primarily inhabit tidally influenced brackish water of the mixing zone, but migrate upstream to spawn in freshwater sloughs and shallow edge-waters of the Delta. Anadromous fish species use the Sacramento River as migration corridors between the ocean and spawning areas upstream. These species include native Central Valley steelhead distinct population segment (DPS) (*Oncorhynchus mykiss*), Sacramento River winter-run Chinook salmon Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha*), Central Valley spring-run Chinook salmon ESU, Central Valley fall-/late fall-run Chinook salmon ESU, southern DPS of North American green sturgeon (*Acipenser medirostris*), and white sturgeon (*Acipenser transmontanus*); and non-native striped bass (*Morone saxatilis*) and American shad (*Alosa sapidissima*). Although striped bass is an anadromous species, young striped bass are present in the Sacramento River area year-round.

Near shore waters, riverbanks, and adjacent riparian vegetation provide several specialized habitats for a variety of bird species. Steep banks provide nesting habitat for northern rough-winged swallow (*Stelgidopteeryx serripennis*). In the near shore waters, mallard (*Anas platyrhynchos*) and wood duck (*Aix sponsa*) feed on plants, and green heron (*Butorides striatus*) and belted kingfisher (*Ceryle alcyon*) forage for fish. Additionally, fish feed on insects that drop from riparian vegetation overhanging the water, and rocky substrates provide habitat for crayfish, sunfish, and bass.

Wildlife Movement Corridors

Terms such as habitat corridors, linkages, crossings, and travel routes are used to describe physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes, as well as environments fragmented by urban development. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Fragmentation of open space areas by urbanization creates “islands” of wildlife habitat that are more or less isolated from each other. Wildlife corridors are typically relatively small, linear habitats that connect two or more habitat patches that would otherwise be fragmented or isolated from one another.

The RSP Area is surrounded on three sides by urban development and is not situated between areas of higher quality wildlife habitat, therefore the majority of the RSP Area does not function as a terrestrial wildlife movement corridor.

Riparian habitats typically function as migration corridors because they provide food, water, and cover for a wide variety of wildlife species, and often link other habitats. However, due to the narrowness of the riparian corridor, high levels of human disturbance, and because riparian

habitat ends at the southern border of the RSP Area in Old Sacramento, the quality of the habitat to be used as a migration corridor is low.

As discussed above, the Sacramento River is a regional wildlife corridor for fish including steelhead, Chinook salmon, green sturgeon, and white sturgeon, nonnative striped bass, and American shad.

Special Status Species and Sensitive Biological Resources

This section addresses special-status biological resources observed, reported, or having the potential to occur on the site. These resources include plant and wildlife species and habitats that have been afforded special status and/or recognition by federal and state resource agencies, or private conservation organizations and special interest groups. Special-status species are legally protected under the California and federal Endangered Species Acts (CESA and FESA, respectively) 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 FESA (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 FESA (61 FR 40, February 28, 1996);

3. Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);

4. Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (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[14] plant species.

Information on sensitive species and habitats occurring in the vicinity of the RSP Area was compiled based on data obtained from the USFWS,[15] CNDDB,[16] and CNPS.[17]

Database queries identified 81 special-status species records and six sensitive natural communities (Appendix D.2). Of these, 56 species were eliminated from further consideration based upon a lack of suitable habitat in the RSP Area, or because the RSP Area is located outside of the species' known range. None of the 56 species have been documented in the RSP Area.[18] A total of 12 special-status wildlife species have medium or high potential to occur in the RSP Area and 13 species have low potential to occur in the RSP Area; species with a medium or high potential to occur are identified in **Table 4.3-3** and are described in detail below. Only species classified as having a medium or high potential for occurrence were considered in the impact analysis. One sensitive natural community occurs adjacent to the RSP Area. **Figure 4.3-2** shows locations of where special-status species have been observed within five miles of the RSP Area.[19]

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.

14 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, e.g., 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's (CNDDB) Special Plants, Bryophytes, and Lichens List. [Refer to the current online published list, available: www.dfg.ca.gov/biogeodata.].

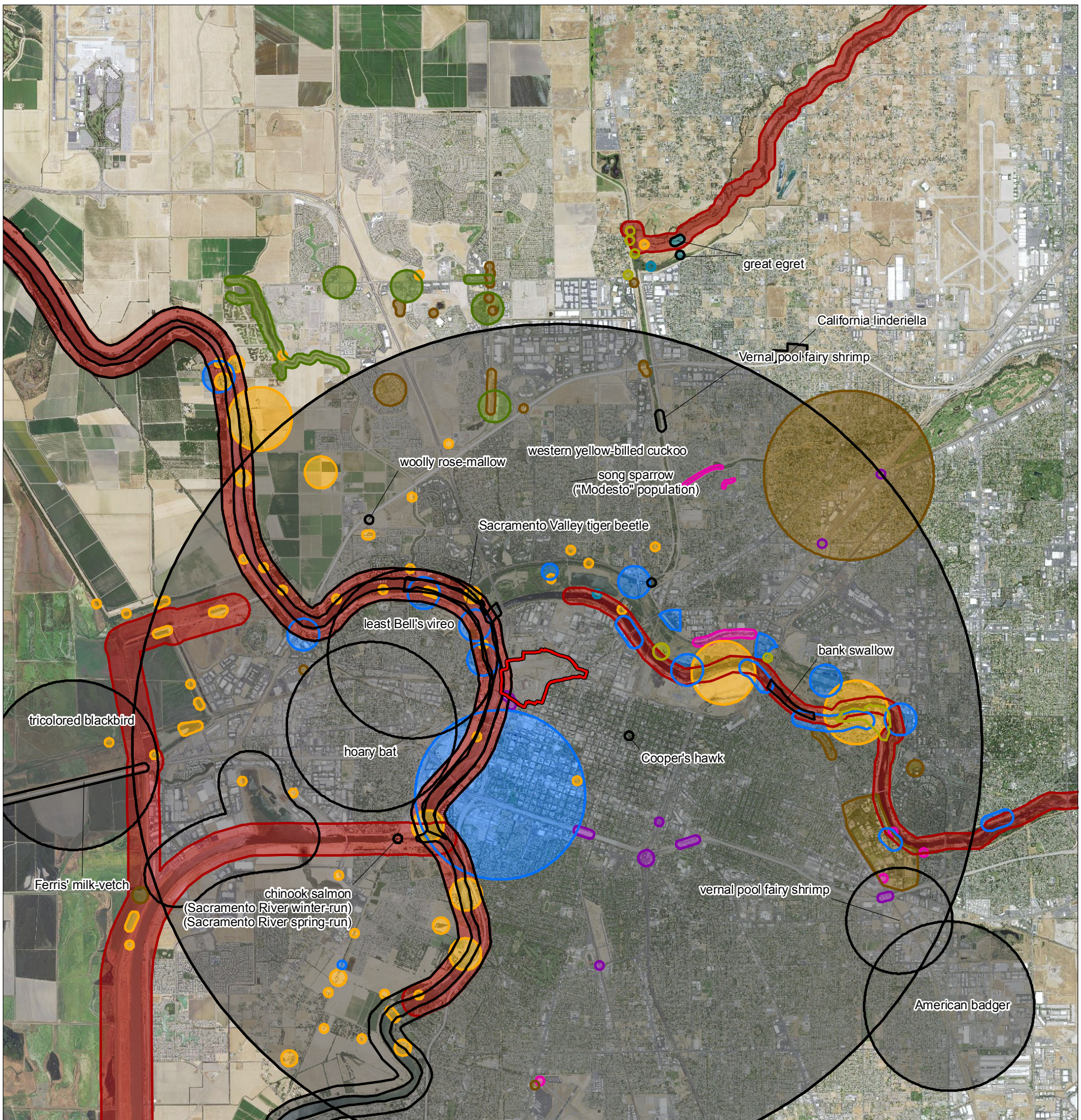
15 U.S. Fish and Wildlife Service, 2015. List of Threatened and Endangered Species that May Occur in the Proposed Project Location, and/or May be Affected by the Proposed Project. www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm. Accessed December 2, 2015.

16 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. Available: www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 8, 2015.

17 California Native Plant Society, 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed September 8, 2015.

18 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 8, 2015.

19 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed September 8, 2015.



SOURCE: USDA, 2014; CDFW, 2016; ESA, 2016

Figure 4.3-2
Special-status Species Occurrences (CNDDB) in the Vicinity of the RSP Area

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TABLE 4.3-3.
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE RSP AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the RSP Area
Invertebrates				
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	**High**. Several elderberry shrubs and shrub clusters are known to occur within or directly adjacent to the RSP Area. A few elderberry shrub clusters occur along 12th Street, just south of N. B Street; one shrub occurs on the southern portion of the RSP Area near 6th and F streets, and one shrub occurs just outside of the project footprint on the northwest corner of the RSP Area between Bercut Drive and the I-5 right of way. CNDDB records show several occurrences of valley elderberry longhorn beetle along the Sacramento and American River within one mile of the RSP Area. No elderberry shrubs were observed within Valley Foothill Riparian habitat along the Sacramento River on the western side of the RSP Area.
Reptiles				
Emys marmorata	Western pond turtle	FSC/CSC/None	Streams, rivers, ponds, marshes and other aquatic habitats. Requires secure basking area where they can easily escape to water. Upland nesting sites can be as much as 300 feet from aquatic habitat, but are usually closer.	**Medium.** The Sacramento River provides suitable aquatic habitat. While the constructed basin onsite provides suitable aquatic and upland habitat, western pond turtle is unlikely to occur. Potential for occurrence in the constructed basin is low due to its recent construction in 2013, its isolation from the Sacramento River, or other suitable aquatic sites.
Fish				
Hypomesus transpacificus	Delta smelt	FT/CT/-	Occurs in Sacramento-San Joaquin Delta most of the year. Spawns in tidally influenced freshwater wetlands and seasonally submerged uplands along the Sacramento River, downstream from its confluence with the American River.	**Medium.** No suitable habitat exists within the project boundaries. However, adult delta smelt are known to occur in the Sacramento River as far upstream as its confluence with the American River. As of 1993, delta smelt were known to spawn in the Sacramento River as far upstream as the City of Sacramento.
Oncorhynchus mykiss	Central Valley steelhead DPS	FT/--/--	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	**High.** No suitable habitat exists within the project boundaries. However, suitable migration habitat exists within the Sacramento River adjacent to the RSP Area.
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon ESU	FT/CT/--	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	**High.** No suitable habitat exists within the project boundaries. However, suitable migration habitat exists within the Sacramento River adjacent to the RSP Area.
Oncorhynchus tshawytscha	Sacramento River winter-run Chinook salmon ESU	FE/CE/--	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	**High.** No suitable habitat exists within the project boundaries. However, suitable migration habitat exists within the Sacramento River adjacent to the RSP Area.

TABLE 4.3-3.
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE RSP AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the RSP Area
Oncorhynchus tshawytscha	Central Valley fall- / late fall-run Chinook salmon ESU	--/CSC/--	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	**High.** No suitable habitat exists within the project boundaries. However, suitable migration habitat exists within the Sacramento River adjacent to the RSP Area.
Pogonichthys macroleipidotus	Sacramento spittail	--/CSC/--	Spawning and juvenile rearing from winter to early summer in shallow weedy areas inundated during seasonal flooding in the lower reaches and flood bypasses of the Sacramento River including the Yolo Bypass.	**High.** No suitable habitat exists within the project boundaries. However, suitable habitat exists within the Sacramento River adjacent to the RSP Area.
Acipenser medirostris	Southern DPS of North American green sturgeon	FT/--/--	Requires cool, freshwater streams with suitable substrate for spawning; rears in rivers, tributaries, and Delta.	**High.** No suitable habitat exists within the project boundaries. However, suitable migration habitat exists within the Sacramento River adjacent to the RSP Area.
Birds				
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 nest trees are present along the Sacramento River. Open areas of the project site and patchy ruderal vegetation provides limited foraging opportunities for this species.
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 nest trees are present along the Sacramento River. Open areas of the project site and patchy ruderal vegetation provides marginal foraging habitat for this species.
Progne subis	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.	**High**. Known occurrence identified in the CNDDB at the I-Street Bridge and elevated structure of I-5 in the vicinity of the Railroad Museum.
Mammals				
Antrozous pallidus	Pallid bat	--/CSC/--	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky, or cavity areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Medium.** Suitable roosting habitat for this species within the RSP Area, specifically under the I Street Bridge, the elevated structure of I-5, and within the historic train depot buildings associated with the Central Shops Historic District and the Sacramento Valley Station.[20] No CNDDB record of species within five miles of the RSP Area.[21] This species was not observed during reconnaissance surveys.

20 City of Sacramento. 2007. Railyards Specific Plan Environmental Impact Report. Certified December 11, 2007.

TABLE 4.3-3.
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE RSP AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the RSP Area
Lasiurus blossevillii	Western red bat	--/CSC/--	Preferred roosting habitat includes forests and woodlands. Feeds over grassland, shrubland, open woodland, forests, and cropland	**High.** Species was documented in the vicinity of RSP Area.[22]
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 River and forage within the RSP Area. Recorded occurrence in West Sacramento, west of the RSP Area and the Sacramento River.
Myotis yumanensis	Yuma myotis	--/--/--	Prefers open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves, and crevices.	**High.** Species was documented in the vicinity of the RSP Area.[23]
Sensitive Vegetation Communities				
Great Valley Valley Oak Riparian Forest	--	--	Medium to tall (rarely to 100 feet) broadleaved, winter deciduous, closed-canopy riparian forest dominated by Valley oak (*Quercus lobata*). Understories include scattered Oregon ash, Northern California black walnut, and western sycamore as well as young valley oaks. Vines are relatively scattered throughout the shady understory but quickly become conspicuous occupying gaps where light is available.	**High.** Habitat occurs adjacent to the RSP Area along the Sacramento River.

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

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, 2015 and USFWS, 2015

21 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 8, 2015.

22 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February 2016.

23 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February 2016.

- **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.

Conclusions regarding habitat suitability and species occurrence are based on the reconnaissance surveys, as well as the analysis of existing literature and databases described previously.

The following species descriptions have been referenced from the 2007 RSP Draft EIR (pages 6.2-17 through 6.2-23) and updated to reflect current conditions.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is listed as a threatened species under FESA. It occurs throughout the year in riparian woodlands and other Central Valley habitats containing elderberry shrubs (*Sambucus* spp.), upon which the VELB are completely dependent for all stages of their life cycle. The females lay their eggs in crevices in the bark. After hatching, the larvae burrow into the stems of the tree where they feed on the interior wood for the next one to two years until they form pupae, from which the adults emerge. The adults bore their way out of the stems, leaving a distinctive oval-shaped hole. As the larvae and adults are rarely seen, these borer holes are often the only evidence of this species' presence. After emergence from the stems, the adults remain in association with the elderberry shrub, where they will feed on the elderberry foliage and eventually reproduce. All elderberry shrubs within the known range of the VELB that have one or more stems with diameters of one inch or greater at ground level, are considered potential habitat for this species. This potential habitat (i.e., elderberry shrub) occurs primarily in the Elderberry Savanna along the American River Parkway, although isolated individual elderberry shrubs also occur along the Sacramento River and within the RSP Area (Figure 4.3-1). Critical habitat for the VELB was designated by the USFWS in 1980 (45 FR 58803) but it does not include the RSP Area.[24]

Within the RSP Area, elderberry shrubs were observed at the locations listed below (Figure 4.3-1). One shrub that was previously identified west of 7th Street and north of E Street was not observed during the 2015 biological surveys. No potential VELB exit holes were observed in any other areas during the 2006, 2015, and 2016 surveys. None of the shrubs are located within riparian habitat.

- One shrub with five stems over 3-inches is located along the western boundary of the RSP Area adjacent to Interstate-5 (I-5).
- One shrub with five stems over 3-inches is located in the south eastern portion of the RSP Area between 6th and 7th streets.

[24] U.S. Fish and Wildlife Service, 2002. Valley Elderberry Longhorn Beetle, Final Critical Habitat, Sacramento County, California, Available: www.fws.gov/sacramento/ES/Critical-Habitat/Data/es_critical-habitat_data.htm. Accessed December 9, 2015.

- One shrub with one stem over 1-inch is located along the northern boundary of the RSP Area in the western area of SIMS Metal Management.
- One shrub with 13 stems over 1-inch is located along the northern boundary of the RSP Area along the southern area of SIMS Metal Management.
- Four elderberry shrub clusters, with a combined 34 stems over 1-inch, are located in the eastern portion of SIMS Metal Management, along 12th Street. The largest concentration of elderberries was in the metal debris yard in the far eastern side of the RSP Area adjacent to 12th Street.

Four elderberry shrubs were observed west of 12th Street, south of North B Street, and north (outside) of the RSP Area. These shrubs are located within private property and access was not granted, thus a USFWS protocol level survey was not conducted. The shrubs appeared to be healthy and have stems at ground level greater than one inch in diameter. These shrubs are surrounded by other vegetation such as walnut trees, tree of heaven, milk weed, wild oats and prickly ox tongue. Two large shrubs were observed on the north of the RSP Area on either side of I-5. The number of stems and size could not be determined; however, due to the shrubs' large size they are likely to be greater than one inch in diameter.

The USFWS has issued a renewable take permit for the Railyards Remediation Project (TE023739). The take permit allows the remediation project (a separate and independent project) to remove 87 plants with up to 261 stems greater that one (1) inch, and then maintain the property to prevent regrowth and/or recolonization.

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is an aquatic turtle that ranges throughout much of the state from the Sierra Nevada foothills to the coast - and in coastal drainages from the Oregon border to Baja California. It occurs in suitable habitat throughout the region in ponds, slow moving streams and rivers, irrigation ditches, and reservoirs that have abundant emergent and/or riparian vegetation. The turtle requires adjacent (i.e., within 600-1,200 feet of water) uplands for nesting and egg-laying - typically in soils with high clay or silt component on unshaded, south-facing slopes. The northwestern pond turtle is a State Species of Special Concern and known to occur in the Sacramento River. However, there are no CNDDB occurrences within five miles of the RSP Area.

Delta Smelt

Delta smelt (*Hypomesus transpacificus*) is a state threatened species and was listed as a federal threatened species in 1993 (58 FR 12854). The reach of Sacramento River adjacent to the RSP Area was designated as critical habitat for this species in 1994 and became effective on 18 January 1995 (59 FR 65256). Delta smelt is a euryhaline (tolerant of a wide salinity range) species that spawns in freshwater dead-end sloughs and shallow edge-waters of channels of the Sacramento-San Joaquin Delta (59 FR 65256) between February and June. Adult smelt migrate

upstream from the brackish water habitat of the mixing zone to spawn in freshwater areas, beginning in December to July and August (59 FR 65256). After hatching, larvae are transported downstream toward the mixing zone where they mature. The location of the mixing zone varies. When the mixing zone is contained within Suisun Bay, young delta smelt are dispersed throughout a large expanse of shallow-water and marsh habitat. However, when the mixing zone is located upstream, it becomes confined in deep river channels that have smaller total surface area, fewer shoal areas, and swifter, more turbulent water currents (59 FR 65256).

Historically, delta smelt congregated in upper Suisun Bay and Montezuma Slough (mainly during March to mid-June when the Sacramento and San Joaquin river flows are high (58 FR 12854). It is thought to have occurred from Suisun Bay to the City of Sacramento in the Sacramento River and Mossdale in the San Joaquin River (59 FR 65256). Spawning has been recorded in Montezuma and Suisun sloughs and their tributaries north of Suisun Bay, in the Sacramento River up to Rio Vista, and in Barker, Lindsey, Cache, Georgiana, Prospect, Beaver, Hog, and Sycamore sloughs (Radtke 1966 and Wang 1986 in 58 FR 12854; Wang 1991 in 59 FR 65256).

Critical Habitat. The RSP Area is outside but immediately adjacent to the upstream extent of delta smelt critical habitat in the Sacramento River. The northern boundary of critical habitat occurs at the I Street Bridge, which is the southern boundary of the river portion of the RSP Area. Critical habitat is designated as Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma sloughs; and the existing contiguous waters contained within the Delta, as defined in Section 12220 of the California Water Code (59 FR 65256).

The primary constituent elements of critical habitat for this species are physical habitat, water, river flow, and salinity concentrations required to maintain Delta smelt habitat for spawning, larval and juvenile transport, rearing, and adult migration (59 FR 65256). This critical habitat designation would be applicable to any in-water activity associated with construction or operation of the proposed projects.

Chinook Salmon

Chinook salmon (*Oncorhynchus tshawytscha*) consists of four ESUs: winter-run, spring-run, fall-run, and late fall-run. The different runs of Chinook salmon are distinguished based on the timing of the adult return to freshwater on their spawning migration. Adult and juvenile salmon migrate in the Sacramento River adjacent to the RSP Area on their way to and from the ocean, but spawning does not occur in this section of river because there is no suitable spawning habitat.[25]

Sacramento River winter-run Chinook salmon ESU are listed as endangered under CESA and FESA. They spawn in the Sacramento River and are distinguishable from other Chinook salmon runs found in the river based on the timing of both upstream migration and the spawning season.

[25] Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded.* University of California Press.

Prior to the construction of Shasta and Keswick dams in 1943 and 1955, respectively, winter-run Chinook salmon spawned in the upper reaches of the Sacramento River, the McCloud River, the lower Pit River,[26] and Battle Creek. Presently, all winter-run Chinook salmon spawning occurs on the mainstem of the Sacramento River downstream of Keswick Dam located near the town of Redding. Approximately 95 percent of the spawning occurs between Keswick Dam and the Red Bluff Diversion Dam.[27] Designated critical habitat extends from Keswick Dam to the mouth of San Francisco Bay at the Golden Gate Bridge, including the Sacramento River adjacent to the RSP Area.

Physical and biological features that are essential for the conservation of winter-run Chinook salmon include: (1) unimpeded access from the ocean to the spawning areas, in this case the upper Sacramento River, (2) the availability of clean gravel for spawning substrate, (3) adequate river flows for successful spawning, incubation of eggs, fry[28] development and emergence, and downstream transport of juveniles, (4) suitable water temperatures for successful spawning, egg incubation, and fry development, (5) habitat and prey free of contaminants, (6) riparian habitat for juvenile rearing, and (7) unimpeded passage of juveniles from their natal riffles to the ocean.[29]

Central Valley spring-run Chinook salmon ESU are listed as a threatened species under CESA and FESA. Spring-run Chinook salmon enter the Sacramento River between March and September and move upstream into the headwaters, where they hold in pools until they spawn between August and October. Juveniles emigrate from the tributaries from mid-November through June; however, some juveniles spend a year in the streams and emigrate as yearlings the following October.[30] Typically, spring-run Chinook salmon utilize mid-to high-elevation streams that provide compatible temperatures and sufficient flow, cover, and pool depth to allow over summering. Spawning occurs between September and October and, depending on water temperature, emergence occurs between November and February. Although spring-run Chinook salmon emigration is highly variable, the emigration period extends from November to early May, with up to 69 percent of young-of-the-year out migrants passing through the lower Sacramento River between mid-November and early January.[31]

Central Valley fall- and late fall-run Chinook salmon ESU are not listed under CESA or FESA but are classified as a species of concern due to specific risk factors. The fall-run Chinook salmon is the most abundant ESU, documented to comprise about 80 percent of the Sacramento Basin stock in the early1980s. The ESU includes all naturally spawned populations of fall-run Chinook

26 Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded.* University of California Press.

27 Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded.* University of California Press.

28 Fry is the term used for small fish just after hatching. Most fry do not have well developed swimming capabilities.

29 National Marine Fisheries Service, 1997. *Proposed recovery plan for the Sacramento River winter-run Chinook salmon.* NMFS, Southwest Region, Long Beach, California.

30 Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded.* University of California Press.

31 Snider, B., and R.G. Titus. 2000. Timing, composition, and abundance of juvenile anadromous salmonid *emigration in the Sacramento River near Knights Landing.*

salmon in the Sacramento and San Joaquin River Basins and their tributaries, east of Carquinez Strait.

Critical Habitat. The portion of the Sacramento River immediately adjacent to the RSP Area is designated critical habitat for the Central Valley winter-run and spring-run Chinook salmon ESUs. Critical habitat has been designated for both winter and spring-run Chinook salmon ESUs. These critical habitat designations identify those physical and biological features of the habitat that are essential to the conservation of the species and that may require special management consideration or protection. The primary constituent element of critical habitat found within the Sacramento River is freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival" (69 FR 74582). Within the Sacramento River this includes the river water, river bottom (including those areas and associated gravel used by Chinook and steelhead as spawning substrate), and adjacent riparian zone. The lateral extent of the critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the ordinary high-water line (33 CFR 329.11). In areas where the ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of one to two years on the annual flood series.

Central Valley Steelhead

Central Valley steelhead (*Oncorhynchus mykiss*) DPS includes all naturally spawned populations of steelhead in the Sacramento and San Joaquin rivers and their tributaries, including the Sacramento River adjacent to the RSP Area. This species was listed as threatened under FESA in March of 1998 (63 FR 13347).

Steelhead begin their migration from the ocean when winter rains provide large amounts of cold water for migration and spawning. Peak migration periods for adult fish in the Sacramento River are in mid-winter. They typically spawn in tributaries to mainstream rivers, often long distances from the ocean. Juvenile steelhead generally spends one to three years in freshwater before migrating to the ocean.[32] Suitable steelhead conditions primarily occur in mid to high elevation streams. Because access to large areas of suitable rearing habitat has been blocked by dam construction, juvenile rearing is generally confined to lower elevation stream reaches where water temperatures during late summer and early fall can be high. While steelhead migrate along this section of the Sacramento River, the RSP Area does not support spawning habitat for adult fish, or rearing habitat for juvenile steelhead.[33]

[32] Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded*. University of California Press.

[33] Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded*. University of California Press.

Critical Habitat. The portion of the Sacramento River immediately adjacent to the RSP Area is designated critical habitat for Central Valley steelhead DPS. The primary constituent elements of critical habitat for this species are freshwater spawning, rearing, and migration areas; estuarine areas free of obstructions and of sufficient quality to support adult and juvenile rearing; and nearshore and offshore marine areas. The lateral extent of the critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the ordinary high-water line (33 CFR 329.11). This critical habitat designation would be applicable to any in-water activity associated with construction or operation of the proposed projects.

Sacramento Splittail

Sacramento splittail (*Pogonichthys macrolepidotus*) was listed under FESA as a threatened species in 1999 (64 FR 5963). The listing was prompted by long-term population declines and a corresponding reduction in range. The listing was challenged in court and in subsequent review, the USFWS determined that listing was not warranted and removed splittail from the list of threatened species (68 FR 55139). The species is a federal and State species of concern.

Sacramento splittail are primarily freshwater fish, but are tolerant of moderate salinity and can be found in brackish waters of the lower Sacramento-San Joaquin Delta. Typically, adults migrate upstream in January and February and spawn on seasonally inundated floodplains in March and April. In May, the juveniles migrate back downstream to shallow, brackish water rearing grounds, where they feed on detritus and invertebrates for one to two years before migrating back upstream to spawn.[34] Larvae remain in the shallow, weedy inshore areas near their spawning sites and move into the deeper offshore habitat as they mature.

Historically, splittail were found as far north as Redding on the Sacramento River and as far south as the Friant Dam on the San Joaquin River. They were also common in San Pablo Bay and Carquinez Strait, but now appear to be largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and other parts of the Sacramento-San Joaquin Estuary. Although this species has lost considerable habitat through much of its former range, it appears that the splittail has benefited from habitat-restoration and water-management actions currently underway to benefit Central Valley fish, including several federally protected species. The principal spawning areas of splittail – the Yolo Bypass and the Cosumnes River – are largely protected and being further enhanced and restored. This species is likely to be present in the American and Sacramento Rivers and their tributaries, but the nearest significant breeding habitat is in the Yolo Bypass. Thus, the portion of the Sacramento River adjacent to the RPS Area does not support spawning habitat for adult fish, or rearing habitat for juveniles.

Green Sturgeon

North American green sturgeon (*Acipenser medirostris*) have been separated into two DPSs: the northern DPS (all populations that spawn in rivers north of and including the Eel River) and the

[34] Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded*. University of California Press.

southern DPS (coastal and Central Valley populations spawning south of the Eel River). The southern DPS is federally listed as threatened under FESA.[35]

Green sturgeon is a large, bottom-dwelling, anadromous fish that is widely distributed along the Pacific coast of North America. North American green sturgeon is the most broadly distributed, wide ranging, and marine-oriented species of the sturgeon family; however, it is not abundant in comparison to white sturgeon. San Francisco Bay, San Pablo Bay, Suisun Bay, the Delta, and the Sacramento River support the southernmost reproducing population of green sturgeon.

Habitat requirements of green sturgeon are poorly understood, but spawning and larval ecologies are probably similar to those of white sturgeon. Indirect evidence indicates that green sturgeon spawn mainly in the Sacramento River. They are slow growing and late maturing, spawning every 3–5 years between March and July. Adult fish spawn in freshwater and then return to estuarine or marine environments. Preferred spawning habitat occurs in large rivers that contain large cobble in deep and cool pools with turbulent water. Larval and juvenile green sturgeon may rear for up to 2 years in freshwater and then migrate to an estuarine environment, primarily during summer and fall. They remain near estuaries at first but may migrate considerable distances as they grow larger.[36] Both adult and juvenile North American green sturgeon are known to occur in the lower reaches of the Sacramento (adjacent to the RSP Area) and San Joaquin Rivers and in the Delta.

Critical Habitat. Critical habitat has been designated to include the Sacramento River (including portions adjacent to the RSP Area); the lower Feather and Yuba rivers; Yolo and Sutter bypasses, the Delta; and Suisun, San Pablo, and San Francisco bays.[37]

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species under CESA. This raptor is found primarily in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. The species has lost much of its former nesting habitat as a result of the significant reduction in riparian woodland and forest habitat throughout the state over the last 100 years, and is losing foraging habitat to urban development. Swainson's hawks can forage as far as 20 miles from the nest, but nests are generally more successful if suitable foraging habitat is present within an approximate ten-mile radius. Suitable foraging habitat is defined as annual grasslands, fallow fields, dry and irrigated pasture, and a variety of croplands including alfalfa, beet, tomato and other low growing row or field crops, rice (when not flooded), and cereal grain crops (including corn after harvest). When forced to travel greater distances from the nest, the

35 71 Federal Register 17757, April 7, 2006.

36 Moyle, P. B. 2002. *Inland Fishes of California, Revised and Expanded*. University of California Press.

37 71 Federal Register 17757, April 7, 2006.

adults must expend much more time and energy gathering food, leaving the eggs and young in the nests much more vulnerable to predation and the elements. The greatest concentration of nesting records for Swainson's hawks within the region occurs along the Sacramento and American rivers, within the foraging range of numerous Swainson's hawk nests. The closest Swainson's hawk occurrence to the RSP Area is located approximately one mile to the north near the confluence of the American and Sacramento Rivers.[38] No Swainson's hawks were observed within the RSP Area during biological surveys conducted in 2006, 2015, and 2016. Overall, it is unlikely that the discontinuous patches of ruderal vegetation within the RSP Area provide substantial foraging habitat for this species due to the high level of disturbance that occurs onsite.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is listed as a "fully protected" raptor under Section 3511 of the California Fish and Game Code. White-tailed kites feed on rodents, small reptiles, and large insects in fresh emergent wetlands, annual grasslands, pastures, and ruderal vegetation. They breed between February and October. Although, like other raptors, kites build solitary nests, they often roost, and occasionally nest communally, especially during the non-breeding season.

Disturbance of a relatively small roost or nesting area could affect a large number of birds. The white-tailed kite can commonly be observed foraging in open grasslands throughout the region, but breeding sites are primarily located near riparian corridors along the Sacramento and American Rivers. No white-tailed kites were observed during the biological surveys in 2006, 2015, and 2016 but suitable nesting habitat occurs along the Sacramento River adjacent to the RSP Area.

Purple Martin

The purple martin (*Progne subis*) can be found throughout nearly the entire United States east of the Rocky Mountains. Although declining in many western states, it is also found in isolated areas of Canada, Oregon, Washington, California, Utah, Colorado, Arizona, New Mexico and Mexico. In California it is a state species of special concern. It is an early spring migrant from its wintering grounds in South America. Generally, purple martins inhabit open areas with an open water source nearby. Martins adapt well in and around people, but are out-competed by starlings (*Sturnus vulgaris*) and sparrows in urban areas. Purple martins are colonial cavity nesters in abandoned woodpecker holes, human-made nest boxes, or cavities in other structures such as bridges and overpasses. Once established at a nest location, martins usually come back to the same site every year.

Regional Population

Since the mid-1900s, purple martin has been eliminated from most of California's Central Valley. The last known population of purple martin in the Central Valley nests in elevated roadways

[38] California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 8, 2015.

(i.e., bridges) in the City of Sacramento. The colony of martins known to use the underside of the I Street on-ramp to I-5, adjacent to the RSP Area, is one of four known nesting colonies in the greater Sacramento region in 2015,[39] and seems to have been used by purple martins since 1974.[40] Systematic monitoring of martins at the I Street colony has documented a 73 percent decline in nesting pairs from 2002 to 2015. In the larger Sacramento region, there has been a 71 percent decline in breeding pairs since 2002.[41]

Many factors are thought to be contributing to the current downward trend in the Sacramento region martin population. A major factor is thought to be the alteration of habitat around known nest sites including localized predation by feral cats and/or American kestrels (*Falco sparverius*), removal of perch sites, loss of nest material collection sites, and exclusion of nest sites during construction projects. Other factors contributing to the decline in martin populations in the Sacramento region may include mortality due to West Nile virus, increased nest site competition with starlings, and mortality of individuals from vehicle collisions with light rail and freight trains, and motor vehicles. In addition, experts have recently begun to analyze the possible negative effects of neonicotinoid pesticides on martins and their food source (i.e., flying insects). Without significant reversal of current trends, it is predicted that the Sacramento region purple martin population could disappear in as little as five years.[42]

Special-Status Bats

Special-status bat species with the potential to occur within the RSP Area include the pallid bat (*Antrozous pallida*) and Western red bat (*Lasiurus blossevillii*), state species of concern, and the hoary bat (*Lasiurus cinereus*) and Yuma myotis (*Myotis yumanensis*), species considered uncommon within the State.[43] The hoary bat roosts in woodlands and forests with medium to large-size trees and dense foliage. Habitat for this species is present in dense-foliaged trees within the RSP Area, including trees the riparian area along the Sacramento River. The pallid bat and Western red bat roosts in caves, crevices, mines, and occasionally in hollow trees and buildings. Habitat for foliage-roosting species is present in the RSP Area in the riparian area along the Sacramento River. Habitat for cavity-roosting species is present under the elevated structure of I-5, I Street viaduct, and Jibboom Street viaducts, and within historic Central Shops or Sacramento Valley Station buildings. In 2007, six roosts of unknown bat species were observed

39 Airola, D.A and D. Kopp, 2015. Sacramento Purple Martin in 2015: When a Population Increase May be Misleading. Central Valley Bird Club Bulletin. Fall 2015.

40 California Department of Fish and Wildlife. 2015. California Natural Diversity Database RareFind 5 personal computer program. www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed on: September 8, 2015.

41 Airola, D.A. and J. Grantham, 2003. Purple Martin Status, Nesting Habitat +Characteristics, and Management in Sacramento, California. Western Birds. 34:235-251.

42 Airola, D.A., B. Cousens, and D. Kopp, 2014. Accelerating Decline of the Sacramento Purple Martin Breeding Population in 2014: What are the Possible Causes? Central Valley Bird Club Bulletin, Winter 2014.

43 California Department of Fish and Wildlife, 2016. *State and Federally Listed Endangered and Threatened Animals of California.* California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. Data dated January 2016.

under the elevated section of I-5 and under the I Street Bridge and its approaches.[44] In addition, several occupied and potential bat roosts were observed under the I Street viaduct and Jibboom Street viaduct during surveys in 2015. Surveys in the vicinity of the RSP Area in May and June of 2015 recorded Yuma myotis and Western red bat.[45]

4.3.2 Regulatory Setting

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) regulates and protects take of threatened and endangered plants and animals and their critical habitat. Candidate species are those formally proposed for listing; these species are usually treated by resource agencies, and for the purposes of this EIR are treated, as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal regulatory pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first regulatory pathway, FESA Section 10(a) incidental take permit pursuant to an approved habitat conservation plan (HCP), applies to situations where a non-federal government entity must minimize and mitigate for potential adverse impacts to species protected under the FESA. The second regulatory pathway, consultation under Section 7of FESA, applies to projects directly undertaken by a federal agency or private project requiring a federal permit or approval. As an example, a private project requiring a permit from the U.S. Army Corps of Engineers for fill of wetlands or waters of the U.S. pursuant to section 404 of the Clean Water Act may address its potential impacts on federally-listed endangered species through a Section 7 consultation. If the project has no requirement for a federal permit or approval, it would require a Section 10(a) incidental take permit pursuant to an approved HCP.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (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.

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44 City of Sacramento. 2007. Railyards Specific Plan Environmental Impact Report. Certified December 11, 2007.

45 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February 2016.

Sustainable Fisheries Act

In response to growing concern about the status of fisheries in the United States, Congress passed the Sustainable Fisheries Act of 1996 (Public Law 104-297). This law amended the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265), the primary law governing marine fisheries management in the federal waters of the United States. Under the Sustainable Fisheries Act, consultation is required by NMFS on any activity that might adversely affect Essential Fish Habitat (EFH). EFH consists of those habitats that fish rely on throughout their life cycles. It encompasses habitats necessary to allow sufficient production of commercially valuable aquatic species to support a long-term sustainable fishery and contribute to a healthy ecosystem.

The Pacific Fishery Management Council (PFMC) has designated the Sacramento River as EFH to protect and enhance habitat for anadromous and coastal marine fish and macroinvertebrate species that support commercial fisheries, such as Pacific salmon.

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. 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 United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands. Applicants must obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Waters of the United States are under the jurisdiction of the USACE and the Environmental Protection Agency (EPA).

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The USACE 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 USACE 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 United States must obtain certification from the state in which the discharge would originate or, if relevant, 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.

Rivers and Harbors Act

Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (commonly referred to as "Section 408") authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers of the US Army Corps of Engineers (USACE), to grant permission for the alteration or occupation or use of a USACE civil works project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

On July 31, 2014 USACE issued Engineer Circular 1165-2-216, Policy and Procedural Guidance for Processing Requests to Alter U.S. Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408. The policy outlines a process that is scalable to be commensurate with the anticipated impacts of an alteration, and provide those seeking alteration a clear understanding of information required by them in seeking alteration to a USACE project. Engineering Circular 1165-2-216 provides the policies and procedural guidance for an overall review process that can be tailored to the scope, scale, and complexity of individual proposed alternations, and provides infrastructure specific considerations for dams, levees, floodwalls, flood risk management channels, and navigation projects.

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 CDFW) 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 (California Fish and Game Code 2070). Sections 2050 through 2098 of the California Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the California Fish and Game Code 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 California Fish and Game Code Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

Other California Fish and Game Code Provisions

Fully Protected Species

Certain species are identified as "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.

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 USACE 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 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 (Fish and Game Code Sections 1900-1913). 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 Plant Lists

The California Native Plant Society (CNPS) maintains a list of plant species native to California that are known to exist in 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.[46] 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.

[46] California Native Plant Society, 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Available: www.rareplants.cnps.org/.

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 2035 General Plan

The following goals and policies from the 2035 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 2.1.9 **Wildlife Corridors**. The City shall preserve, protect, and avoid impacts to natural, undisturbed habitats that provide movement corridors for sensitive wildlife species. If corridors are adversely affected, damaged habitat shall, be replaced with habitat of equivalent value or enhanced to enable the continued movement of species.

ER 2.1.10 **Habitat Assessments**. The City shall consider the potential impact on sensitive plants and wildlife for each project requiring discretionary approval. If site conditions are such that potential habitat for sensitive plant and/or wildlife species may be present, the City shall require habitat assessments, prepared by a qualified biologist, for sensitive plant and wildlife species. If the habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level surveys shall be conducted (where survey protocol has been established by a resource agency), or, in the absence of established survey protocol, a focused survey shall be conducted consistent with industry-recognized best practices; or (2) suitable habitat and presence of the species shall be assumed to occur within all potential habitat locations identified 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.

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.

Policy

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 projects would be consistent with each of the 2035 General Plan goals and policies listed above. Implementation of the proposed projects would contribute to regional reductions in undeveloped open space; however, existing habitat in the RSP Area is relatively poor in quality for wildlife and its loss would not be inconsistent with City policies. Thus, the proposed projects are consistent with the General Plan policies, as discussed in further detail in Section 4.3.3 Analysis, Impacts, and Mitigation.

Consistent with Policy ER 2.1.4 and ER 2.1.5, the proposed projects would mitigate for any impacts to sensitive resources and riparian habitat (Impacts 4.3-3 and 4.3-7). As discussed under Impact 4.3-7, the projects 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. Riparian and riverine habitat impacted by the proposed projects has the potential to provide movement corridors for wildlife; the proposed projects would mitigate for any impacts to wildlife corridors as discussed under Impact 4.3-8. Pre-construction surveys for special-status species are discussed under Impacts 4.3-1, 4.3-2, and 4.3-6, thereby demonstrate consistency with Policy ER 2.1.10. Consistent with Policy 3.1.3, and as discussed under Impact 4.3-9, trees of significance shall be protected or replaced.

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 12.56[47] provides 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 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,

[47] City of Sacramento. Municipal Code Chapters 12.56 and 12.64, *Trees Generally* and *Heritage Trees.* Available: www.qcode.us/codes/sacramento. Accessed December 10, 2015.

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.

On August 4, 2016, the Sacramento City Council passed an Ordinance amending Sections 2.62.030 and 8.04.100, deleting and adding Chapter 12.56, and deleting Chapters 12.60 and 12.64 of the Sacramento City Code, relating to trees. The revised Tree Ordinance:

- removes inconsistencies in the previous ordinance;
- clarifies how trees on both private and public property should be evaluated and regulated;
- integrates the definition of what were previously considered "Heritage Trees" under a new definition of "Private Protected Trees";
- removes subjectivity regarding the identification of Heritage Trees;
- adds a category of trees with a circumference of 24 inches or greater on vacant, multi-family and commercial sites under the new definition of "Private Protected Trees";
- states that identification of specific native species that would be covered under the Ordinance;
- clarifies the definition of a "city tree";
- requires notification of proposed tree removals;
- requires City Council approval for city tree removals as part of public projects;
- for projects subject to discretionary permits under Title 17, the tree permit shall be processed under same notice, hearing and appeal provisions applicable in Title 17; and
- sets forth a plan to prepare an Urban Forest Management Plan.

Heritage Trees

Heritage trees promote scenic beauty, enhance property values, reduce soil erosion, improve air quality, abate noise, provide shade to reduce energy consumption, and are a resource for nesting birds. City Code 12.64[48] provides provisions to protect significant specimen trees existing in the city known as "heritage trees." The City Code defines "heritage trees" as follows:

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

[48] City of Sacramento. Municipal Code Chapters 12.56 and 12.64, *Trees Generally* and *Heritage Trees*. www.qcode.us/codes/sacramento. Accessed December 10, 2015.

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.

On August 4, 2016, the Sacramento City Council passed an Ordinance amending Sections 2.62.030 and 8.04.100, deleting and adding Chapter 12.56, and deleting Chapters 12.60 and 12.64 of the Sacramento City Code, relating to trees. The revised Tree Ordinance integrates the definition of what were previously considered "Heritage Trees" under a new definition of "Private Protected Trees." A "private protected tree" is defined as:

A. A tree that is designated by city council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property;

B. Any native Valley Oak (*Quercus lobata*), Blue Oak (*Quercus douglasii*), Interior Live Oak (*Quercus wislizenii*), Coast Live Oak (*Quercus agrifolia*), California Buckeye (*Aesculus californica*), or California Sycamore (*Platanus racemosa*), that has a diameter at standard height (DSH; diameter of a tree measured at 4.5 feet above natural grade) of 12 inches or more, and is located on private property;

C. A tree that has a DSH of 24 inches or more located on private property that:

   1. is an undeveloped lot; or

   2. does not include any single unit or duplex dwellings; or

D. A tree that has a DSH of 32 inches or more located on private property that includes any single unit or duplex dwellings.

4.3.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria below are the same as those identified in the 2007 RSP EIR and have been incorporated by reference (Section 6.2, pages 6.2-30 to 6.2-1).[49] An impact would be significant if the following conditions result due to the implementation of the proposed projects:

[49] City of Sacramento. 2007. *Railyards Specific Plan Environmental Impact Report*. Certified December 11, 2007.

(1) Take of an endangered species or unauthorized take of a threatened species under the CESA or FESA;

(2) Have a substantial adverse effect on or result in increased mortality or reduced reproductive success that would lead to the local extirpation of, or reduction in the population below self-sustaining levels of any species identified or published as an endangered, threatened, rare, candidate, sensitive, or special-status species by CDFG or USFWS, and meets the definition of Section 15380 (b), (c) or (d) of the CEQA guidelines.

(3) Result in the net reduction of protected wetland habitat as defined in Section 404 of the CWA or result in alteration of desirable functions and values through direct removal, filling, hydrological interruption, or other means;

(4) Result in a net loss of riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or by the California Department of Fish and Game; or by the U.S. Fish and Wildlife Service;

(5) Result in the isolation or interruption of contiguous habitat which would disrupt animal movement patterns such that it would interfere substantially with the movement of resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or

(6) Conflict with any local policies or ordinances protecting biological resources, such as the current City of Sacramento tree protection ordinance.

Methodology and Assumptions

This section assesses the potential for the proposed projects to adversely change biological resources in or around the RSP Area. The impact analysis focuses on foreseeable changes to the baseline condition and compares those changes to the significance criteria presented above. Potential impacts are analyzed using information presented above regarding habitats present in and around the RSP Area, and potential occurrence of special status and protected species.

In the impact analysis, three principal factors were considered: (1) magnitude of the impact (e.g., substantial/not substantial); (2) uniqueness of the affected resource (i.e., rarity of the resource); and (3) susceptibility of the affected resource to perturbation (i.e., sensitivity of the resource). The evaluation of the significance considered the interrelationship of these three factors. For example, a relatively small magnitude impact to a State or federally listed species would be considered significant if the species is exceptionally rare or believed to be highly 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 necessary to result in a significant impact.

This analysis assumes the entire RSP Area east of Jibboom Street would be disturbed by construction and development activities. It is assumed that the only construction and development activities west of Jibboom Street would be within the Stormwater Outfall site.

The following findings include text excerpted and summarized from the 2007 RSP EIR. As relevant, the information has been updated to reflect the current site conditions.

Impacts and Mitigation Measures

Impact 4.3-1: Development of the proposed projects could result in the loss of potential foraging habitat for Swainson's hawk.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts to Swainson's hawk foraging habitat under impact 6.2-1 (page 6.2-31). Impact 6.2-1 of the 2007 EIR found that the 2007 RSP would have a less-than-significant impact related to loss of Swainson's hawk foraging habitat. This determination was based on recognition that habitats within the RSP Area are not recognized as significant foraging habitat by CDFW. Swainson's hawks require large, open grasslands with abundant prey in proximity to suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures, alfalfa, and other hay crops, and certain grain and row croplands.

While habitats within the RSP Area have changed since certification of the 2007 RSP EIR, the site remains in a highly altered state. Although annual grassland is sometimes considered suitable foraging habitat, the annual grassland within the RSP Area is comprised mainly of weedy species and is disconnected from other Swainson's hawk foraging areas. The proposed projects could result in loss of a small quantity of low quality Swainson's hawk foraging habitat; however, extensive areas of higher quality habitat are located to the north, west, and south of the RSP Area in western Sacramento, Yolo, and Sutter Counties. Therefore, conversion of the RSP Area from vacant to urban habitat would not result in the conversion of an area recognized as significant Swainson's hawk foraging habitat by the CDFW. Consistent with the 2007 RSP EIR, impacts to Swainson's hawk foraging habitat are considered **less than significant**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to Swainson's hawk foraging habitat would be the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant** impact.

KP Medical Center

The proposed KP Medical Center would result in the loss of approximately 17.8 acres of low-quality Swainson's hawk foraging habitat, a portion of that which would be lost as a result of the implementation of the proposed RSPU. The habitat within the KP Medical Center footprint is comprised of a flat graded site with limited weeds present and no habitat that would support

Swainson's hawk prey. Because of the low-quality of this habitat, for Swainson's hawk foraging, the effects of development of the KP Medical Center would be a **less-than-significant** impact.

MLS Stadium

The proposed MLS Stadium would result in the loss of approximately 14.7 acres of low-quality Swainson's hawk foraging habitat, a portion of that which would be lost as a result of the implementation of the proposed RSPU. The habitat within the MLS Stadium footprint is comprised of an undulating topography, highly disturbed with ongoing earthmoving activities associated with remediation of other portions of the RSP Area, with limited weeds and scattered shrubs present and very limited habitat that would support Swainson's hawk prey. Because of the low-quality of this habitat, for Swainson's hawk foraging, the effects of development of the MLS Stadium would be a **less-than-significant** impact.

Stormwater Outfall

The proposed Stormwater Outfall site is steep riverbank on the east bank of the Sacramento River, and property located under the elevated section of I-5. These portions of the RSP Area do not constitute foraging habitat for Swainson's hawks; therefore, construction of the proposed Stormwater Outfall would result in **no impact**.

Summary

The proposed project would result in the conversion to urban development areas of low-quality, highly disturbed land that could serve as Swainson's hawk foraging habitat. As such, loss of foraging habitat for Swainson's hawk as a result of development of the proposed projects is considered a **less-than-significant** impact.

Mitigation Measure

None required.

Impact 4.3-2: Development of the proposed projects could result in the loss of potential nesting habitat for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.

Railyards Specific Plan Update

Swainson's Hawk, Other Raptors, and Nesting Birds

Portions of the RSP Area may support nesting birds, including, but not limited to, Swainson's hawk, and white-tailed kite (note, purple martin is discussed below). Nesting birds and raptors are protected under Fish and Game Code Section 2080 (i.e., killing of a listed species), Sections 3503, 3503.5, and 3800 (i.e., take, possession, or destruction of birds, their nests or eggs), and Section 3513 of the MBTA (16 USC, Section 703 Supp. I 1989). Vegetation removal could result in the loss of potential nest sites. Additionally, human disturbances and noise from construction

activities have the potential to cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities.

Disturbance of active nest sites which results in nest abandonment, loss of young, or reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), or the direct removal of vegetation that supports nesting birds which result in killing of nestlings or fledgling bird species would be considered a **potentially significant** impact. This analysis is consistent with impacts 6.2-2 (pages 6.2-31 to 6.2-34) and 6.2-7 (pages 6.2-42 and 6.2-43) of the 2007 RSP EIR.

Purple Martin

As with Swainson's hawk, other raptors and nesting birds, purple martins are protected under the Fish and Game Code and MBTA. For purposes of analysis of projects-related effects on purple martin, any RSPU construction related disturbance that would result in the abandonment of an active nest, or reduced reproductive success would be considered a potentially significant impact.

Purple martin is identified a second priority taxa on the CDFW list of California Bird Species of Special Concern.[50] The I Street purple martin nesting colony is one of the last nesting colonies in the Sacramento area, and in California's Central Valley, where the species was once widespread.[51] As discussed above, the I Street Bridge colony is only one of four breeding colonies recorded in the Sacramento area in 2015. Due to the small size of the Central Valley purple martin population and the current downward trend of number of breeding pairs in the region, the loss of one individual, or the colony would be considered a substantial adverse effect because any increased mortality or reduced reproductive success could lead to the local extirpation of, or reduction in the population below self-sustaining levels. With regard to significance criterion (2), any potential loss of individual purple martin, or alteration of habitat, within the RSP Area would be considered a potentially significant impact.

This analysis acknowledges the City's proposed I Street Bridge Replacement Project which is currently undergoing environmental review.[52] The proposed I Street Bridge Replacement Project would include construction of a new bridge for pedestrian, bicycle, and automobile transportation over the Sacramento River upstream of the existing I Street Bridge. The existing bridge would be decommissioned for pedestrian, bicycle, and auto traffic, but would continue to be used by the railroad. The new bridge would be approximately 860 feet long and include two fixed-span approach structures that tie into the Sacramento and West Sacramento banks of the river. The center span of the bridge would be a moveable span that meets U.S. Coast Guard Requirements

50 California Department of Fish and Wildlife, 2008. California Bird Species of Special Concern. April 10, 2008.

51 Airola, D.A., B. Cousens, and D. Kopp, 2014. Breeding Population in 2014: What are the possible causes? Available: http://cvbirds.org/bulletin-volume17.html. Accessed March 24, 2016.

52 City of Sacramento, 2016. I Street Bridge Replacement over the Sacramento River (project website). Available www.cityofsacramento.org/Public-Works/Engineering-Services/Projects/Current-Projects/I-Street-Bridge-Replacement. Accessed April 7, 2016.

for navigation.[53] The fixed-span approach structures would be 72 feet wide, with a depth of approximately 6 feet. After the new bridge is constructed, the I Street approach viaduct would be demolished. It is anticipated construction would take approximately 30 months to complete and begin in 2018.[54]

According to the California Department of Transportation, purple martin nesting habitat lost during removal of the existing I Street Bridge viaduct would be mitigated with replacement habitat in the new bridge. In order to provide this mitigation, the fixed-span approaches would include a hollow box-girder design with at least 74 weep holes on the underside to allow purple martins to use the new structure for nesting.[55]

Due to lot size and shape, and other development constraints, Block 35 is not likely to be developed until the Jibboom Street viaduct (and potentially the I Street viaduct) is removed, which is a component of the I Street Bridge Replacement Project. As such, breeding purple martins and their current nesting habitat may not be present in the RSP Area when the area is developed. While the proposed I Street Bridge Replacement Project is acknowledged, the analysis presented below examines the existing condition (which includes the current I Street Bridge and viaduct) plus project scenario. Impact 4.3-2 does not account for the removal of the I Street Bridge viaduct, or creation of replacement habitat in the new bridge associated with the proposed I Street Bridge Replacement Project. Construction of the I Street Bridge Replacement Project, in combination with the proposed RSPU projects, is taken into account under cumulative analysis presented in Impact 4.3-11.

Construction Impacts

The portions of the I Street Bridge where the purple martin colony currently nests would not be physically impacted, or removed by the proposed RSPU. While purple martins are known to have a high tolerance to human disturbance,[56] the amount of disturbance from nearby project-related construction activity, primarily on Block 35, could result in nest abandonment, loss of young, reduced health and vigor of eggs and/or nestlings, ultimately resulting in reduced survival rates.

As stated above, nesting birds and raptors are protected under Fish and Game Code and the MBTA. Because construction-related disturbance has the potential to result in a reduction in survival rates, this would be considered a **potentially significant** impact.

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53 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February.

54 Hersh, Alan, Senior Vice President, LDK Ventures, McClellan, CA. March 31, 2016—email cc Brian Boxer of ESA regarding I Street Bridge Replacement.

55 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February.

56 Airola, D.A., D. Kopp, K. Thomas, and S. Kostka, 2009. Effects of Construction Activities on a Purple Martin Nesting Colony in Sacramento, California. Central Valley Bird Club Bulletin. Winter 2009.

Operational Impacts

Long-term operational impacts to purple martin are discussed under section 4.5.4 in the Final RSP EIR (pages 4-5-4 to 4.5-11). As stated earlier, the I Street Bridge would not be physically affected or removed by the proposed RSPU. Nevertheless, as discussed under section 4.5.4 in the Final RSP EIR, impacts to purple martin could include the following:

- obstructed flight paths to/from nest sites in weep holes under the I Street bridge,
- loss of nesting material collection sites,
- increased exposure to competition from nesting competitors (i.e., starlings, sparrows, white-throated swifts [*Aeronautes saxatilis*]), and
- increased exposure to predation from feral and domestic cats.

Implementation of the proposed RSPU has the potential to result in alteration of habitat in the vicinity of the I Street Bridge colony, which could reduce purple martin nesting success. Because this I Street purple martin colony is one of only four known nesting sites in the Sacramento region in 2015,[57] discontinuance, or reduction of numbers of purple martins using the I Street Bridge as a result of the RSPU would be considered a **potentially significant** impact.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the potential for tree removal and/or construction-related disturbance to active nest sites is the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **potentially significant** impact.

KP Medical Center

The proposed Medical Center footprint contains, and is adjacent to, vegetation that may support protected nesting birds. Because of the distance of the KP Medical Center site from the existing purple martin colony, construction on the proposed site would not adversely affect the purple martin. Because the construction on the project would have the potential to adversely affect protected nesting birds within the project site, the proposed KP Medical Center would result in a **potentially significant** impact.

MLS Stadium

The proposed Stadium footprint contains, and is adjacent to, vegetation that may support protected nesting birds. Because of the distance of the MLS Stadium site from the existing purple martin colony, construction on the proposed site would not adversely affect the purple martin. Nevertheless, the potential for tree removal and/or construction-related disturbance to active nests

[57] Airola, D.A and D. Kopp, 2015. Sacramento Purple Martin in 2015: When a Population Increase May be Misleading. Central Valley Bird Club Bulletin. Fall 2015.

of protected bird species on the Stadium site is the same as discussed under the proposed RSPU. As such, the discussion above would be applicable to implementation of the Stadium, resulting in a **potentially significant** impact.

Stormwater Outfall

The location of the proposed Stormwater Outfall contains two (2) mature trees that are suitable to support nesting Swainson's hawk, white-tailed kite, and other protected bird species. As such, the discussion above would be applicable to implementation of the Stormwater Outfall. Given that the Stormwater Outfall site is located over 1,000 feet from the current nesting habitat of the purple martin, construction of the outfall and pump station is not expected to adversely affect that colony that exists under the I Street Bridge viaduct. Nevertheless, the potential for tree removal and/or construction-related disturbance to active nests of protected bird species on the Stormwater Outfall site is the same as discussed under the proposed RSPU. As such, the discussion above would be applicable to implementation of the Stormwater Outfall, resulting in a **potentially significant** impact.

Summary

The RSP Area contains vegetation that may support protected nesting birds, including, but not limited to, Swainson's hawk, white-tailed kite, and purple martin. Potential for tree removal, construction-related disturbance to active nest sites is considered a **potentially significant** impact. In addition, development of the proposed RSPU could result in habitat degradation in the vicinity of the known I Street purple martin colony which is considered a **potentially significant** impact.

Mitigation Measure

Implementation of Mitigation Measures 4.3-2(a) would require surveys for nesting bird species and impact-avoidance measures to ensure that the loss of, or impacts to nesting birds does not occur during construction activities. Mitigation Measure 4.3-2(b) includes the preparation of a purple martin mitigation plan to minimize effects of habitat alteration around the current I Street colony Mitigation measures below are similar, but not identical, to those within the 2007 RSP EIR. Each mitigation measure has been slightly modified to best mitigate for potential adverse impacts from implementation of the proposed projects, as currently described.

Mitigation Measure 4.3-2(a) (RSPU, KPMC, MLS, SO)

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).[58]

If active nests are found during the survey, the applicant shall implement 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. Maintaining a 100-ft buffer around each active purple martin nest. No construction activities are permitted within this buffer. For other 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. Completion of the nesting cycle shall be determined by a qualified biologist.*

Mitigation Measure 4.3-2(b) (RSPU)

If three years of consecutive surveys of the suitable habitat (i.e., weep holes) within the I Street Bridge viaduct, I-5 elevated structure within the RSP Area, or the proposed new I Street Bridge over the Sacramento River do not indicate purple martins use of the area as breeding habitat, then no further mitigation is required. The following mitigation shall only be required if purple martin have been documented nesting in the suitable habitat (i.e., weep holes) within the I Street Bridge viaduct, or the I-5 elevated structure within the RSP Area, or the proposed new I Street Bridge for at least one of three previous years prior to development within 500 feet of aforementioned areas.

[58] 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.

Prior to construction within 500 feet of an active purple martin colony (active within the past three years), the applicant shall retain a qualified biologist to prepare and then shall implement a Purple Martin Monitoring and Management Plan (PMMMP), to the satisfaction of the City. The PMMMP shall be enforced by the City in areas of suitable habitat (i.e., weep holes) within 500 feet of the I Street Bridge viaduct, or the elevated structure of Interstate 5 within the RSP Area. The PMMMP shall identify land use and building design requirements, landscape design and maintenance requirements, and management actions for the protection, enhancement, creation, and/or replacement of purple martin habitat within the RSP Area. Performance of the PMMMP shall be based on land use, and building design standards, landscape design, and maintenance criteria, and management actions that benefit purple martin. The PMMMP shall be tailored to the status and nesting locations of purple martins onsite at the time of plan creation, and will include at a minimum the criteria below, or equivalent measures to conserve, protect, and restore purple martin habitat.

- ***Land Use and Building Design Criteria:***
  - *Prohibit buildings that obstruct flight path to and from nest sites within 120 feet of nesting locations.*
  - *Maintain a minimum of 21 feet of vertical space beneath weep holes*
  - *Maintain 230 feet of perching wire within 200 feet of the colony*
- ***Landscape Design and Maintenance Requirements:***
  - *Prohibit trees taller than nest height within 330 feet of nest sites*
  - *Limit tree plantings within 500 feet of the site to those that produce suitable nesting material (pine species). Areas beneath trees shall not be landscaped, and litter material left in place for nest material use by birds*
  - *Ensure suitable nesting material is available for martin use. If no nest material is available for martins, place nesting material (straw, pine needles, etc.) within area for use by purple martin during the breeding bird season*
  - *Prohibit planting of ornamental fruit bearing trees within 500 feet of purple martin nests, including the colonization of weedy fruit-bearing trees such as privet*
- ***Management Actions:***
  - *Install, or cause to be installed, and/or maintain to ensure good working order, nest guards on weep holes where purple martin are known to nest, subject to approval from the facility's owner*

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.3-2(a) would reduce impacts to nesting birds by requiring pre-construction surveys to identify any nesting

birds, and if found, observing no-disturbance zones around nest sites, and therefore would reduce impacts to nesting birds during construction activities to **less-than-significant** levels.

Implementation of Mitigation Measure 4.2-2(b) would be enforced as long as the I Street purple martin colony uses habitat within the RSP Area for at least one of the previous three years prior to commencement of development within the Riverfront District. Mitigation Measure 4.2-2(b) would reduce potential impacts to the I Street Bridge purple martin colony by mitigating for habitat alterations (i.e., land use change, development) in the vicinity of nest sites. The Purple Martin Monitoring and Management Plan (PMMMP) would define and implement building setback, and height limitations to preserve flight approaches, define landscape designs and maintenance requirements to preserve availability of nest material near breeding sites, and identify and require habitat enhancement, creation, or replacement to compensate for indirect effects related to habitat alterations associated with development activities. While Mitigation Measure 4.2-2(b) may reduce the effects of potential impacts to purple martin from development there remains considerable uncertainty of factors other than habitat modifications affecting the I Street colony of purple martin (i.e., disease, neonicotinoid pesticides). As such, given the downward trend in population numbers of the I Street Bridge purple martin colony, and because the PMMMP is not guaranteed to mitigate for the potential impacts to habitat surrounding purple martin nest sites, impacts related to the development of the proposed RSPU would remain **significant and unavoidable.**

Impact 4.3-3: The proposed projects could result in impacts to special-status fish species and degradation of designated critical habitat.

While the RSP Area does not contain suitable habitat for special-status fish species, the Sacramento River adjacent to the RSP Area provides habitat (and is designated as critical habitat) for several endangered and threatened fish species. Additionally, the Sacramento River is designated as EFH for four runs (ESUs) of Chinook salmon.

Railyards Specific Plan Update

Construction

The 2007 RSP EIR discussed impacts to endangered and threatened fish species and degradation of designated habitat under Impact 6.2-3 (page 6.2-34 to 6.2-38). Similar to that described in the 2007 RSP EIR, construction of the proposed RSPU would result in land-disturbing activities such as grading, excavation, and trenching for utility and infrastructure installation. When portions of the RSP Area are excavated or otherwise disturbed by construction activities, the potential for soil erosion and sedimentation in runoff discharging from the site would substantially increase during a rainstorm. In addition, construction equipment would have the potential to leak polluting materials, including oil and gasoline. Improper use of fuels, oils, and other construction-related hazardous materials such as concrete or pipe sealant may also pose a threat to water quality.

Through stormwater runoff, these sediments and contaminants may be transported to the Sacramento River and its downstream drainages and water bodies.

Development of the RSPU would include development of a new Stormwater Outfall. A detailed discussion of impacts associated with the proposed Stormwater Outfall is presented below under a separate subsection of this document.

Although activities associated with construction of development consistent with the proposed RSPU would be temporary, on- or offsite soil erosion, siltation, discharges of construction-related hazardous materials could degrade downstream surface waters. As discussed in detail in Section 4.9, Hydrology and Water Quality, and below (see subsection on Stormwater Outfall), compliance with existing regulations, including development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and best management practices (BMPs) would ensure that construction activities consistent with the RSPU would not substantially degrade water quality. The impact of construction activities under the proposed RSPU would be **less than significant**.

Operation

As discussed in Impact 6.2-3 of the 2007 RSP EIR, the increase in impervious surfaces that would result from implementation of the proposed RSPU would generate stormwater that would be discharged to the Sacramento River. Development of the RSP Area may increase pollutant concentrations and sediment runoff. Extended periods of localized, high suspended sediment concentrations, and increased pollution concentrations could result in decreased water quality, including high suspended sediment concentrations and turbidity. The aforementioned conditions could cause a reduction of feeding opportunities for sight-feeding fish, increased predation opportunities, reduced growth rates, and may cause direct mortality of fish, or their prey.

As discussed in Section 4.9, Hydrology and Water Quality, the federal Clean Water Act (CWA) mandates permits for construction activities and municipal stormwater discharges. The City of Sacramento has coverage under a MS4 General Permit. This permit requires that controls be implemented to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and other measures as appropriate. As part of permit compliance, the City has prepared a Stormwater Quality Improvement Plan (SQIP), which outlines the requirements for municipal operations, industrial and commercial businesses, illegal discharges, construction sites, planning and land development, public education and outreach, and watershed stewardship. These requirements include multiple measures to control pollutants in stormwater discharge. Under the proposed RSPU, all new development in the RSP Area would be required to follow the guidance contained in the SQIP, including implementation of the RSPU Water Quality Master Plan (see Section 4.9, Hydrology and Water Quality).

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 contains water quality numerical and narrative standards and objectives for rivers and their tributaries within its jurisdiction that were developed to be protective of beneficial uses, including fish habitat.

Regulatory compliance would prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River, and impacts from the RSPU would be **less than significant.**

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the potential for impacts to endangered and threatened fish species and degradation of designated critical habitat in the Sacramento River is essentially the same as discussed above for the proposed RSPU. As such, the discussion above would also be applicable to the RSPU Land Use Variant, and the effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant** impact.

KP Medical Center

As a component of the proposed RSPU, the KP Medical Center would have the potential for impacts to endangered and threatened fish species and degradation of designated critical habitat in the Sacramento River that would be similar to, albeit smaller than, those discussed above for the proposed RSPU. As such, the discussion above would be applicable to the KP Medical Center and effects of the KP Medical Center would be equal or lesser to those of the RSPU, resulting in a **less-than-significant** impact.

MLS Stadium

As a component of the proposed RSPU, the MLS Stadium would have the potential for impacts to endangered and threatened fish species and degradation of designated critical habitat in the Sacramento River that would be similar to, albeit smaller than, those discussed above for the proposed RSPU. As such, the discussion above would be applicable to the MLS Stadium and effects of the MLS Stadium would be equal or lesser to those of the RSPU, resulting in a **less-than-significant** impact.

Stormwater Outfall

Construction

Water Quality (Sedimentation, Turbidity, and Contaminants). Construction of the proposed Stormwater Outfall would occur on the steep eastern bank of the Sacramento River, and could disturb sediments and soils, increase sedimentation and turbidity, result in the release and exposure of construction-related contaminants, and/or impact fish and fish habitat through direct disturbance within and adjacent to the Sacramento River. Specifically, Outfall construction activities that could affect fish and fish habitat in the Sacramento River include: excavation and backfill, construction of the new outfall, use of staging areas and placement of excavated material, construction of a cofferdam, and dewatering.

Fish population levels and survival have been linked to levels of turbidity and siltation in a watershed. Prolonged exposure to high levels of suspended sediment is known to create a loss of visual capability in fish, leading to a reduction in feeding and growth rates; a thickening of the gill epithelia, potentially causing the decrease of respiratory function; clogging and abrasion of gill filaments; and increases in stress levels, reducing the tolerance of fish to disease and toxicants.[59] Additionally, high levels of suspended sediments could cause the movement and redistribution of fish populations. Many fish are sight feeders, and turbid waters could reduce the ability of these fish to locate and feed on prey. Some fish, particularly juveniles, could become disoriented and leave areas where their main food sources are located, ultimately reducing their growth rates. Avoidance is the most common result of increases in turbidity and sedimentation. Fish will not occupy areas unsuitable for survival unless they have no other option.

Contaminants such as concrete, fuels, oils, and other petroleum products used in construction activities may be toxic to fish or may alter oxygen diffusion rates and can cause acute and/or chronic toxicity to aquatic organisms, thereby reducing growth and/or survival. Substances contributing to sedimentation, turbidity, or contamination can enter waterways directly during construction activities or through surface runoff.

Prior to construction, the applicant (or its contractor) would be required to develop and submit an application for a Notice of Intent (NOI) of coverage under the National Pollution Discharge Elimination System (NPDES) General Construction Permit, and adherence to permit conditions. The NPDES General Construction Permit requires the development and implementation of spill prevention plans (SPP) and a SWPPP that includes BMPs, water quality monitoring and reporting, post construction-period requirements, and other water quality pollutant-reduction techniques to protect degradation of beneficial uses. Applicable BMPs may include permanent and temporary erosion control measures, including the use of straw bales, mulch or wattles, silt fences, and filter fabric; spill remediation material such as absorbent booms, proper staging of fuel, out of channel equipment maintenance, and ultimately seeding and revegetating. Adherence to the conditions of the NPDES General Construction Permit, and permit requirements would avoid and/or minimize the risk of release of increased sediment loading and pollutants into receiving waters during construction activities and would reduce the risk of adverse impacts to fish habitat and fish populations.

Direct Disturbance. The construction of the outfall structure, including installation of a sheetpile cofferdam and dewatering at the outfall installation site, could result in underwater sound pressure effects and fish stranding if fish are present in the immediate work area during construction activities.

[59] Waters, T.F. 1995. *Sediment in Streams: Sources, Biological Effects, and Control.* American Fisheries Society Monograph 7. Bethesda, MD.

The proposed cofferdam would be installed using a vibratory pile driver, which would generate relatively low underwater noise levels and is not likely to cause physical injury to special-status fish species. However, if hard substrate is encountered impact pile driving may be required. As opposed to vibratory pile driving, impact pile driving could generate underwater sound levels that exceed injury and harm thresholds for fish.

Assuming the use of impact pile driving, potentially injurious sound levels would be localized, temporary, and intermittent. An in-water work window would be established so that potentially injurious activities are likely to occur when most special-status fish species are absent or only present at low densities. However, while unlikely, some special-status fish species could be present during the in-water work window and during pile-driving activities. Thus, impact pile driving potentially could affect special-status species, as well as other more common fish species that serve as prey for special-status species.

Hydrostatic pressure waves and vibration generated by pile driving can adversely affect fish. Effects on fish from changes in hydrostatic pressure are not related to the distance of the fish from the point of impact, but to the level and duration of the sound exposure. Hydrostatic pressure waves may rupture the swim bladders and other internal organs of fish, and could permanently injure their inner ears and lateral line organs.[60] These injuries could reduce the ability of fish (including special-status fish species) to orient in the water column, capture prey, and reduce the ability of fish to avoid predators.[61]

If impact pile driving is required, there could be periods of time when the underwater sound levels exceed injury and harm thresholds established by NMFS. To avoid direct physical injury, impact driving of sheet piles should be managed (through operational controls) to achieve single-strike sound levels less than 206 decibels (dB) peak (dB_{peak}) and 183 dB sound exposure level (dB_{SEL}) measured at a distance of 10 meters.[62] (Attenuation is assumed at a rate of 4.5 dB per doubling of distance.)

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60 Fisheries Hydroacoustic Working Group. 2008. Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities. National Marine Fisheries Service Northwest and Southwest Regions, U.S. Fish and Wildlife Service Regions 1 and 8, California/Washington/Oregon Departments of Transportation, California Department of Fish and Game, and U.S. Federal Highway Administration. Memorandum to Applicable Agency Staff. June 12, 2008.

61 California Department of Transportation. 2009. *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish*. Prepared for: California Department of Transportation, Sacramento, CA. Prepared by: ICF Jones & Stokes, Sacramento, CA and Illingworth and Rodkin, Inc., Petaluma, CA.

62 Fisheries Hydroacoustic Working Group. 2008. Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities. National Marine Fisheries Service Northwest and Southwest Regions, U.S. Fish and Wildlife Service Regions 1 and 8, California/Washington/Oregon Departments of Transportation, California Department of Fish and Game, and U.S. Federal Highway Administration. Memorandum to Applicable Agency Staff. June 12, 2008.

Underwater sound levels were predicted using a spreadsheet model developed by NMFS.[63] The calculation assumes that once the single-strike SEL value is attenuated to 150 dB there is no accumulation of sound energy relative to the cumulative SEL effects threshold. The distance at which the SEL value attenuates to 150 dB is therefore the maximum distance at which either of the cumulative SEL criteria can be exceeded. Based on calculations derived from the NMFS spreadsheet, the distance at which sound would attenuate to below 150 dB SEL is about 1,000 meters (3,280 feet), making this the maximum distance within which either the 183 dB or 187 $dB_{SELcumulative}$ effects threshold criteria might be exceeded. Assuming an additional attenuation rate of 4.5 dB per doubling of distance, the maximum distance within which the cumulative effects threshold criteria would likely be exceeded is about 136 meters (about 450 feet) from the impact-pile-driving locations. Because this distance is shorter than the estimated width of the river at the outfall site (approximately 205 meters or 675 feet), potentially harmful cumulative underwater sound levels would not extend across the entire river. Therefore, some refuge areas would be present along the opposite shoreline, with the size of the refuge area dependent on the actual number of impact pile strikes occurring during a particular work day. The size of the refuge area would be larger if fewer strikes occur in a day, and smaller if more strikes occur.

Loss of Shaded Riverine Aquatic Habitat. Riparian vegetation adjacent to the river would be removed as a result of construction of the Stormwater Outfall. Riparian vegetation is important as it provides shaded riverine aquatic (SRA) habitat, which is an important habitat component for all salmonids and other fish species because it provides cover, shelter, shade, and contributes to food production. SRA, as defined by the USFWS, is "the near-shore aquatic area occurring at the interface of the river and adjacent woody riparian habitat, where the river bank is composed of eroding, earthen substrate supporting riparian vegetation which overhangs and/or protrudes into the water, and the water may contain woody debris, including logs, branches, leaves, and roots, as well as variable depths, velocities and currents." The riparian vegetation at the proposed Outfall site is degraded and as a result of flood protection and development activities, and only provides marginal SRA habitat functions.

The removal of valley-foothill riparian habitat at the proposed Outfall site would result in a reduction of 0.06 acres of SRA habitat for Chinook salmon and steelhead. Despite the small amount of riparian vegetation that would be removed, and the fact that SRA habitat is degraded in this segment of the Sacramento River, the potential food production and shelter provided by this habitat could be lost and, thus, could have a localized impact.

Summary of Construction-related Impacts. The construction of the proposed Stormwater Outfall could result in sedimentation, increased turbidity, or the release and exposure of contaminants could adversely affect fish and aquatic habitats. However, adherence to the

63 National Marine Fisheries Service, Pile Driving Calculation spreadsheet. Available: www.dot.ca.gov/hq/env/bio/fisheries_bioacoustics.htm.

conditions of the NPDES General Construction Permit, and permit requirements would avoid and/or minimize the risk of release of increased sediment loading and pollutants into receiving waters during construction activities and would reduce the risk of adverse impacts to fish habitat and fish populations. Furthermore, all construction-related materials stored on site would be done so consistent with regulatory requirements. Other construction activities including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats and loss of SRA habitat. Therefore, construction-related impacts associated with the Stormwater Outfall would be **potentially significant**.

Operation

As discussed above and in Section 4.9, Hydrology and Water Quality, the CWA mandates permits for municipal stormwater discharges. As part of permit compliance, the City has prepared a SQIP, which outlines the requirements for municipal operations, industrial and commercial businesses, illegal discharges, construction sites, planning and land development, public education and outreach, and watershed stewardship. These requirements include multiple measures to control pollutants in stormwater discharge. All new development in the RSP Area would be required to follow the guidance contained in the SQIP, including the implementation of the RSPU Water Quality Master Plan (see Section 4.9, Hydrology and Water Quality). Additionally, water quality objectives for the Sacramento River are specified in the Basin Plan prepared by the CVRWQCB in compliance with the federal CWA and the California Water Code (section 13240). The Basin Plan contains water quality numerical and narrative standards and objectives for rivers and their tributaries within its jurisdiction that were developed to be protective of beneficial uses, including fish habitat.

Regulatory compliance would prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River, and impacts from the RSPU would be **less than significant.**

Summary

Potential sedimentation, increased turbidity, or the release and exposure of contaminants could adversely affect fish and aquatic habitats; however, these impacts would be avoided and/or minimized through the development and implementation of a SWPPP with BMPS. Regulatory compliance would also prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River as part of long-term operation of the proposed projects. Construction activities, including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats, and loss to SRA habitat. Therefore, these construction-related impacts associated with the Stormwater Outfall would be **potentially significant**.

Mitigation Measures

Mitigation Measure 4.3-3, described below, would be required to reduce the magnitude of impacts to protected and sensitive riverine fish species and critical habitat associated with

construction of the proposed Stormwater Outfall. This mitigation measure amends and updates Mitigation Measure 6.2-3 from the 2007 RSP EIR.

Mitigation Measure 4.3-3 (SO):

To avoid, minimize, or compensate for potential impacts to protected and sensitive riverine species and critical habitat, and prevent impacts to special-status fish species the following actions shall be undertaken by the project applicant:

a) Unless prior approval is granted by NMFS, USFWS, and/or CDFW, (as applicable) in-water work shall be restricted to the August 1 to October 31 period to avoid/minimize construction impacts to special-status fish species.

b) Project-related impacts to riverine (e.g., valley-foothill) riparian vegetation shall be minimized by replacing lost vegetation onsite at a minimum ratio of 1:1, along the Sacramento River, if feasible. Mitigation and/or restoration plans for all habitats that require revegetation, habitat creation, restoration, and enhancement shall be approved by the regulatory agencies, as applicable, and shall include construction specifications; irrigation schedules; planting palettes (showing container stock/box plantings, cutting specifications, and seed mixes); monitoring, maintenance, and remediation schedules; and success criteria, assurances and contingency measures. Revegetation specifications, species composition and density shall be developed by an experienced restoration ecologist. The restoration sites shall be evaluated to ensure that required revegetation has been performed in areas where temporary construction has been completed. A report documenting restoration efforts shall be submitted by the applicant to the City and applicable regulatory agencies. If necessary, remedial revegetation should occur during the same rainy season that the remedial recommendation is made. Restoration sites shall be monitored by qualified restoration ecologists for three to five years, or until success criteria are achieved. Restoration plans shall be included in the final construction documents. Grading and revegatation activities shall comply with applicable regulations and mitigation measures identified in this EIR pertaining to dust, air emissions, noise, water quality and other potential environmental effects. Alternatively, if approved by regulatory agencies, the applicant may purchase mitigation credits from approved mitigation banks. Final mitigation ratios and locations are to be established in consultation with the regulatory agencies prior to riverbed disturbing activities and detailed mitigation requirements will be identified in the final regulatory agency permits.

c) To the extent feasible, the project applicant shall plant riparian vegetation and install biotechnical features, such as brush piles, logs, and rootwads, to replace habitat impacted by construction of the outfall structure. These structures shall compensate for potential impacts associated with increased predation around the new structure. Specific measures shall include elements that contribute to nearshore cover in the

immediate vicinity of the structure to increase the potential for juvenile fish while discouraging occupancy of the same structures by predaceous species. The precise amount and relative value of affected riparian and cover habitat would be determined during project-level analysis of proposed activities.

d) Mitigation of riverine habitat would occur through creation, restoration, enhancement, and/or preservation of this habitat type within an approved off-site location and/or mitigation bank at a ratio to be established in consultation with the regulatory agencies. Mitigation banking would involve using mitigation credits from mitigation banks approved by the regulatory agencies. Final mitigation ratios and locations are to be established in consultation with the regulatory agencies prior to riverbed disturbing activities and detailed mitigation requirements will be identified in the final regulatory agency permits.

e) The cofferdam sheetpiles at the outfall structure construction site shall be installed using a vibratory hammer where possible to minimize underwater sound pressure levels to the greatest extent feasible and associated effects to sensitive fish species. If impact pile driving is required, sound pressure levels shall be managed (through operational controls) to achieve single-strike sound levels less than 206 dB peak (dB_{peak}) and 183 dB sound exposure level (dB_{SEL}) measured at a distance of 10 meters. Additionally, pile driving shall only be conducted during daytime hours (allowing for regular periods of no impact) and shall commence at low-energy levels and slowly build to impact force (allowing for fish to move away from the construction site).

The project applicant shall also consult with NMFS, USFWS, and CDFW (as part of obtaining permit approvals, e.g., FESA Section 7 and Fish and Game Code Section 1600) to determine necessary impact minimization actions, which may include surveying the outfall site to determine fish presence prior to installation. The project applicant shall implement any additional measures developed through the FESA Section 7 and Fish and Game Code Section 1600 permit processes, to ensure that impacts are avoided and/or minimized.

f) To reduce the potential for fish stranding or minimize the potential for harm during cofferdam dewatering activities, the project applicant or its contractor shall implement a fish rescue plan. Prior to the closure of the cofferdam in the Sacramento River, seining by a qualified fisheries biologist will be conducted within the cofferdam using a small-mesh seine to direct and move fish out of the cofferdam area. Upon completion of seining, the entrance to the cofferdam will be blocked with a net to prevent fish from entering the cofferdam isolation area before the cofferdam is completed. Once the cofferdam is completed and the area within the cofferdam is closed and isolated, additional seining will be conducted within the cofferdam to

remove any remaining fish. Once most of the fish have been removed from the isolated area, portable pumps with intakes equipped with 1.75 mm mesh screen shall be used to dewater to a depth of 1.5-2 feet. A qualified biologist shall implement further fish rescue operations using electrofishing and dip nets. All fish that are captured will be placed in clean 5-gallon buckets and/or coolers filled with Sacramento River water, transported downstream of the construction area, and released back into suitable habitat in the Sacramento River with minimal handling. After all fish have been removed using multiple seine passes, electrofishing, and dip nets (as necessary), portable pumps with screens (see above) will be used for final dewatering. NMFS, USFWS, and CDFW shall be notified at least 48 hours prior to the fish rescue.

Impact Significance After Mitigation: In addition to previously discussed restrictions and requirements, implementation of **Mitigation Measures 4.3-3(a) through 4.3-3(f)** would restrict in-water work to periods when species are least likely to be present, replace (through restoration, preservation or credit purchase) permanently impacted habitat, and minimize effects associated with pile driving and dewatering. This, in combination with compliance with the FESA, CWA Regulations, National Pollution Discharge Elimination System (NPDES) Regulations, local water quality, and runoff standards would reduce this impact to **less than significant**.

Impact 4.3-4: Development of the proposed projects could result in removal of habitat for the Valley Elderberry Longhorn Beetle.

Railyards Specific Plan Update

Surveys conducted in 2015 and 2016 identified elderberry shrubs at five separate locations within, and at two locations immediately adjacent to the RSP Area. The USFWS considers the removal of elderberry shrubs as having an impact on the valley elderberry longhorn beetle (VELB), including any construction impacts within 100 feet of the dripline an elderberry shrub. Construction activities within 100 feet of an elderberry shrub may affect VELB through ground disturbance, removal of associated vegetation, root compaction, and water quality impacts. Adverse impacts to elderberry shrubs, including the removal of shrubs could result in impacts on suitable habitat for VELB. Mortality, or removal, of elderberry shrubs and the loss of VELB habitat is considered a significant impact. As such the proposed RSPU would have a **significant** impact on VELB.

The 2007 RSP EIR discussed impacts to VELB habitat, the elderberry shrub, under Impact 6.2-4 (page 6.2-40 to 6.2-41). Impact 6.2-4 of the 2007 EIR found that the 2007 RSP would have a less-than-significant impact related to VELB. This determination was based on the assumption that the prior to removal of elderberry shrubs, the proposed projects would have to obtain a federal take permit from USFWS. Analysis in the SEIR does not assume consistency with FESA. This change in assumption has modified significance determinations in the SEIR.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to VELB are the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects to the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **significant** impact.

KP Medical Center

The proposed KP Medical Center is located within approximately 150 feet of an elderberry shrub adjacent to I-5 northern bridge abutment per USFWS *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*,[64] construction activities that occur greater than 100 feet away from an elderberry shrub are not considered destructive to the shrub. As such, **no impact** to VELB, or its host plant (i.e., elderberry shrubs) would occur due to the construction of the proposed KP Medical Center.

MLS Stadium

The footprint of the proposed MLS Stadium is not located within 100 feet of an elderberry shrub. As such, **no impact** to VELB, or its host plant (i.e., elderberry shrubs) would occur due to the construction of operation of the stadium.

Stormwater Outfall

The Stormwater Outfall is located approximately 200 feet from the closest elderberry shrub. As such, **no impact** to VELB, or its host plant (i.e., elderberry shrubs) would occur due to the construction of operation of the outfall.

Summary

The proposed RSPU, including Land Use Variant, would result in impacts to elderberry shrubs, the host plant for the federally-listed threatened VELB. The proposed KP Medical Center, MLS Stadium, and Stormwater Outfall would have no impact on VELB. However, the proposed RSPU, including the Land Use Variant, would have a **significant** impact on VELB.

Mitigation Measure

Mitigation Measure 4.3-4, described below, would be required to reduce the magnitude of impacts to VELB and their habitat. This mitigation measure is new (i.e., not part of the 2007 RSP EIR).

Mitigation Measure 4.3-4 (RSPU):

(1) *Prior to construction within the RSP Area, the site shall be surveyed for the presence of the valley elderberry longhorn beetle and its elderberry host plant by a qualified*

64 U.S. Fish and Wildlife Service, 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle.* July 9, 1999. p. 1-15.

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*[65] *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."*

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-4, elderberry shrubs would be protected and any shrubs that require removal would be compensated for. As a result, the proposed RSPU, including Land Use Variant, would not cause a reduction in VELB habitat. Thus, impacts to VELB from implementation of the proposed RSPU, including the Land Use Variant, would be mitigated to a **less-than-significant** level.

Impact 4.3-5: Development of the proposed projects could result in removal of habitat for the western pond turtle.

Railyards Specific Plan Update

The western pond turtle has not been documented with the RSP Area. However, the Sacramento River, adjacent to the RSP Area, provides suitable aquatic habitat for the western pond turtle. Upland habitat within the RSP Area is unlikely to support the species because the substrate of the bank is primarily broken concrete and rip-rap with compacted soil, which is not suitable for nesting. Additionally, there are high levels of human disturbance, including homeless encampments, recreational visitors to the Sacramento River, adjacent bike trail, and Jibboom Street which further deter western pond turtles from dispersing from the Sacramento River into the RSP Area.

65 U.S. Fish and Wildlife Service, 1999. *Conservation Guidelines for the Valley Elderberry Longhorn Beetle.* July 9, 1999. p. 1-15.

Habitats east of the river and Jibboom Street are highly modified and subject to ongoing remediation activities The constructed basin within the RSP Area is unlikely to support western pond turtle due to its recent construction in 2013, isolation from other suitable western pond turtle habitat, and because it only holds water after storm events. As such, western pond turtles are not likely present in the RSP Area and potential impact to this species from any activity east of Jibboom Street would be **less than significant**.

The 2007 RSP EIR discussed impacts to western pond turtle under impact 6.2-5 (page 6.2-41). Consistent with the analysis above, impact 6.2-5 found that habitats within the RSP Area are unsuitable for western pond turtle, therefore impact to this species was considered less than significant. Impacts to western pond turtle from construction of the outfall are discussed below.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to western pond turtle would be the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects to the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant** impact.

KP Medical Center

The proposed KP Medical Center site is located approximately 500 feet east of the Sacramento River, which is considered suitable habitat for the western pond turtle. The site is separated from the river edge by the approximate 30-foot high riverbank, Jibboom Street, and the I-5 right of way, embankment and elevated structure. The proposed KP Medical Center site does not constitute habitat for the western pond turtle. As such, the proposed KP Medical Center would have **no impact** on the western pond turtle.

MLS Stadium

The proposed MLS Stadium is located approximately 3,000 feet east of the Sacramento River, which is considered suitable aquatic habitat for the western pond turtle. The site is separated from the river edge by the 30 foot high riverbank; Jibboom Street; the I-5 right of way, embankment and elevated structure; several additional streets including 7th Street, 6th Street, and 5th Street, the Regional Transit Green Line tracks, and numerous soil piles that are part of the ongoing remediation activities in the RSP Area. The proposed MLS Stadium site does not constitute habitat for western pond turtle. As such, the proposed MLS Stadium would have **no impact** on the western pond turtle.

Stormwater Outfall

The banks of the Sacramento River in the vicinity of the Outfall are not suitable for nesting western pond turtles. Though unlikely, turtles could use the bank of the river in the vicinity of the proposed Outfall site as basking habitat. Consistent with analysis in the 2007 RSP EIR, alteration of habitat near the Sacramento River could have a potential impact on this species. However, because of the quality of basking habitat, the magnitude of impact is small (less than 0.07 acres of

valley foothill riparian and riverine habitat [tidal perennial stream below OHWM of the Sacramento River]), and the fact that there is similar habitat in the vicinity of the Outfall, construction of the Outfall would not result in the local extirpation of, or reduction in, the western pond turtle populations or habitat below self-sustaining levels. As such, impacts to this species from construction of the Stormwater Outfall would be **less than significant**.

Summary

Upland habitats within the RSP Area are unlikely to support western pond turtle. The Sacramento River adjacent to the RSP Area provides suitable aquatic habitat. However, construction of the portions of the proposed RSPU in the vicinity of the Sacramento River riverbank, including the proposed Stormwater Outfall, would not result in in the local extirpation of the western pond turtle, or reduction in the western pond turtle populations below self-sustaining levels. As such, impacts to this species from construction of the proposed projects would be **less than significant**.

Mitigation Measure

None required.

Impact 4.3-6: Development of the proposed projects could result in impacts to bat species.

Railyards Specific Plan Update

Portions of the RSP Area may support habitat for the CSC pallid bat (cavity-roosting) and the hoary bat (foliage-roosting), an animal on the CDFW Special Animals List.[66] Potential habitat for the hoary bat is present within dense-foliaged trees within the RSP Area. Potential habitat for the pallid bat is present under the I Street Bridge and the elevated structure of I-5, and within the historic train depot buildings associated with the Central Shops Historic District and the Sacramento Valley Station.

This analysis examines the projects impact on potential maternity roosting, special-status Pallid and hoary bats, and regionally occurring bat species such as the Mexican free-tailed bat (*Tadarida brasiliensis*), and the big brown bat (*Eptesicus fuscus*). Removal or disturbance (resulting in abandonment) of a roost containing a maternity colony (special-status or common) could result in loss of a large number of individuals, which is considered a significant impact due to the magnitude of the loss. The loss of one individual special-status bat is not considered a significant impact, as these species are not covered under FESA or CESA, and the loss of one individual not lead to local extirpation of, or reduce populations to below self-sustaining levels.

66 California Department of Fish and Wildife. 2016. State and Federally Listed Endangered and Threatened Animals of California. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. Data dated January 2016.

There have been no documented occurrences of pallid bat or hoary bat within the RSP Area. Surveys conducted in 2007 observed six roosts of unknown bat species under the elevated section of I-5 and under the I Street Bridge.[67] In addition, several occupied and potential bat roosts were observed under the I Street viaduct and Jibboom Street viaduct during surveys in 2015. Surveys in the vicinity of the RSP Area in May and June of 2015 recorded Mexican free-tailed bats, big brown bats, Yuma myotis (*Myotis yumanensis*), and Western red bat (*Lasiurus blossevillii*), a species of special concern.[68]

Tree-roosting habitat is present along within mature riparian trees along the Sacramento River. However, the quality of potential roosting habitat is low due to the narrowness of the riparian habitat along this segment of the Sacramento River, and high levels of human disturbance near the river. Although the likelihood is low, it is possible trees along the Sacramento River could support a maternity colony of foliage-roosting bats. As a result, the removal of trees, or construction-related disturbance associated with Stormwater Outfall construction could result in the loss of a foliage-roosting bat maternity colony.

Removal, redevelopment, or reconfiguration of the historic train depot buildings associated with the Central Shops Historic District and I Street Bridge could result in removal or construction-related disturbance to cavity-roosting bat species, including the pallid bat. Removal or construction-related disturbance associated with the Central Shops Historic District and I Street Bridge could result in the loss of a cavity-roosting bat maternity colony.

Because the proposed projects could impact a maternity roost site, this impact is **potentially significant**. This determination is consistent with analysis presented in the 2007 RSP EIR under impact 6.2-6 (pages 6.2-41 to 6.2-42).

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to bat species are the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects to the RSPU Land Use Variant would be equal to those of the proposed RSPU, resulting in a **potentially significant** impact.

KP Medical Center

Vacant and developed habitat within the proposed KP Medical Center site is not suitable for roosting bat species. However, potentially suitable roosting habitat is present under the elevated structure of I-5, approximately 250 feet to the southwest, and within the mature riparian trees along the Sacramento River, approximately 500 feet to the southwest. Construction activities within 50 feet to a maternity colony could result in disturbance or abandonment of the roost site.

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67 City of Sacramento. 2007. Railyards Specific Plan Environmental Impact Report. Certified December 11, 2007.

68 California Department of Transportation, 2016. I Street Bridge Replacement Project Natural Environment Study. Sacramento and Yolo Counties, Federal Project No.: BRLS 5002(164). February.

However, because the closest roosting habitat is greater than 50 feet from the proposed KP Medical Center, and because the area in the recent past has experienced high levels of human disturbance and activity (i.e., noise generated from elevated structure of I-5, and ongoing remediation activities), bat species using these areas as roosting habitat would not likely be disturbed by construction of the proposed KP Medical Center. Therefore, construction of the KP Medical Center would have **no impact**.

MLS Stadium

Habitat within the proposed MLS Stadium site is classified as vacant and developed and not suitable for roosting bat species. Potentially suitable habitat for the foliage-roosting bat species, including the hoary bat, is present within the mature eucalyptus (*Eucalyptus* sp.) trees along the northeastern border of the project site, approximately 125 feet away, adjacent to SIMS Metal Management. However, the quality of potential roosting habitat in the eucalyptus trees is low. Foliage-roosting bats, including the hoary bat, are unlikely to roost in eucalyptus due to the high levels of human disturbance and activity near SIMS Metal Management. Therefore, construction of the MLS Stadium would have **no impact**.

Stormwater Outfall

Approximately 0.04 acres of riparian habitat would be removed during construction of the proposed Stormwater Outfall. Trees within this area provide potentially suitable habitat for foliage-roosting bat species, including the hoary bat. Removal of riparian trees could result in the destruction of a maternity colony. In addition, removal of this habitat would reduce the amount of locally available roosting habitat. Construction activities within close proximity to the elevated structure of I-5 may disturb cavity-roosting bats, including the pallid bat. Direct removal or disturbance (tree removal in riparian habitat), or disturbance (construction related activities near the elevated structure of I-5) to a maternity colony could have a **potentially significant** impact.

Summary

The proposed MLS Stadium and KP Medical Center do not contain suitable habitat for roosting bats. Due to high levels of disturbance adjacent to this area, and because the sites are more than 100 feet from the closest potential roosting habitat, construction in this area is unlikely to cause disturbance to, or abandonment of, a maternity roost. Construction of the proposed Stormwater Outfall and development of the RSPU, including removal, redevelopment, or reconfiguration of the historic train depot buildings associated with the Central Shops Historic District and I Street Bridge, could result in removal or disturbance to maternity roosts, including those of the pallid bat and hoary bat, both species of special concern.[69] Removal or disturbance of a special-status or common bat species maternity colony could result in the loss of a large number of individuals; therefore, this would be considered a **potentially significant** impact.

[69] California Department of Fish and Wildife. 2016. State and Federally Listed Endangered and Threatened Animals of California. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, CA. Data dated January 2016.

Mitigation Measure

Mitigation Measure 4.3-6 is similar to Mitigation Measure 6.2-6 in the 2007 RSP EIR. The 2007 RSP EIR has been modified to focus on avoidance of maternity roost sites during the pupping season.

Mitigation Measure 4.3-6 (RSPU, SO)

Minimize potential adverse effects to bat species.

Vegetation removal, including tree removal, shall be conducted between September 16 and January 31, to the extent feasible, to minimize the potential loss of bat maternity roosts.

The applicant shall conduct pre-construction surveys for roost sites prior to construction activities within 100 feet of the I-5, I Street Bridge, and riparian habitat along the Sacramento River during the bat pupping season (April 1 through July 31). This survey shall be conducted by a wildlife biologist qualified to identify bat species. If no bats are roosting, then no further mitigation is required.

If a bat maternity roost is identified, buffers around the roost site shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from tree removal or other project activities.

Impact Significance After Mitigation: Implementation of Mitigation Measures 4.3-6 would require pre-construction surveys to identify any maternity roosting sites within 100 feet of project activities, and if found, observance of no-disturbance zones around those sites. This would reduce impacts to maternity colonies during construction activities to a **less-than-significant** level.

Impact 4.3-7: Development of the proposed projects could result in net reduction of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts to sensitive habitats, including protected wetland habitat and riparian vegetation, as defined in Section 404 of the Clean Water Act and Section 1602 of the California Fish and Game Code under impact 6.2-8 (pages 6.2-43 to 6.2-45). Consistent with the 2007 RSP EIR, there are no federally-protected wetlands or Other Waters of the U.S. in the RSP Area. Sensitive riparian habitat within the RSP Area includes valley foothill riparian on the east bank of the Sacramento River, which extends approximately 55 to 75 feet wide, specifically between the OHWM and the top of the levee, and runs the entire length of the RSP Area. Other than the proposed Stormwater Outfall (discussed below), all proposed development under the RSPU would occur east of the top of the east levee of the Sacramento River. There is no riparian habitat protected under Section 1602 of the California Fish and Game Code east of the top of the

east levee of the Sacramento River. Construction of the proposed Stormwater Outfall is considered a component of the RSPU project, and would require the placement of fill below the OHWM of the Sacramento River, and remove riparian habitat. Because the Stormwater Outfall would be a component of the RSPU stormwater drainage system, the proposed RSPU would have a **significant impact** on sensitive habitats.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to wetlands, other waters, and riparian vegetation are the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects of the RSPU Land Use Variant would be equal to those of the RSPU, and is considered a **potentially significant** impact.

KP Medical Center

Construction of the Medical Center will occur in vacant and developed habitats which are not considered sensitive. Therefore, the proposed KP Medical Center would have **no impact**.

MLS Stadium

Construction of the Stadium will occur in vacant and developed habitats which are not considered sensitive. Therefore, the proposed MLS Stadium would have **no impact**.

Stormwater Outfall

Impact 6.2-8 (pages 6.2-43 to 6.2-45) of the 2007 RSP EIR did not include a discussion of impacts to the Sacramento River. However, to provide a conservative estimate of potential impacts, this analysis assumes the Sacramento River is an "other waters of the U.S.," as defined under Section 404 of the CWA.

Although the final design of the proposed Stormwater Outfall is subject to change, this analysis provides an estimate of potential impacts based on current design drawings. Construction of the Stormwater Outfall is expected to result in in the removal of up to 0.013 acres of valley foothill riparian habitat, and fill of 0.06 acres of riverine habitat (tidal perennial stream below OHWM of Sacramento River). **Table 4.3-4** details impacts to habitats present within the proposed Stormwater Outfall area.

TABLE 4.3-4.
IMPACTS TO HABITATS PRESENT WITHIN THE STORMWATER OUTFALL AREA

Habitat/Land Cover	Area (acres)
Vacant	0.67
Developed	0.13
Valley Foothill Riparian	0.013
Riverine Tidal Perennial Stream below OHWM of Sacramento River	0.06
Total	**0.873**

Source: ESA, 2016; ICF, 2015 Draft Request for preliminary jurisdictional determination of the delineation of the proposed I Street Bridge Project, Sacramento County and Yolo County, California Letter. Sacramento, CA. June 23, 2015.

Development of the Stormwater Outfall would result in up to 0.06 acres of fill in riverine habitat (tidal perennial stream below the OHWM of the Sacramento River), and removal of up to 0.013 acres of valley foothill riparian habitat. Placement of fill in riverine habitat below the OHWM of the Sacramento River, and removal of riparian habitat is considered a **significant impact**.

Summary

The KP Medical Center and MLS Stadium do not occur within sensitive habitats. Therefore, no impact would result from construction of these project components. Proposed development of the proposed RSPU occurs east of the Sacramento River levee, and does not propose development in sensitive habitats. Therefore, no impact would result from construction of the proposed RSPU. Development of the proposed Stormwater Outfall could result in removal of up to 0.013 acres of valley foothill riparian habitat, and fill of 0.06 acres of riverine habitat (tidal perennial stream below the OHWM of the Sacramento River) which would be considered a **significant** impact.

Mitigation Measure

Mitigation measures have been adjusted to reflect current understanding of the proposed Stormwater Outfall footprint within the riparian area and removal of discussion of the former oil storage area.

Mitigation Measure 4.3-7 (SO)

The applicant shall prepare a wetland and riparian mitigation plan that ensures no net loss of waters of the U.S. and riparian vegetation. The wetland and riparian mitigation plan shall be based on a wetland delineation verified by USACE. This measure may be implemented through the 404 permit and Streambed Alteration Agreement process. The plan shall include the following:

1) The project proponent shall compensate for the loss of wetland and riparian habitat through a combination of restoration/enhancement, and the purchase of mitigation credits at an approved mitigation bank. The ratio of compensation shall be determined in consultation with USACE and California Department of Fish and Wildlife (CDFW), as part of the 404 permit and Streambed Alteration Agreement process, but shall not be less than 1:1.

2) Prior to any construction activities on the site, a protective fence shall be erected around the boundaries of areas that would be disturbed by construction. This fence shall remain in place until all construction activity in the immediate area is completed. No activity shall be permitted within the protected areas except for those expressly permitted by USACE and/or CDFW.

3) Water quality in the Sacramento River shall be protected using erosion control techniques during construction including, but not necessarily limited to, preservation

of existing vegetation, mulches (e.g., hydraulic, straw, wood), and geotextiles and mats, during construction

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.3-7 would mitigate impacts to the Sacramento River and riparian habitat within the RSP Area, specifically, the proposed Stormwater Outfall site. This would occur through a combination of restoration/enhancement, and/or purchase of restoration credits. By ensuring that the proposed RSPU and Stormwater Outfall achieves no net loss of waters of the U.S. or riparian habitat, this impact would be reduced to a **less-than-significant** level.

Impact 4.3-8: Development of the proposed projects could result in isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.

Railyards Specific Plan Update

Terrestrial Species

As described in the environmental setting above, and consistent with analysis in the 2007 RSP EIR, terrestrial portions of the RSP Area do not serve as a significant wildlife corridors or linkage for special-status terrestrial species. The proposed projects have the potential to disrupt the movement of common wildlife species such as raccoon, opossum, and skunk. However, these species are adapted to urban environments and construction and operation of the proposed RSPU would not result in the disturbance to the extent it would substantially interfere with the movement of these locally common terrestrial wildlife species.

Riparian vegetation in the RSP Area is narrow, isolated by urban areas to the north, south, and east, and bounded by the river to the west. Consequently, these riparian areas serve as local migratory corridors to common wildlife species, but do not serve as a significant regional terrestrial wildlife corridor. Therefore, impacts on movement of terrestrial species associated with the proposed RSPU would be considered **less than significant**.

Aquatic Species

The 2007 RSP EIR discussed impacts to migratory corridors for aquatic species under impact 6.2-9 (pages 6.2-45 to 6.2-46). The 2007 RSP determined that the proposed RSP would have a potentially significant impact to migratory fish movements. This determination was based on recognition that the proposed RSP would cause an increase in nighttime light sources which could spillover from the proposed RSP Area onto the Sacramento River and potentially alter behavior of fish such that movements are delayed, disrupted, or subject to increase predation (including shoreline angler access).

The Sacramento riverfront area is already developed with commercial uses, and transportation infrastructure that increase ambient light conditions, including the I Street Bridge, the elevated

section of I-5, Old Town Sacramento, and Tower Bridge. Development within the RSP Area associated with the RSPU would result in increases in artificial ambient lighting conditions from landscape lighting, nighttime vehicle traffic, and high-rise buildings in the portion of the RSP Area to the west of I-5 that could spillover onto the Sacramento River. Increases in artificial ambient light could interfere with the movement of migratory fish species within the Sacramento River by creating artificial visual conditions and/or increase predation opportunities for non-native predatory fish species. Therefore, impacts to migratory fish from increases in light spillover onto the Sacramento River from development in the proposed RSPU would be considered **potentially significant**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to wildlife migratory corridors would be the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **potentially significant** impact to migratory fish species.

KP Medical Center

As discussed above, the RSP Area does not serve as a significant wildlife corridor for terrestrial wildlife species; therefore, impacts to terrestrial species would be less than significant. The KP Medical Center has the potential to increase artificial ambient light in ways similar to that described above for the RSPU. However, the KP Medical Center would be located east of I-5 and, therefore, the artificial lighting would not be expected to spillover onto the Sacramento River. As a result, impacts to migratory and native fish species would be **less than significant**.

MLS Stadium

As discussed above, the RSP Area does not serve as a significant wildlife corridor for terrestrial wildlife species and the stadium is not in close proximity to the Sacramento River; therefore construction of the Stadium will have **no impact** on migratory corridors.

Stormwater Outfall

Construction and operation of the proposed Stormwater Outfall would not be expected to result in disturbance to the extent that it would permanently and substantially interfere with the movement of resident or migratory terrestrial wildlife species. During construction, potential impacts to terrestrial wildlife movement along the Sacramento River would be temporary and limited to the 0.87 acre footprint of the outfall structure and temporary construction access areas. After construction is complete, the majority of the Stormwater Outfall would be underground and the surface conditions would be restored. Therefore impacts to terrestrial species would be **less than significant**.

There will be no nighttime construction; therefore no impact on migratory and native fish species within the Sacramento River would occur from nighttime lighting. Impacts associated with

construction and operation of the proposed Stormwater Outfall are described under Impact 4.3-3 above.

Summary

Terrestrial Species

Upland portions of the RSP Area do not serve as a significant wildlife corridors or linkage for special-status terrestrial species. Riparian vegetation in the RSP Area is narrow, isolated by urban areas to the north, south, and east, and bounded by the river to the west. Consequently, these riparian areas may serve as local migratory corridors to common wildlife species, but would not be expected to serve as a significant regional terrestrial wildlife corridor. The proposed projects have the potential to disrupt the movement of common wildlife species such as raccoon, opossum, and skunk; however, these species are adapted to urban environments and construction and operation of the proposed RSPU would not result in the disturbance to the extent it would substantially interfere with the movement of these locally common terrestrial wildlife species. Construction of the outfall would be temporary and occur in a relatively small area. Therefore, impacts on movement of terrestrial species associated with the proposed projects would be considered **less than significant**.

Aquatic Species

Development within the RSP Area associated with the RSPU would result in increases in artificial ambient lighting conditions from landscape lighting, nighttime vehicle traffic, and high-rise buildings in the portion of the RSP Area to the west of I-5 that could spillover onto the Sacramento River. Increases in artificial ambient light could interfere with the movement of migratory fish species within the Sacramento River by creating artificial visual conditions and/or increase predation opportunities for non-native predatory fish species. Therefore, impacts to migratory fish from increases in light spillover onto the Sacramento River from development in the proposed RSPU (RSP Area west of I-5) would be considered **potentially significant**.

Mitigation Measure

Mitigation Measure 4.3-8 (RSPU, KPMC, SO)

The applicant shall reduce spillover lighting from the proposed project onto the Sacramento River by implementing the following:

The applicant shall place structural barriers to screen automobile headlights that are directed perpendicular to the river shall be screened along the western project edge. This may be accomplished through the placement of a 3-4 foot vegetated hedge or other structural methods that would not additionally hinder wildlife movement through riverine riparian vegetation.

Outdoor lighting within the RSP Area west of I-5shall be of the minimum wattage required for the particular use and shall be directed to the specific location intended for illumination

(e.g., roads, walkways, or recreation fields) to prevent stray light spillover onto sensitive riverine habitat.

All fixtures on elevated light standards within the RSP Area west of I-5, such as in parking lots or along roadways, shall be shielded to reduce direct exposure to the Sacramento River.

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.3-8 would provide mechanisms to reduce potential night lighting impacts by ensuring no lighting is directed towards the river, and light spillover is minimized in areas within portions of the RSP Area west of I-5, which would reduce impacts to movements of fish species to **less than significant**.

Impact 4.3-9: Development of the proposed projects could conflict with local policies protecting trees.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts to locally protected trees under Impact 6.2-10 (page 6.2-46). Impact 6.2-10 of the 2007 RSP EIR found that the loss of protected trees, including oak trees (*Quercus* species) could conflict with the City tree ordinance and would be considered a potentially significant impact. This determination was based on recognition that the 2007 RSP Area supports trees potentially protected by the City's tree ordinance. Consistent with 2007 conditions, the RSP Area contains mature trees that are protected under the City's tree ordinance within riparian habitat along the Sacramento River, within the Medical Center site, the MLS Stadium site, and along the northern edge of the RSP Area. Therefore, construction within the RSP Area would result in the disturbance or loss of protected trees. The loss of protected trees protected by the City tree ordinance would be considered a **significant** impact.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to protected trees would be the same as discussed above for the proposed RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects of the RSPU would be equal to those the proposed RSPU, resulting in a **significant impact**.

KP Medical Center

The proposed Medical Center footprint contains one (1) tree that is protected under the 2016 City tree ordinance. Construction of the proposed Medical Center could damage, or remove the protected tree. As such, construction of the Medical Center would have a **significant impact** to a tree protected by the City tree ordinance.

MLS Stadium

The proposed Stadium footprint contains one (1) tree that is protected under the City tree ordinance. Construction of the proposed MLS Stadium could damage, or remove protected trees. As such, construction of the proposed Stadium would have a **significant impact** to trees protected by the City tree ordinance.

Stormwater Outfall

The proposed Outfall supports at least two (2) trees that are protected by the City tree ordinance. Construction of the Outfall could damage, or remove protected trees. As such this is considered a **significant impact**.

Summary

Loss of protected trees within the RSP Area, including the site of the proposed Stormwater Outfall, and the trees along the northern edge of the RSP Area would result in a **significant impact**. Two protected trees are present within the MLS Stadium and KP Medical Center areas, one tree on each site. Therefore, an impact to protected trees could occur and the impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-9 is similar to Mitigation Measure 6.2-10 in the 2007 RSP EIR, but has been modified for clarity.

> **Mitigation Measure 4.3-9 (RSPU, KPMC, MLS, SO)**
>
> *All tree removal within the RSP Area shall comply with the current City of Sacramento tree protection ordinance. The applicant shall implement mitigation measures to protect retained trees, and replace for the loss of tree resources (tree protection, and replacement measures shall be determined in consultation with the City).*

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.3-9 would reduce this impact to a **less-than-significant** level through compliance with the City's established requirements to avoid or mitigate for the loss of protected trees.

Cumulative Impacts

Because the proposed project is an in-fill development surrounded by largely urban land uses, the cumulative context for impacts to special status species focuses on the Sacramento metropolitan area with additional context provided by the larger Sacramento Valley, where appropriate based on species life history and extent of current habitat. Since the 1900s, development of the City of Sacramento, and the larger Sacramento Valley has resulted in modifications of natural habitats, including but not limited to, the loss of wildlife habitat and open space areas due urban and

agricultural development, and flood control development along the Sacramento and American rivers.

Impact 4.3-10: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of foraging habitat for Swainson's hawk.

The cumulative context for impacts to Swainson's hawk foraging habitat is Sacramento County. Since the late 1800s, native grasslands (i.e., Swainson's hawk foraging habitat) in the region have been converted to agricultural and urban use, and the trend towards development is projected to continue. This loss of foraging habitat for Swainson's hawk within Sacramento County is a significant cumulative impact.

As discussed under Impact 4.3-1, the RSP Area has a long history of development and use by humans, and habitats within the RSP Area do not have value as foraging habitat for Swainson's hawk. Additionally, the RSP Area is located adjacent to the urban center of the City of Sacramento, therefore development would not fragment, or remove high quality Swainson's hawk foraging habitat. Because the site has been developed for over 150 years, redevelopment of the RSP Area through implementation of the proposed projects would not result in a considerable contribution to the diminishment of foraging habitat available for Swainson's hawk in Sacramento County. Therefore, the proposed projects would have a **less-than-significant** cumulative impact on the loss of Swainson's hawk foraging habitat in Sacramento County.

Mitigation Measure

None required.

Impact 4.3-11: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative harm to, or loss of nesting habitat, for Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species.

Swainson's Hawk, Other Raptors, and Nesting Birds

The cumulative context for nesting bird habitat includes Sacramento County. Historic and ongoing loss of natural habitats suitable for nesting birds, including Swainson's hawk, white-tailed kite, purple martin, and other sensitive and/or protected bird species, has occurred as natural habitats have been converted to urban and agricultural development. Future development within the County is expected to continue. Projects within Sacramento County 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. Nevertheless, the loss of natural habitats for Swainson's hawk, other raptors, and nesting birds within Sacramento County is a significant cumulative impact.

The RSP Area contains habitats that have been highly modified or are of relatively low quality due to their urban nature, or proximity to urban developments. Additionally, affected habitats are mostly isolated from other areas of similar habitat due to existing urban development. However, the proposed projects could directly affect special-status, and protected bird species, and their habitat which would result in an incremental contribution to the cumulative loss within Sacramento County; therefore, this is considered a **significant** impact.

Purple Martin

The cumulative context for purple martin includes the Sacramento region. As discussed above, since the mid-1900s, the purple martin has been eliminated from most of California's Central Valley. The last known breeding population of purple martin in the Central Valley nests in elevated roadways (i.e., bridges) in the City of Sacramento.[70] Systematic monitoring of martins in the Sacramento area has documented a 73 percent decline in breeding pairs between 2002–2015.[71] A factor of the downward population trend during this period is thought, in part, to be the alteration of habitat around known breeding sites. Threats to purple martin include localized predation by feral cats and/or American kestrels (*Falco sparverius*), loss or removal of perch sites, loss of nest material collection sites, and exclusion of nest sites during construction projects. Other factors contributing to the decline in martin populations in the Sacramento region may include mortality due to West Nile virus, increased nest site competition with starlings, sparrows, or white-throated swifts, and mortality of individuals from vehicle collisions with light rail and freight trains, and motor vehicles. In addition, experts have recently begun to analyze the possible negative effects of neonicotinoid pesticides on martins and their food source (i.e., flying insects).

For this analysis, the proposed RSPU is considered cumulatively with other projects in the Sacramento area in the vicinity of known purple martin breeding colonies. The projects listed below, which are in various stages of planning or implementation, are in areas that support or are immediately adjacent to known purple martin colonies:

- Railyards Specific Plan Update (project analyzed under this SEIR);
- I Street Bridge Replacement Project over the Sacramento River;
- Stockton and T Street Project;
- Sutter Park Neighborhood Project;
- Development of vacant parcel at T Street/30th Street;
- Roseville Road at Interstate 80 Project; and
- Redevelopment in vicinity of 65th/Highway 50 and 65th/Q Street/Redding Avenue.

[70] Airola, D.A. and J. Grantham, 2003. Purple Martin Status, Nesting Habitat Characteristics, and Management in Sacramento, California. Western Birds. 34:235-251.

[71] Airola, D.A and D. Kopp, 2015. Sacramento Purple Martin in 2015: When a Population Increase May be Misleading. Central Valley Bird Club Bulletin. Fall 2015.

Implementation of these projects has the potential to create new or exacerbate existing threats and stressors to purple martins. Without significant reversal of current trends, it is predicted that the Sacramento region purple martin population could disappear in as little as five years.[72] The decline in the purple martin population due to aforementioned factors is a significant cumulative impact.

As discussed under Impact 4.3-2, the proposed I Street Bridge Replacement Project would include construction of a new bridge for pedestrian, bicycle, and automobile transportation over the Sacramento River upstream of the existing I Street Bridge. The existing bridge would be decommissioned for pedestrian, bicycle, and auto traffic, but would continue to be used by the railroad. After the new bridge is constructed, the I Street approach viaduct, which includes current purple martin habitat, would be demolished. The I Street Bridge Replacement Project would incorporate purple martin replacement weep hole habitat into the design of the new bridge.

The I Street Bridge Replacement Project is anticipated to begin in in 2018 and take approximately 30 months to complete. As discussed under Impact 4.3-2, due to lot size and shape, and other development constraints, Lot 35 of the Land Use Plan is not likely to be developed until the Jibboom Street viaduct (and potentially the I Street viaduct) is removed, which is a component of the I Street Bridge Replacement Project. As such, it is probable purple martins will not be using the RSP Area for nesting. In addition, areas within the RSP Area would likely be used to a lesser extent as nest material collection sites, foraging grounds, and perch sites due to the increased distance between nesting habitat in the new bridge and the RSP Area.

If purple martins successfully colonize replacement habitat in the new I Street Bridge, the new location of the colony would be approximately 300 feet away from the nearest proposed development in the RSP Area. As such, development of the RSPU, and subsequent land use changes unfavorable to purple martin would have a decreased adverse effect on the I Street colony compared to that under the existing condition.

Nevertheless, while the proposed RSPU would not directly result in the loss of nesting habitat for purple martin, if the I Street Bridge Replacement Project is not implemented before development of Lot 35, development could result in a loss of nest material collection sites, loss of perch sites, and an overall decrease in quality of habitat needed to support nesting. Additionally, development of the proposed RSPU could result in an increase in threats to purple martin including, but not limited to, increased exposure to competition from nesting competitors (i.e., starlings, sparrows), increased exposure to predation from feral cats, and/or increased mortality from vehicle collisions. Because the I Street Bridge colony is only one of four breeding colonies recorded in the Sacramento area in 2015, it is especially sensitive to adverse effects. Because of these factors, it has been determined that the proposed RSPU could potentially result in a considerable

[72] Airola, D.A., B. Cousens, and D. Kopp, 2014. Accelerating Decline of the Sacramento Purple Martin Breeding Population in 2014: What are the Possible Causes? Central Valley Bird Club Bulletin, Winter 2014.

contribution to the downward population trend of breeding purple martin in the Sacramento area; therefore, this is considered a **significant impact**.

Mitigation Measure

Mitigation Measure 4.3-11(a) and 4.3-11(b) (RSPU):

Implement Mitigation Measure 4.3-2(a) and 4.3-2(b).

Impact Significance After Mitigation: Implementation of Mitigation Measures 4.3-11(a) would reduce impacts to nesting birds by requiring pre-construction surveys to identify any nesting birds, and if found, observing no-disturbance zones around nest sites, and therefore would reduce impacts to nesting birds during construction activities to a **less-than-significant** level.

Implementation of Mitigation Measure 4.2-2(b) would be enforced as long as the I Street purple martin breeding colony is extant within the RSP Area for at least one of the previous three years from the time of commencement of development within the RSP Area. Mitigation Measure 4.2-2(b) would reduce potential impacts to the I Street Bridge purple martin colony by mitigating for habitat alterations (i.e., land use change, development) in the vicinity of the nest sites. The PMMMP would define and implement building setback, and height limitations to preserve flight approaches, define landscape design, and maintenance requirements to preserve availability of nest material near breeding sites, and identify, and require habitat enhancement, creation, or replacement to compensate for indirect effects related to habitat alterations. However, given the downward trend in population numbers of the I Street Bridge purple martin colony (and the Sacramento region population as a whole), and because the PMMMP is not guaranteed to mitigate for the proposed RSPU's cumulative contribution to the I Street Bridge martin colony, the impact development of the proposed RSPU would remain **significant and unavoidable.**

Impact 4.3-12: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to cumulative impacts to special-status fish species and degradation of designated critical habitat.

The cumulative context for impacts for special-status fish species includes the lower Sacramento River. The Sacramento River has been substantially altered over the past 150 years as a result of legacy mining, flood protection, water management, and conversion and development of the floodplain. The effects of past activities and ongoing management are expected to continue into the foreseeable future. Additionally, riparian habitats have been reduced substantially from their native range, and probable future development within the region would continue to affect these resources. Reasonably foreseeable future projects within the lower Sacramento River would be required to comply with CESA, FESA, CWA, Fish and Game Code of California, and other relevant regulations permits and requirements. The degradation of aquatic habitat in the Sacramento River is a significant cumulative impact.

As discussed under Impact 4.3-3, construction of the Stormwater Outfall could result in increased sedimentation and turbidity, and/or the release and exposure of contaminants, which could adversely affect fish and aquatic habitats. Construction activities including pile driving, cofferdam construction and dewatering, and general in-water construction could cause direct disturbance to fish and their aquatic habitats, and loss to SRA habitat. Therefore, the proposed projects could result in a considerable contribution to a significant cumulative impact. This would be a **potentially significant impact**.

Mitigation Measure

Mitigation Measure 4.3-12 (SO).

Implement Mitigation Measure 4.3-2(a) through 4.3-2(f).

Impact Significance After Mitigation: Implementation of Mitigation Measure 4.3-12 would restrict in-water work to periods when species are least likely to be present, replace (through restoration, preservation or credit purchase) permanently impacted habitat, implement BMPs to prevent substantial increases in sedimentation and turbidity, and the release and exposure of contaminants, and minimize effects associated with pile driving and dewatering. This, in combination with compliance with the CESA and FESA, CWA regulations, NPDES regulations, local water quality, and runoff standards would reduce proposed RSPU's contribution to the regional cumulative impact to a less-than-considerable level and this would be a **less-than-significant** impact.

Impact 4.3-13: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the Valley Elderberry Longhorn Beetle.

The cumulative context for impacts to Valley Elderberry Longhorn Beetle (VELB) includes elderberry shrubs located within Sacramento Valley, which corresponds to the range of VELB. Elderberry shrubs, habitat for VELB, are most commonly associated with riparian vegetation along waterways. As discussed in the 2035 General Plan, approximately 90 percent of riparian vegetation has been lost to development since the 1800s.[73] It is likely that future development will further continue to affect riparian areas where elderberry shrubs and VELB are located. As a result, the loss of VELB habitat in the Sacramento Valley is a significant cumulative impact.

Development of the proposed project would likely result in removal of elderberry shrubs within, and adjacent to, the RSP Area, resulting in further loss of VELB habitat. However, none of the elderberry shrubs located onsite are located within the riparian area along the Sacramento River

[73] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 3, 2015.

and no exit holes, indicating presence of VELB, were observed on any of the shrubs. Elderberry shrubs onsite are disconnected from the Sacramento River by urban development and industrial use. As a result, removal of elderberry shrubs within the RSP Area would not result in fragmentation habitat for VELB, or further reduce metapopulation connectivity with known populations of VELB along the American River. Nevertheless, any loss VELB or their habitat is considered to be significant; therefore, the development of the proposed RSPU could have a considerable contribution to the cumulative impact of VELB, and their habitat. This would be a **potentially significant impact**.

Mitigation Measure

Mitigation Measure 4.3-13 (RSPU)

Implement Mitigation Measure 4.3-4.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 4.3-13 and compliance with applicable federal, State, and local policies and regulations, the proposed RSPU's contribution to the regional cumulative impact on VELB and their habitat would be **less than significant**.

Impact 4.3-14: Implementation of the proposed project, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat for the western pond turtle.

Historically, western pond turtles were heavily exploited for food in the Central Valley and thus numbers of this species represent a fraction of their historic levels. Within the Sacramento Metropolitan Area, development has resulted in conversion of natural habitats including, modification of natural drainage patterns, and watersheds, and loss of open space areas. It is likely that future development will further continue to affect western pond turtle habitat. As such, the loss of western pond turtle habitat is considered a significant cumulative impact.

The RSP Area, including the proposed Stormwater Outfall area, within the RSP Area do not provide suitable nesting habitat for western pond turtle. Although unlikely due to high levels of human disturbance, including homeless encampments, recreational visitors to the Sacramento River, adjacent bike trail, and Jibboom Street, turtles could use the bank of the Sacramento River as basking habitat. Additionally, similar basking habitat of equal quality is located along the banks of the Sacramento River in the vicinity of the RSP Area, the proposed projects would not contribute to the cumulative loss of habitat for western pond turtle in Sacramento County, or cause a distinct population of western pond turtle to become isolated. As a result, the development of the proposed RSPU would not have a considerable contribution to the cumulative impact on western pond turtle and their habitat. This impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.3-15: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of habitat, or impacts to for bat species.

The context for cumulative impacts to bat species is Sacramento County. Roosting habitat for bat species has been lost due to natural habitats being converted to urban uses. As discussed in the 2035 General Plan, loss of habitats with in Sacramento County is expected to continue into the reasonably foreseeable future. As a result, the loss of roosting habitat for bat species is a significant cumulative impact.

As discussed in impact 4.3-6, the proposed projects could reduce available foliage-roosting habitat by removing mature riparian trees along the Sacramento River, and renovating, or removing cavity-roosting habitat within historic train depot buildings associated with the Central Shops Historic District and the Sacramento Valley Station. Construction of the Stormwater Outfall would remove 0.04 acres of valley-foothill riparian habitat. Removal of 0.04 acres of riparian habitat, and renovation and exclusion of bats from the historic train depot would be considered a considerable contribution to the cumulative impact of diminishment of roosting habitat available for bat species in Sacramento County. This is a **significant impact**.

Mitigation Measure

Mitigation Measure 4.3-15 (RSPU, SO)

Implement Mitigation Measure 4.3-6.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-15, in combination with CDFW riparian vegetation mitigation requirements, the proposed projects' contribution to cumulative impact on bat species within Sacramento County would be reduced. Project-related disturbance to bat species would not result in a considerable contribution to the cumulative loss of bats within Sacramento County. This impact is **less than significant**.

Impact 4.3-16: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of sensitive habitats including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters/wetlands.

The context for cumulative impacts to wetlands is the Central Valley. A As a result of human settlement, riparian forests and wetland habitats were cleared and developed for farming, lumber,

flood control and riparian development and thus have been reduced substantially from their native range. s discussed in the 2035 General Plan (4.3-21 to 4.3-22), since the 1800s there has been an approximately 95 percent reduction in wetland habitats. It is likely that future development will further continue to affect these sensitive habitats. The loss of wetlands, riparian vegetation, and state jurisdictional waters/wetlands is considered a cumulative impact.

Development of the proposed projects would, in the short term, remove riparian vegetation and potentially impact the Sacramento River considered a water of the U.S. Due to the significant decline in wetland and sensitive riparian habitat, any loss of these sensitive habitat types would have a considerable contribution to the loss of riparian and wetland habitats within the Central Valley. Therefore, this is considered a **significant impact**.

Mitigation Measure

Mitigation Measure 4.3-16 (SO)

Implement Mitigation Measure 4.3-7.

Impact Significance After Mitigation: Implementation of Mitigation Measures 4.3-16 would mitigate impacts to the Sacramento River and riparian habitat within the proposed Stormwater Outfall site. This would occur through a combination of restoration/enhancement, and/or purchase of restoration credits to ensure no net loss. By ensuring that the proposed RSPU and Stormwater Outfall achieves no net loss of waters of the U.S. or riparian habitat, the projects' cumulative impact would be reduced to a **less-than-significant** level.

Impact 4.3-17: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative isolation or interruption of contiguous habitat which would interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.

Terrestrial Species

The context for cumulative impacts to terrestrial wildlife movement corridors includes Sacramento County. As discussed in the 2007 RSP EIR (page 6.2-45 to 6.2-50), historically, terrestrial habitats within the region have been fragmented by urban and agricultural development which has resulted in habitat "islands." It is likely that future development will further continue to affect habitat connectivity in Sacramento County. As such, the loss of terrestrial wildlife movement corridors is considered a significant cumulative impact.

As discussed under impact 4.3-8, the vacant land and fragmented ruderal vegetation that dominates the RSP Area does not serve as a significant regional terrestrial wildlife corridor for migratory wildlife species because it is surrounded by urban development on three sides. The RSP Area has the potential to disrupt the movements of common wildlife species such as

raccoon, opossum, and skunk. However, these species are adapted to urban environments and construction and operation of the proposed RSPU would not cause the abandonment, permanent evacuation, or discontinuance of use of the RSP Area. Redevelopment through the implementation of the RSP Area through implementation of the proposed projects would not result in a considerable contribution to the diminishment of habitat connectivity, and availability of wildlife movement corridors in Sacramento County. Therefore, the proposed projects would not result in a cumulatively considerable contribution to the loss of terrestrial wildlife movement corridors in Sacramento County. Therefore, there is **no impact** to the cumulative loss of terrestrial wildlife movement corridors in Sacramento County.

Aquatic Species

As discussed in the 2007 RSP EIR (page 6.2-45 to 6.2-50), the Sacramento River, adjacent to the RSP Area serves as a migratory corridor between upstream (i.e., spawning, feeding) and downstream (i.e., rearing, ocean) habitat for special-status and common fish species. The context for cumulative impacts to aquatic wildlife movement is the Sacramento River between the San Francisco Bay and upstream barriers to anadromous salmonid fish passage (i.e., Keswick and Shasta dams). Chinook salmon, steelhead, and green sturgeon are all migratory fish species with populations on the decline due to a number of factors. While there are no physical impediments to fish movement in the area of the cumulative analysis, survival during migrations is low and influenced by a number of factors including habitat alterations, water management, water temperatures, and predation by non-native predatory fish species. Because of current population trends and a variety of limiting factors, migratory habitat for fish species is considered a significant cumulative impact.

As discussed above, development within the RSP Area associated with the RSPU would result in increases in artificial ambient lighting conditions from landscape lighting, nighttime vehicle traffic, and high-rise buildings in the portion of the RSP Area to the west of I-5 that could spillover onto the Sacramento River. Increases in artificial ambient light could interfere with the movement of migratory fish species within the Sacramento River by creating artificial visual conditions and/or increase predation opportunities for non-native predatory fish species. Therefore, impacts to migratory fish from increases in light spillover onto the Sacramento River from development in the proposed RSPU (RSP Area west of I-5) would be a considerable contribution to a cumulative impact. Therefore, this impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 4.3-17 (RSPU, SO)

Implement Mitigation Measure 4.3-8.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.3-8, light spillover would be minimized in areas within portions of the RSP Area west of I-5, and no lighting would be directed towards the river, which would reduce impacts to riverine habitat and

associated movements of fish species. Therefore, project impacts resulting from lighting into the Sacramento River would not contribute considerably to the cumulative loss of migratory habitat within the Sacramento River and this impact would be **less than significant**.

Impact 4.3-18: Implementation of the proposed projects, in combination with other cumulative development, could/would contribute to the cumulative loss of locally protected trees.

The context for cumulative impacts to locally protected trees includes the City of Sacramento. The City of Sacramento is known as the "City of Trees" and there are 6.9 million trees within the Sacramento region.[74] The City of Sacramento 2035 General Plan includes goals and policies to promote tree planting and protection of the urban forest to increase the City's tree canopy, and implements a tree ordinance protecting street and heritage trees. As a result, there is no cumulative impact to protected urban trees within the City of Sacramento.

The proposed projects could potentially remove heritage trees at the Outfall site and along the northern edge of the RSP Area. All protected trees will be removed in accordance with current City tree protection ordinances, and will be replaced according to current City standards As a result, this impact is considered **less than significant**.

Mitigation Measure

None required.

[74] Sacramento Tree Foundation, 2016. Urban Forests for Clean Air. Available: www.sactree.com/pages/471. Accessed March 25, 2016.

SECTION 4.4
Cultural Resources

This section discusses the potential for the proposed projects to adversely affect cultural and paleontological resources. Cultural resources include built environment, architectural and cultural landscape resources, historical 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 Appendices A and B), Preservation Sacramento commented on the importance of maintaining and protecting the Central Shops Historic District. Preservation Sacramento provided recommendations for mitigation, including the nomination of the Central Shops for listing in the National Register of Historic Places (NRHP) and facilitating the adaptive reuse of the historic buildings. Section 4.4.4 discusses impacts on historic resources, including the Central Shops.

Cultural resources findings described in this section are based on the data provided in the City of Sacramento 2035 General Plan Master Environmental Impact Report, JRP Historical Consulting and Anthropological Studies Center technical reports[1,2] completed for the 2007 RSP EIR, an updated record search at the North Central Information Center, archival research, and consultation with parties involved in past phases of the project.

Issues Addressed in the 2007 RSP EIR

Issues discussed in the 2007 RSP EIR included direct and indirect impacts to historic built resources (e.g. the Central Shops Historic District, the Sacramento Depot, the I Street Bridge, and the Alkali Flat Historic District). Paleontological resources were not addressed in the 2007 RSP EIR.

The 2007 RSP EIR also addressed the potential presence of significant archaeological resources and human remains and identified six archaeologically sensitive areas, including:

- Slater's Addition: An area extending west from the Central Shops Area to the western edge of the project area, on fill, which was the mapped location of a residential development in the 1850s that was later subsumed by the Railyards development.

1 ASC, 2007. Sacramento Railyards, Initial Phase: Archaeology. Prepared for EIP Associates. July 2007.

2 JRP, 2007. Historical Resources Impact Analysis Report for the Railyards Project Sacramento, California. Prepared for EIP Associates. July 2007.

- The 6th–7th Street Corridor: The 6th and 7th street corridor between D and H streets which was developed starting in the 1850s as a mixed industrial and residential area built on fill.
- Sutter Lake: Historically a small lake near the southeast corner of the project area (west of 7th Street), listed as State Historic Landmark No. 594, historically home to a Chinese neighborhood, and an area of predicted prehistoric archaeological sensitivity, much of which has subsequently been filled.
- The Central Shops Area: The historic district includes cluster of 11 main buildings, ancillary structures, and landscape/site features immediately around the buildings that formed the primary facility of the historic railyard. Most of this site was developed on fill.
- The Brass Foundry Area: An area just west of the current Central Shops' Boiler Shop which housed a brass foundry from circa 1888-1892, built on fill, through the early 20th century.
- The General Foundry Area: An area on the west side of 6th Street where the General Foundry was built between 1883 and 1895, on fill, in the northeast part of former Sutter Lake.

An updated evaluation of the RSP Area's archaeological sensitivity is included in Section 4.4.4 below.

4.4.1 Environmental Setting

The 2007 RSP Draft EIR described the cultural resources setting on pages 6.3-2 through 6.3-11. While additional historic period resources have been documented since the 2007 RSP Draft EIR, the prehistoric and historic environmental setting has not significantly changed since certification of the 2007 RSP EIR. The following discussion of prehistoric and historic resources is excerpted from the 2007 RSP EIR environmental setting with minor revisions to update or clarify information.

The 2007 RSP EIR did not address paleontological resources, which are addressed in this section. The environmental setting for paleontological resources is derived from the City's 2035 General Plan Master EIR.

Paleontological Setting

The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources.[3,4]

[3] 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.

[4] Society of Vertebrate Paleontology, 1996. *Conditions of receivership for paleontologic salvage collections: Society of Vertebrate Paleontology News Bulletin, Vol. 166*. pp. 31-32.

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.

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.

Per the City of Sacramento 2035 General Plan Master EIR (Geology, Soils, and Mineral Resources, page 4.5-7), the City of Sacramento is not highly sensitive for paleontological resources due to the absence of fossil-bearing soils and rock formations. As explained in greater detail below, most of the RSP Area 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 RSP Area to contain fossils.

Prehistoric Setting

The following discussion on the RSP Area's prehistoric setting is excerpted from the 2007 RSP EIR Cultural Resources section's environmental setting, updated to reflect more recent information.

Although human activity in parts of California's Central Valley has been documented as far back as 9,000 to 12,000 years before the present, claims of similar antiquity for the Sacramento locality have not been supported.[5] This absence of evidence might be due to geomorphological processes such as sedimentation rates, or might result from land-use practices and social/technological organization of early peoples, or a combination of these factors. Archaeological evidence of Paleoindian and Early Archaic period use of the region has been identified at several sites in the Sierra foothills within 60 miles of Sacramento in the form of temporally diagnostic tools, radiocarbon dates, and obsidian hydration rim values.[6,7,8] Far more evidence exists for substantial human occupation of the Sacramento locality and environs beginning about 4,000 to 5,000 years ago.[9] The period from ca. 5,000 years ago to Euroamerican contact has been divided into several eras on the basis of observed differences in archaeological remains.

The first published prehistoric cultural sequence for central California,[10] ultimately known as the Central California Taxonomic System, or CCTS, had its inception in the Sacramento–San Joaquin Delta and environs. The sequence, based in large part on changes in burial position and grave goods within large, stratified sites, identified three distinctive culture horizons: Early, Middle, and Late. The scheme has undergone much revision,[11,12,13,14] but the labels for these three distinctive

5 Moratto, M.J., 1984. California Archaeology. Academic Press, Orlando, Florida.

6 Moratto, M.J., 1984. California Archaeology Academic Press, Orlando, Florida.

7 Peak, A.S. and H.L. Crew, 1990. An Archaeological Data Recovery Project at CA-CAL-S342, Clarks Flat, Calaveras County, California. In Cultural Resources Studies, North Fork Stanislaus River, Hydroelectric Development Project, Volume 2. Sacramento.

8 Pryor, John, and Russell Weismann, Archaeological Investigations at the Skyrocket Site, CA-CAL-629/630, the Royal Mountain King Mine.

9 Brienes, West, & Schultz, 1981. Overview of Cultural Resources.

10 Lillard, Heizer, and Fenenga, 1936. An Introduction to the Archaeology of Central California. Sacramento Junior College, Department of Anthropology, Bulletin 2, Sacramento, 1939; Lillard, J.B., and W.K. Purves, 1936. The Archaeology of the Deer Creek–Cosumnes Area, Sacramento County, California.

11 Beardsley, R.K., 1954. Temporal and Areal Relationships in Central California Archaeology. University of California Archaeological Survey Reports 24 and 25. Berkeley.

12 Bennyhoff, J.A. and D.A. Fredrickson, 1994. A Proposed Integrative Taxonomic System for Central California Archaeology. In Toward a New Taxonomic Framework for Central California Archaeology, edited by Richard E. Hughes, pp. 15-24. University of California Archaeological Research Facility Contributions No. 51. Berkeley.

13 Bennyhoff, J.A. and R.E. Hughes, 1987. Shell Bead and Ornament Exchange Networks Between California and the Western Great Basin. Anthropological Papers of the American Museum of Natural History 64(2):79-175.

14 Fredrickson, D.A., 1973. Early Cultures of the North Coast Ranges, California. Doctoral dissertation, University of California, Davis; Ragir 1972.

periods remain in general use. The sequence begins with the Windmiller pattern, followed by the Berkeley pattern, and the Augustine pattern. These three patterns—which equate with the Early, Middle, and Late periods of the CCTS—are briefly outlined below.

Early Period/Windmiller pattern (ca. 3000 – 500 B.C.). The pattern is named for the Windmiller site (CA-SAC-107), a mound in the Deer Creek–Cosumnes River area. The artifact assemblage of the pattern consists of heavy stemmed and leaf-shaped projectile points of chert and obsidian and relatively rare milling equipment; objects found as grave goods, including charmstones and abalone ornaments, were highly stylized and well-made. The rigid mortuary complex of the Windmiller pattern—with its ventrally extended burials (i.e., lying face down) with head oriented to the west—suggests a tightly controlled social organization. Although an emphasis on hunting has been inferred, dependence on anadromous fish may account for such early organization.[15]

Middle Period/Berkeley pattern (500 B.C. – A.D. 900). The onset of the Middle period was marked by the Berkeley pattern, with its abrupt shift in burial mode (from prescribed extension to flexed) and a milling-tool kit dominated by the mortar and pestle. Projectile points were concave base or side-notched forms, with a shift away from Napa obsidian to western Great Basin sources. Shell beads, imported from the coast and fashioned into elaborately varying forms, became common in this period, with some human burials accompanied by thousands of beads and other grave goods. An emphasis on bone tools during this period reflects a resourceful adaptation to the generally stone-poor Delta region. Despite the indications of prosperity and increased sedentism, there is also considerable flux during this period, with a continuation of various Windmiller traits in the south that suggests retention of earlier traits by a displaced group. Middle-period sites are relatively common in lower Sacramento valley, including site CA-SAC-43, an intensively investigated site on the Sacramento River to the south.[16]

Late Period/Augustine Pattern (A.D. 900 – Historic). The influx of new groups entering the Central Valley from the north (the related Nisenan and Patwin in the Sacramento area), beginning as early as A.D. 700, is marked by a shift in artifact assemblage, exchange networks, and ceremonial affiliation (e.g., appearance of the banjo-shaped abalone ornaments of the Kuksu cult). Among the stylistic changes in the valley was a greater elaboration of utilitarian forms, such as dressed mortars. An important change in technology—the introduction of the bow and arrow replacing the dart and atlatl—is represented in the smaller side-notched projectile points of Napa obsidian. During the early phase of the Augustine pattern, some social disorganization associated with more stressful environmental conditions is suggested.

15 Schulz, P. D., Osteoarchaeology and Subsistence Change in Prehistoric Central California. Doctoral dissertation, Department of Anthropology, University of California, Davis, 1981.

16 Bouey, P.D., 1995. Final Report on the Archaeological Analysis of CA-SAC-43. Far Western Anthropological Research Group, Davis, California, prepared for Department of the Army, Corps of Engineers, Sacramento, 1995.

The latter part of the Late period marks a return to stability and increased sedentism in the area. Social stratification and elaborate ceremonialism are evidenced among grave goods, while wide-ranging exchange networks can be inferred from shell beads and other exotic items. The ethnographic distribution of cultural groups is assumed to have been in place by this time throughout much of central California, and the lifeways from the onset of this period were probably very similar to those encountered at first Euroamerican contact.

Prehistoric Sites in Proximity to the RSP Area

One of the closest prehistoric sites to the RSP Area that has been extensively studied is CA-SAC-38, located five blocks to the east at the intersection of I Street and 10th Street (an area within Cesar Chavez Park under Sacramento City Hall buildings and the EPA building). This site was recorded by Heizer in in 1934 as a 'mound' located 25 feet above sea level at Plaza Park (now called Caesar Chavez Park). The portion of CA-SAC-38 located in Caesar Chavez Plaza was investigated in 1991 as part of the evaluation of the park. The part of the site to the north was discovered during construction of the new City Hall in 2003-2005.

This site is noted as the ethnographic village of Sa'cum in an 1850 lithograph, reportedly the only dry spot visible for miles during the flood. The area where this site is located was then on a high point of land that was thought to be an ancient sandbar originally along a slough.[17] The deposit was discovered buried below 10 feet of overburden and extended to a depth of 10-22 feet below current street level.

Unlike P-34-2359, which was located presumably on the shores of the former Sutter Lake, CA-SAC-38 had very few archaeological remains dating to the Late (Emergent) Period when Sa'cum would have been occupied ethnographically. Instead, datable artifacts and features indicated that the site was occupied from about 11,400 years ago until about 2660 before the present. During the excavations, numerous intact features including burials pointed to a high degree of stratigraphic integrity, and approximately 75,000 artifacts were recovered representing a varied and diverse collection of archaeological remains. The early occupation of this site coupled with the relatively continuous use for nearly 9,000 years suggests that the paleo sandbar where CA-SAC-38 was located was a very stable landform for millennia. Because of the human remains recovered during the excavation, this site is considered to be sacred by local Native Americans.

Ethnographic Setting

The ethnographic period, defined by the advent of written descriptions of native life, marks the close of prehistoric times. During the time of European exploration in the late 18th century, Nisenan, the group native to the area, were encountered in the Sacramento vicinity and surrounding area. Nisenan villages were located atop knolls along the edges of rivers and wetlands. Ethnographies mention one village center, *Momol*, located near the original confluence

[17] Casilear, George and H. Bainbridge, 1850. View of Sacramento City as it appeared during the great inundation in January 1850/drawn from nature; lithograph. Sarony, New York.

of the American and Sacramento rivers. The American River was rerouted to its current alignment after devastating floods in 1862. The large village extended a few miles east of the American River and north and south along the Sacramento River.[18] Two other Nisenan villages, *Pushuni* and *Seku-mni*, were about 5 miles north-northeast and 10 miles east of Old Sacramento, respectively, on the opposite side of the Sacramento River.[19]

Sacramento is situated within 7 miles of the somewhat arbitrary boundary delineating regions occupied by speakers of other languages within the same linguistic family as the Nisenan language—Patwin to the west and Plains Miwok to the south. All of these peoples visited the rivers and wetlands in the Sacramento area during the winter months to gather certain plants, hunt and fish, and interact with neighboring villages to obtain items through trade and form social and political alliances. Weather conditions in the summer made the plains and marshes inhospitable, and village groups regularly relocated to the eastern or western foothills. Within half a century of European contact, several epidemics attributed to malaria, smallpox, and a variety of introduced diseases; overt hostilities between native and non-native groups; and the effects of Spanish and Mexican land grants and settlement decimated native groups throughout the Central Valley, leaving a substantially reduced population living in the Sacramento vicinity.[20,21]

Today, there are numerous Native American tribes living on tribal lands to the east of Sacramento including the United Auburn Indian Community of Auburn Rancheria and the Shingle Springs Rancheria, both of which are federally recognized. These tribes and others in the region remain interested in continuing and maintaining traditional culture and protecting tribal cultural resources.

Historic Setting

The following historic period background setting discussion on the RSP Area's historical setting is excerpted from the 2007 RSP EIR Cultural Resources section's environmental setting, although some information has been added to further develop the historic context based on current project understanding.

Sacramento is located in the upper Central Valley of California at the confluence of the Sacramento and American rivers. The RSP Area occupies the southern edge of a large expanse of low lying land south of the current confluence of the American and Sacramento rivers. Before filling and development of the area, the American River flowed through the northern part of the RSP Area, emptying into the Sacramento River at a point roughly aligned with modern E Street.

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18 Wilson, N.L. and A.H. Towne 1978. Nisenan. In Handbook of North American Indians, Volume 8, gen. ed. W.C. Sturtevant. California, ed. R.F. Heizer, 387-97. Washington D.C.: Smithsonian Institution.

19 Kroeber, R.M. and D. Theodoratus, 1925. Discover Park Construction Site Examination for Archeological Resources in the Area of CA-SAC-26. On file, North Central Information Center of the California Archaeological Inventory, California State University, Sacramento, 1981.

20 Cook, S.F. 1976. *The Conflict Between the California Indian and White Civilization.* University of California Press, Berkeley.

21 Moratto, M.J., 1984. California Archaeology. Academic Press, Orlando, Florida.

The American River was rechanneled into its current course, north of the RSP Area, after devastating floods in 1862.[22] **Figure 4.4-1** shows the RSP Area was largely floodplain prior to reclamation and development efforts.

Historically, vegetation within the RSP Area would have consisted of riparian woodland on the higher ground around the edges of Sutter Lake and extending to Willow Lake, in the eastern part of the RSP Area, and the natural levees of the Sacramento and American rivers. The remainder of the site was probably freshwater marshland.

There were two small lakes within the RSP Area: Willow Lake and Sutter Lake. Sutter Lake was also called Lake Sutter, China Lake, and China Slough in historical references.

Sutter Lake was divided into two branches at its western end. The south branch connected it to the Sacramento River, and the north to the American. Higher ground between the branches created a northwest- to southeast-oriented promontory. This promontory is shown subdivided on the 1854 U.S. Coast Survey map and labeled the "American Fork Addition," more commonly known as "Slater's Addition." It was laid out in lots on the map, and the Sacramento Gas Works was shown at the northwest end of Slater's Addition on the bank of the Sacramento River.

There was higher land along the north edge of Sutter Lake, although it was not developed until the Railyards was constructed. Settlement had begun in this area in the 1850s, with a fair amount of development between H and F streets by 1854 (**Figures 4.4-2** and **4.4-3**). The earliest recorded historical activity was a possible dock at 4th and I streets[23] and the construction of Sacramento's first levee along I Street in the 1850s.[24]

There was also a predominantly Chinese settlement on the south edge along I Street, extending up the western and eastern edges of the lake.[25] There was also a residential neighborhood on the west side of 7th Street. Another 19th-century residential neighborhood lay at the intersection of the historical 1st Street west and Sycamore Street, which is on the east edge of the Railyards West End District. This neighborhood appears to have been housing for railyard workers.[26]

Early maps show a promontory extending into Sutter Lake from the west (**Figures 4.4-4** and **4.4-5**). There are buildings on the promontory that may have been Chinese-occupied laundries

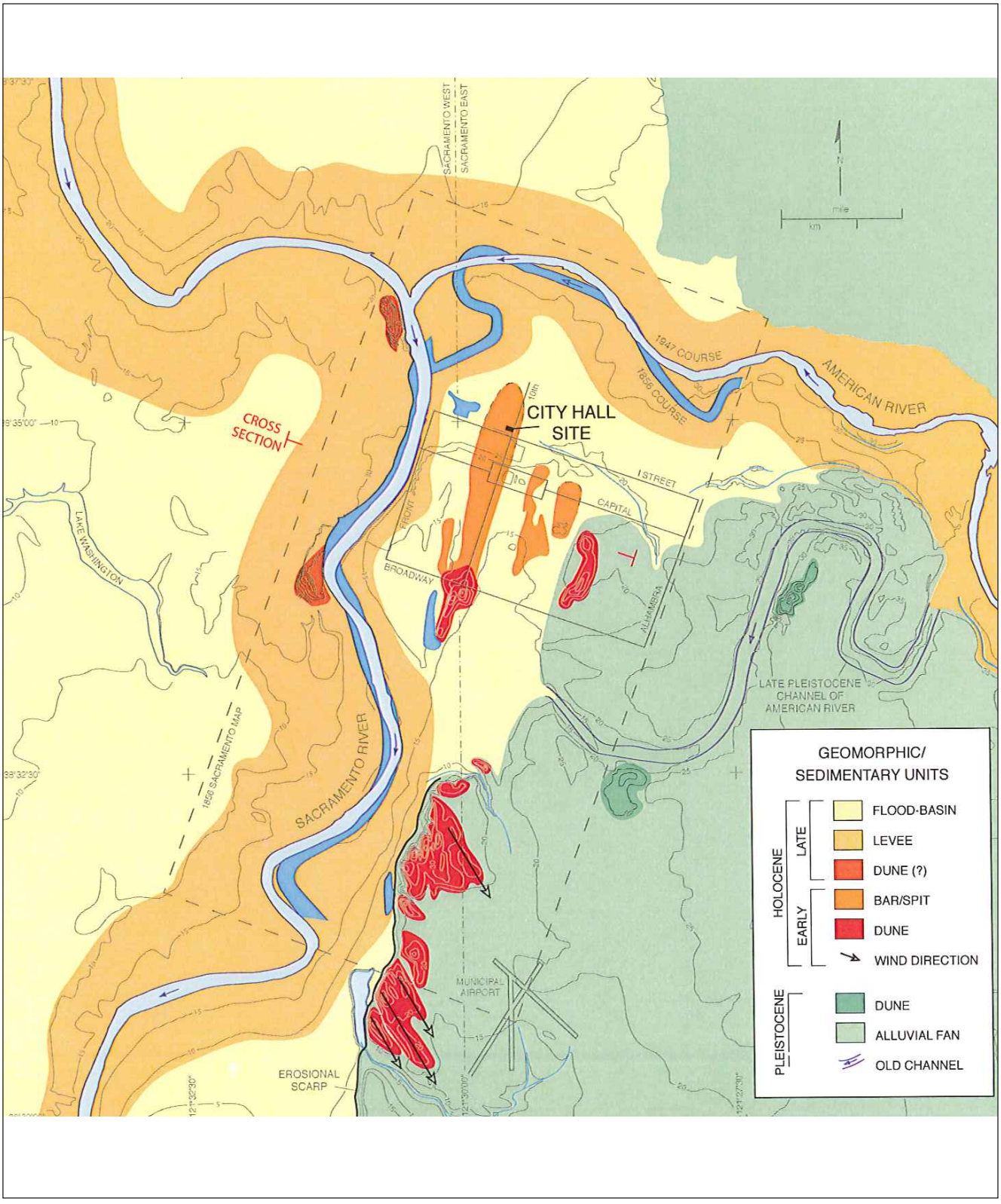
22 McGowan, J.A., 1961. *History of the Sacramento Valley*, Lewis Historic Publishing Co., New York, 1961, p. 188.

23 Joslyn, D. L., The Sacramento General Shops: Southern Pacific Company--Pacific Lines. Available: http://cprr.org/Museum/Sacramento_Shops.html. Accessed June 19, 2006. p. 8.

24 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco, 1990. p. 4.

25 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco, 1990. p. 4-5.

26 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco, 1990. p. 4-5.



SOURCE: Lajoie 2003; Tremaine & Associates 2008

Sacramento Railyards Specific Plan Update . 150286

Figure 4.4-1
Late Quaternary Geology

SOURCE: CDN.Calisphere.org

Sacramento Railyards Specific Plan Update . 150286

Figure 4.4-2
Southern Pacific Railyard Embankment

Sacramento Railyards Specific Plan Update . 150286

SOURCE: CDN.Loc.gov

Figure 4.4-3

Sacramento City - China Slough from the Pioneer Flour Mills

Sacramento Railyards Specific Plan Update . 150286

SOURCE: Koch 1870

Figure 4.4-4

1870 Bird's Eye View of Sacramento
Showing Part of the RSP Area and Surrounding City

Sacramento Railyards Specific Plan Update . 150286

SOURCE: Amon Carter Museum of American Art 1870

Figure 4.4-5

Bird's Eye View of the City of Sacramento

and/or fishing stations. In 1870 two bridges connected the promontory's tip with I Street to the south and the railyard shops to the north.[27] This passage, by which railroad employees crossed the lake, was dubbed the "Bridge of Sighs" because of the smell from the lake.[28]

While the most substantial extant buildings are located in the Central Shops District, the rest of the railyard contained numerous other structures, tracks and buildings, including storage facilities, a car shop complex, a roundhouse, water tower, and a scrap dock.[29] At least two industrial facilities unrelated to the railyard lay along the Sacramento River waterfront: the Sacramento Gas Works and the Pioneer/Sperry grain mill and warehouse.[30] Remnants of these two facilities have been identified in subsequent archaeological work.[31]

There is no visible evidence of the early-19th-century topography in the RSP Area today. Sutter Lake was gradually filled from the north and west; the filling was completed in the first decade of the 20th century. While Sutter Lake was still open it was used as a dump by the Railyard.[32] The entire area is approximately 25 feet above mean sea level, the product of intensive filling programs in the 19th and early 20th centuries to create land for flood control, the expansion of the Railyards, and, in the case of Sutter Lake, to alleviate sanitation concerns. Between 1863 and 1910, the lake appears to have been filled to a depth of at least 10 to 15 feet on the south side (where it is contiguous to I Street); 6 to 8 feet along the east side, adjacent to 7th Street; and to an undetermined depth elsewhere.[33] Native ground surface is predicted to be approximately 9 feet below current street levels, based on the elevation of the prehistoric archaeological site (P-34-2359) located on H Street between 6th and 7th streets (discussed in greater detail later in this section).

Flood Control

During the 1850s and 1860s, a central concern in the development of Sacramento, and its viability as the State's capital city, was flood control. The presence of the American River and Sutter Lake in the low-lying Sacramento area constituted a significant problem for the City. Sutter Lake's channels to the Sacramento and American rivers were breaches in the natural levees

27 Koch, Augustus, 1870. Bird's-Eye View of the City of Sacramento, Britton and Rey, Sacramento. Available: https://calisphere.org/item/ark:/13030/tf900011kj/.

28 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco. p. 7.

29 Office Division Engineer Sacramento, 1920. Sacramento Shops Showing Buildings.

30 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco. p. 7.

31 Gross, C. 2003. Site Record for Sacramento Gas Works (P-34-1000), on file at the NCIC; Allen, James. 2002. Site Record for Historic Wharf Remains of the Pioneer Flouring Mills (P-34-859) on file at the North Central Information Center of the Historical Resources Information System.

32 Joslyn. 1948. p. 50.

33 Praetzellis, A. and M. Praetzellis, 1990. Southern Pacific Railyards, Existing Conditions: Archaeology, Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Submitted to ROMA Design Group, San Francisco. p. 6.

along the rivers' banks. Consequently it was from Sutter Lake that the development south and east would flood. The serpentine channel of the American River through the marshland was another important contributing factor in the disastrous flooding Sacramento suffered prior to construction of the levees.

Sacramento's first serious flood after settlement was in January 1850. This flood led to the construction of approximately nine miles of levees, including a temporary one along the south side of Sutter Lake along I Street, and the construction of a sluice gate at the mouth of Sutter Lake on the Sacramento riverfront. Flooding occurred again in 1852, 1853, and 1854, followed by more levee construction. The I Street levee was extended and made permanent, and by 1854 a levee was in place along 6th Street, running to Willow Lake and then northeast. I, J, and K streets were raised from 1 to 5 feet.

Between December 1861 and February 1862, downtown Sacramento was largely underwater. This series of floods led to a concerted program of municipal flood control. The American River was rechanneled to meet the Sacramento River north of the RSP Area and the levees were strengthened. A decade-long effort of street-raising occurred in the roughly 4- by 12-block area south, east and west of Sutter Lake, with some streets raised as much as 10 feet.

In December 1862, the Sacramento Board of Supervisors granted Sutter Lake and the adjacent lowlands to the Central Pacific Railroad (CPRR), which had the resources and finances to fill and develop the land. The filling of Sutter Lake was not a single concerted effort; the CPRR filled the lake as it needed land. Not until 1910 did the CPRR completely fill Sutter Lake and the old American River channel.

Sutter Lake was largely filled in response to concerns over the health risk posed by the lake, which essentially served as a large cesspool for the surrounding residences and a dump for the CPRR Railyards.

Residential waste from the houses bordering the lake along I Street, 6th Street, and Slater's Addition also contributed to the lake's decline in water quality. As early as 1877, Sutter Lake was referred to as “The Plague Spot of Sacramento.” A Sacramento Bee article in 1880 noted “About the waters may be seen all descriptions of decaying garbage, kitchen refuse, etc., and the stench arising from the green and slimy water is simply sickening.” After the lake was filled in, the site of the lake remained an open sandlot until 1925 with the construction of Southern Pacific Railroad’s (SPRR) new passenger station. For many years the CPRR/SPRR used Lake Sutter as a dumping place. Prior to 1899, shop sweepings, dismantled locomotives, old boilers, scrap from shearings in the boiler shop, old castings, and other pieces of metal were dumped into the lake as there was no market for scrap metal. During construction of the present station, piles driven into the lakebed hit iron debris under the sand, which ruined the piles.[34]

[34] Page & Turnbull, Inc., 2010. Cultural Resources Report Sacramento Valley Station 401 I Street, Sacramento, CA. Report 10551, on file at the NCIC.

Development of the Railyards

The first CPRR buildings, built in 1863, were wood frame buildings on the east bank of Sutter Lake, along 6th Street near H and I streets. After some filling, this area became the location of the General Foundry and associated structures. After a land dispute with the City, these buildings were moved to the current Central Shops location north of Sutter Lake. The principal function of the Sacramento Railyards' shops was the maintenance and repair of the railroad's locomotives, but there were also periods when locomotives were designed and constructed on site. The increasing scale of the CPRR/SPRR operations entailed periodic expansions of the Railyards. From its initial 20-acre site, the site owned by the railroad expanded in fits and starts, growing to 40 acres by 1878, 145 acres by 1922, and to its current approximate 237 acres by the 1930s.

The SPRR owned all but a few lots of the Slater's Addition by 1915. It owned about half of Block DE67 in 1870 and had finally acquired the entire block by 1910. The next block south, EF67, was purchased in stages by SPRR from 1900 to 1920, although there were still individual property owners along 7th Street as late as 1920. Review of historic topographic maps indicates that the northeast portion of the RSP Area, in the vicinity of the proposed MLS Stadium, was developed by SPRR between 1902-1911. By 1920 this area was dedicated use for Car Shop 9, with maintenance buildings and multiple lanes of track extending east/west between A and B streets, and from 6th Street outside the project area.[35] The entirety of Block FG67 and the north half of Block GH67 were acquired by the SPRR in 1924. By 1949, the entire eastern portion of the RSP Area had been built out to include multiple tracks leading to the shops and scrap yards.

Dougherty[36] notes that, probably due to the extensive acreage the Railyards had available for expansion, it always maintained its basic 1860s layout with the original track alignment going through the railyards on the south side of the Central Shops, extending out of the RSP Area crossing I Street Bridge or south along the Sacramento River.[37] The old buildings were not demolished and rebuilt to accommodate new technologies or management practices. Instead, they were redesigned, or new facilities were constructed in vacant areas or on new land created through filling. Buildings that could not be adapted were, however, generally torn down. The railyard expansion tended to take a modular form, with buildings and structures serving specific aspects of the railyard operations being clustered together, usually related to track alignments, as well as transfer tables or the roundhouse, in order for the rolling stock to move from building to building as needed. These groupings of buildings often shifted in function through time as technologies changed and Railyards itself changed in function.

35 ASC, 2007. Sacramento Railyards, Initial Phase: Archaeology. Prepared for EIP Associates. July 2007.

36 Dougherty, C., Draft Historic American Engineering Record: Southern Pacific Company, Sacramento Shops (Central Pacific Railroad Company, Sacramento Shops/Southern Pacific Locomotive Works).

37 Baker, C. and J. Dougherty 2002. Cultural Resource Inventory of the Proposed Worldcom Fiberoptics Project, Sacramento. Report 002690, on file at the North Central Information Center of the Historical Resources Information System.

Within the RSP Area, there are six main areas where different Railyards functions clustered. These are now referred to as the Central Shops Historic District, the Brass Foundry, the Brickyard, the SPRR Sacramento Depot, now called the Sacramento Valley Station, the General Foundry, and the Scrap Yard. Other facilities include a lumberyard and various storage buildings. The only remaining features within the RSP Area are the Central Shops Historic District, the Water Tower, and the Sacramento Valley Station.

Central Shops Area

In 1863, the Central Pacific Railroad began construction of its earliest wooden shop buildings at China Slough. The railroad drove pilings in four feet of water until the tops were at the water line, then filled around the pilings with granite riprap, sand, and silt. The railroad then laid four feet of solid granite on top of the piles and riprap, and began construction of brick and timber buildings. Beginning in 1867, the first permanent Railyards buildings were constructed in the Central Shops, which formed the nucleus of the Railyards operations. These buildings included the Roundhouse, Car Shop and Planing Mill, Machine Shop, Blacksmith Shop, and Paint Shop. The last of these reached completion and was occupied in 1869. By 1869, a total of 20 acres had been reclaimed from the slough and filled to four feet above the water line. Their location on the bank of Sutter Lake entailed substantial and deeply dug foundations. The Central Shops expanded to the south in a strip along the north side of the tracks. Other than the Roundhouse building, which was demolished in the 1950s (most of the pit is still extant), the early Central Shops buildings still stand. The Water Tower, constructed circa 1925, is located northeast of the Central Shops Area.

Brass Foundry Area

Between 1888 and 1892, the old Boiler Shop was moved to an area just west of the current Central Shops' Boiler Shop and was converted to a Brass Foundry and Spring Shop. Other buildings in the Brass Foundry area included associated storage houses, an icehouse, a coal bin, and other storage sheds (for rivets, iron, and pipe). A babbit foundry was added by 1902. By 1920 the Brass Foundry and Spring Shop building, located just south of the Scrap Dock, was a "Cab and Fire Pan Shop."

The Brickyard Area

West of the brass foundry buildings was a brickyard. In 1895, this complex consisted of a clay yard with an associated crusher and clay mills, a kiln, a tar-dipping trough, a locomotive brick shed, a firebrick shed, and a pipe shed. By 1915 most of these buildings had been converted to storage facilities, although the clay yard was apparently still manufacturing fire brick.

The Passenger Depot

The Railyards earlier passenger depot, also known as Arcade Station, was constructed in 1879, to replace an earlier and overburdened depot that was near Front and L streets. With the filling of Sutter Lake, Arcade was replaced by the Sacramento Valley Station (originally named the Southern Pacific Railroad Sacramento Depot) in 1926, and the Arcade Station building was removed.

The General Foundry Area

The General Foundry area is on the west side of 6th Street on fill in the northeast part of Sutter Lake was built between 1883 and 1895. It consisted of the Wheel Foundry in the north part of the building and the Iron Foundry in the south. In addition to the foundry's ancillary constructions (coke shed, castings shed, sand house, and sand bin), the Car Pattern Shop was also located here. The General Foundry was located in the vicinity of the earliest Railyards buildings, on the west side of 6th Street.

The Scrap Yard Area

The Scrap Yard Area is on land created by the filling of the old American River channel slough and surrounding marshland and was added between 1909 and 1917. Due to the difficulty of obtaining raw material on the West Coast, scrap recycling was a distinctive feature of the Sacramento Railyards operation from early on, and during World War I and World War II this operation received considerable attention. The Scrap Docks served as the main accumulation and sorting facility for the Southern Pacific line. During World War II, up to 77 cars of scrap per week were deposited at the Scrap Dock.

In 1917 the Scrap Dock consisted of two platforms and a complex of small buildings, including a "Scrap Piler Shed," a "Reclamation Shed," and a "Reclaiming Plant for Steam Hose Joints." By 1920 a steel foundry had been added at the east end of the complex, along with oxyacetylene plants and additional storage buildings; the Brass Foundry, Spring House, and Frog and Switch Shop had been relocated to the south of the Scrap Dock.

Development of the 6th and 7th Street Corridor

The 6th and 7th Street corridor between D and H streets, like most of Sacramento in the early 1850s, was owned largely by speculators. John Sutter Jr., P.B. Reading, Jacob R. Snyder, Samuel Hensley, and Robert Merrill bought most of the lots in this four-block area, along with parcels throughout Sacramento. Some construction began in the 6th and 7th Street corridor in the early 1850s, especially on FG67 and GH67. The 1854 Coast Survey map shows that approximately 10 buildings had been constructed on FG67 and 11 on GH67. Most of the buildings on FG67 were likely small houses, since all had a low valuation in 1854 (between $100 and $300). In 1854 at least 4 of the 9 households listed for both blocks in the 1854 city directory were owner occupied. The first industry on these blocks was the Union Brewery, located on the corner of 6th and G streets. Later known as the Ohio Brewery, it remained at that location for the next 30 years. The 1851 and 1854, city directories list an "African Church" on 7th Street between F and G streets. The church was located on the east side of the street.

In the 1850s the 6th Street levee, which protected the city from the overflow of Lake Sutter, angled northeast from 6th Street through the FG67 and GH67 blocks and then southeast back onto 6th Street. It is probable that the levee was simply following a rise in the natural landscape. The 1854 U.S. Coast Survey map shows at least two buildings located on the west side of the protective levee.

By 1860, Block EF67 was being developed, especially the northern half. CPRR purchased its first lots on the northeast corner of the block, a prelude to the railroad tracks that would cover the blocks by the 1930s. Residents of the corridor in the 1860s appeared to have been mostly of the working class or lower middle class. Listed occupations included two coopers, a barber, a painter, and a saddler. Although the upper-class Alkali Flat neighborhood was located on the east side of 7th Street, the D67-H67 neighborhood developed a working-class character, with residents living on more modest means in smaller residences. Reasons for the area's lower valuation likely include the neighborhood's proximity to the low-lying land along Sutter Lake and, after 1863, to the neighboring CPRR tracks and shops.

The only building identified on Block DE56 was owned by a P. Hollfelder, who operated a coal yard on I Street between 6th and 7th. Hollfelder purchased the northeast corner lot of DE56 sometime before 1860 and lived there until at least 1870. No buildings are shown at this location any of the historic maps.

By 1870 blocks on D67–H67 were fully developed, with the exception of the southern half of EF67, owned by R.H. McDonald. Most of the buildings were small one- or two-story houses, with the exception of the Ohio Brewery and a three-story tenement building on the north side of E Street. Two buildings were located along the lakeshore on the west side of 6th Street at the junction of F Street. A cluster of buildings, including what appears to be a church, is also depicted along the lakeshore on the west side of 6th Street at its junction with H Street. The church-like building was the "Chinese Chapel" listed in the 1869 city directory at the corner of 6th and H streets. The 1890s bird's eye view shows three houses at this location, partially supported by stilts in the waters of Sutter Lake. These houses are again shown on the 1895 Sanborn map.

Residents through the late 1860s into the 1880s continued to be skilled as well as unskilled working class households. Of at least 60 people listed in the 1869 city directory for D67–H67, approximately half worked as laborers, car makers, machinists, and carpenters for the railroad. Most residents were of U.S. origin, born in California and the eastern United States, or were European immigrants from Germany, Holland, Switzerland, and Ireland.

The 1895 Sanborn map shows that, as in earlier decades, most of the buildings on D67–H67 continued to be modest one- or two-story dwellings, with the exception of the Sacramento Packing and Drying Company buildings, the three-story tenement building on E Street, a house-converted saloon on the corner of E and 6th streets, and a large stable behind the saloon. The Sacramento Packing and Drying Company had purchased the Ohio Brewery property in 1886 and owned lots on the northwest corner of the block where several dwellings were located that housed Chinese employees and a small box making operation.

The 1900 census provides a snapshot of the 6th and 7th Street corridor at the turn of the century. Of 72 residences, 20 were owner-occupied. Most adults were born in either California or other western states (56) and the eastern U.S. (43). Most European immigrants were from Ireland (14) and England (10), although there were a few Germans and Italians as well. Twenty Chinese

immigrants lived in the dwellings on the northwest corner of FG67 and worked at the neighboring Sacramento Packing and Drying Company. Other neighborhood residents included carpenters, blacksmiths, policeman, a cigar maker, and bookbinders.

Although there were still many small residences in 1915, the character of the blocks was becoming more industrial and residences were becoming more compact including the Sacramento Packing and Drying Company, large warehouses, four duplexes, railroad platforms, and offices. The Sacramento Packing and Drying Company was incorporated by the California Fruit Canners Association and went on to become the largest canning operation in Sacramento and used several trademarks, most notably "Del Monte." Throughout the blocks, several single-family dwellings had been replaced with apartments or duplexes, while others had been converted to flats. By 1915 CPRR owned all of Block DE67 and most of EF67.

The 1910 census shows some demographic changes in the neighborhood, the result of increasing immigration from southern Europe, especially Italy and Portugal, with many working for the railroad. At this time, Italians accounted for the largest group of laborers working for the railroads. There was a decline in home ownership, with only 7 homes owner-occupied with housing dominated by rental properties. Many Italian and Hispanic families lived in the neighborhood and were employed by the railroad and the cannery. The railroad took over the cannery property in 1924 and the remaining lots on Block FG67 the following year. By 1930 all of the lots in the corridor were owned by the railroad.

In 1951, railroad tracks covered Blocks FG67 and GH67. One small house on Block EF67 and three on DE67 appear to remain according to maps, although a notation states that "all buildings removed, streets vacated, and blocks full of railroad tracks." Nothing remains of these resources.

Development of Slater's Addition and Potential Archaeological Resources

When the City of Sacramento was first surveyed, its northern boundary was Sutter Lake. A promontory jutted into the lake from the northwest and was easily accessible by a short bridge across the lake's inlet to the Sacramento River. An 1850 chart of the Sacramento River shows this bridge and the notation "Child's Ferry." By October 1852 the promontory had been surveyed, divided into blocks and streets, and named Slater's Addition. The neighborhood, also called the American Fork Addition, was named after Peter Slater, a Sacramento Commissioner in 1849. Speculators Jacob R. Snyder and Pierre B. Cornwall purchased most of the lots.

The only permanent construction in 1854 was the Sacramento Gas Works building, which was at the corner of Front and Sacramento streets. A flour mill and an ice house were also operating along the riverfront during the early 1850s. The 1857 bird's-eye view of Sacramento shows scattered houses and what may be agricultural fields or gardens.

By 1860 Snyder and Cornwall had sold many lots in Slater's Addition, especially in the area closest to the riverfront, between Sycamore and Broad streets. Several of the new landowners lived on their property. Value of improvements on property ranged from $300 to $2,500. The

residents included laborers, engineers, merchants, and a policeman. Most were from the eastern United States or Europe, although Hispanics and Chileans were also present. Women accounted for approximately one-third of the neighborhood's population. Many households were families, while many others were comprised solely of single young men.

After the establishment of the Railyards in 1863, CPRR began to purchase lots in the neighborhood. By 1870 the CPRR owned almost all of the property on the promontory. The Sycamore neighborhood is clearly depicted on the 1870 bird's-eye view, along with a scatter of small houses along the promontory. Two bridges connected I Street to the Railyards via the tip of the promontory. In later years, when pedestrians had to pass over an increasingly polluted lake, this route was referred to as the "Bridge of Sighs."

Residences and smaller commercial enterprises were located in Slater's Addition during the late 1860s and early 1870s. Some of the businesses included a grocery owned by Robert Young and the American Laundry. The American Laundry was owned by a Connecticut man named S.B. Cooley and employed both Euroamerican and Chinese men. A Chinese "Joss House" was located somewhere in Slater's Addition. Similar to the previous decade, residents originated from a variety of countries, including Ireland, Mexico, Prussia, the eastern United States, and China. Nearly half of the inhabitants were women, and nearly all households were comprised of families.

By 1880 CPRR had filled in Sutter Lake up to 3rd Street. 2nd Street had been extended through the Railyards to connect the main part of Sacramento with areas to the north—like the Sycamore Street neighborhood, the last residential remnant of Slater's Addition. The two blocks bounded by 1st, Sycamore, and Union streets consisted of an economically mixed neighborhood that included Railyards employees, a furniture dealer, a shoemaker, and a locksmith. Many women held positions as dressmakers and "housekeepers," although it is unclear whether housekeeper referred to at-home work (the term "keeping house" was also used by the same census taker). All of the households in the Sycamore neighborhood consisted of either families or single or widowed women. Residents were mostly American-born, as well as a few Germans, Italians, and Swedes.

In 1885 the Central Pacific was leased to the Southern Pacific Company, and by 1888 CPRR was listed as a subsidiary of the SPRR. By the 1890s the CPRR Shops dominated the area, the inlet to Sutter Lake closed off, and the lake itself was approximately half its original size. The Sycamore neighborhood is shown as a small cluster of houses on the riverfront just north of the train tracks. The 1900 census lists several fishermen, railroad employees, and a few saloonkeepers. There were several German and Swedish immigrants, although most of the residents were from California and other U.S. states.

A few families in the area were long-term residents including the Ing, Wilson, and Daniels families. The Ing family is listed on the 1870 and 1880 census. John C. Ing, originally from Ohio, was an engineer at the Pioneer Flour Mill. The Wilson family lived in the Sycamore neighborhood from at least 1860 through at least 1880. John Wilson and his wife Ellen owned the lot at the corner of Sycamore and Front streets. Wilson, originally from Sweden, began as an

upholsterer and later a furniture dealer. Ellen was from Ireland and worked as a housekeeper. James Daniels and his wife or sister, Nancy, began living in Slater's Addition by at least 1860. James, an African American from Kentucky, worked as a laborer. Nancy, born in North Carolina, continued to live in the area through the 1870s and 1880s working as a housekeeper.

By 1910 the Southern Pacific had taken over about half of the remnant Sycamore neighborhood lots. Ten households were recorded in the 1910 census that included railroad employees, fishermen, steamboat engineers, laborers, a nurse, a waitress, and a bartender. Three homes were owner occupied. The residents were German, Spanish, Portuguese, English, and American-born. Only 12 houses—three of them vacant—remained in 1915. Although the SPRR purchased the remaining lots five years later, the area retained a residential character. By 1915,1st Street had been renamed Jibboom Street within the Railyards. A 1920 map of the Sacramento Shops shows a small cluster of buildings in the location of the former Sycamore Street neighborhood. It is not clear whether these buildings are reused older residences or newly constructed buildings, but the map does indicate that they were used to house Chinese railroad employees. The buildings included three "Chinese Bunk Ho.," a "Toilet & Shower for Chinese," a "Cook Ho. for Chinese," and a "Chinese Eating Ho." Interestingly, only one other building located at the other end of the Railyards was labeled "Bunk Ho." It was presumably used for non-Chinese railyard workers. The remaining non-Chinese employees lived in private residences off railroad property.

During the Great Depression of the 1930s, a ramshackle settlement known as "Shooksville" occupied the area to the north of the Railyards on the bank of the American River. The residents were mostly African Americans, Hispanics, and other minorities. Shooksville was named for its "mayor," an African American man named Samuel Shooks. Prior to the economic ruin of the 1930s, Samuel Shooks had been a carpet cleaner and rented a small, single-family, one-story house on E Street between 15th and 16th streets.

The Sacramento Riverfront portion of Slater's Addition was the site of fairly substantial commercial and light industrial development. George Wilson constructed the first flour mill in Sacramento—the Eureka Flour Mills—in the spring of 1850 at the then junction of the Sacramento and American rivers. George and his son James also operated a ferry across the American River. The mill offered fresh ground flour, corn meal, ground barley, and hog feed. Seth Garfield and Aleck Dyer purchased the mill in 1855. It burned down the following year.

South of the Eureka Mills, the Boston Ice House operated along the Sacramento riverfront between Broad and Sacramento streets, in the area now located along Jibboom Street just east of the Central Shops District. In 1853 R.D. Carey remodeled the ice house into the Levee Flour Mill. Two years later the business failed and Carey sold the mills to Edward P. Figg, a New York merchant. Figg, in turn, sold the mills to Garfield and Dyer, following the destruction of their Eureka Mill. The partners renamed the Levee Mills to the Pioneer Mills, and it became one of the most successful milling operations in Sacramento. Unfortunately a fire burned the mill to the ground that October.

A new partnership was formed between Garfield and Ansone Bidwill. They shipped the Sunnyside Mill from Auburn to Sacramento and erected it at the razed Pioneer Mill site. Production resumed by the second half of the 1860s.

Ownership changed several times over the next few decades and by the early 1890s the Pioneer Mills was one of the oldest, continuously operating mills in northern California. A depressed flour market in the 1890s forced many milling operations to consolidate. Sperry Flour Company incorporated Pioneer Mills in August 1892. The hub of production was at the Pioneer Mill, where business continued until March 1936.

Other businesses that operated in Slater's Addition included the Sacramento Gas Works and the Chambers Quartz Milling Company. The gas company was located between Union, Sacramento, Sutter, and Water streets and operated at that location during the 1850s, 1860s, and 1870s. The Chambers Quartz Milling Company, owned several lots between Lake, Sutter, Broad, and Sacramento streets in 1860, although it is not certain whether they operated a business at that location. No remains of these developments remain within the project area. By the turn of the century, the area had been overtaken by the railroad yard, and remained developed for that purpose until the closure of the facility in 1999.

KP Medical Center

During Sacramento's founding in the 1850s, the area that is proposed to be occupied by the KP Medical Center was intersected by the American River's alignment (Figure 4.4-1). By the early twentieth century, the area was occupied by the railroad scrap yard/scrap dock and railroads spur leading to additional platforms and shops. The scrap yard was added between 1909 and 1917 and served as the main accumulation and sorting facility for the Southern Pacific line. During World War II, up to 77 cars of scrap per week were deposited at the Scrap Dock. Nothing remains of the scrap yard or rail spurs.

MLS Stadium

The proposed MLS Stadium site is in an area that was historically occupied by multiple spurs of the railroad alignment in the early twentieth century, and the Southern Pacific Railroad's Car Shop 9 and its associated multiple siding tracks by the 1920s. Nothing remains of the car shop or the track.

Stormwater Outfall

During the late nineteenth and early twentieth centuries, the area where the Stormwater Outfall is planned was historically occupied by the Sycamore neighborhood. Historic Sanborn Insurance Maps indicate the Sycamore neighborhood as a small cluster of houses on the riverfront, just north of the train tracks. The 1900 census lists several fishermen, railroad employees, and a few saloonkeepers living in this area. Nothing remains of these resources within the Stormwater Outfall site.

Recorded and Known Resources within the RSP Area

The records search conducted by North Central Information Center (NCIC) staff for the RSPU (described in greater detail below in Section 4.4.3) identified 516 cultural resources sites within ½ mile of the RSP Area. This included 30 cultural resource sites within (18) or immediately adjacent to (20) the RSP Area. **Table 4.4-2** summarizes the historic period resources identified within the RSP Area. Resources not located within the RSP Area, but immediately adjacent to the project, may be subject to indirect impacts resulting from changes to their historic setting. **Table 4.4-3** details resources located within immediately adjacent (within 1/8 mile) to the RSP Area boundary. **Figure 4.4-6** details the locations of the City of Sacramento registered historic districts within the vicinity of the RSPU.

In addition to the resources identified by the record search, on-going archaeological investigations at the Railyards have identified a number of archaeological resources that have not been formally documented and/or filed with the NCIC. These are summarized below in **Table 4.4-4**.

Previously Identified Historic Period Archaeological Resources in the RSP Area

PAR[38] conducted excavations at the northwest corner of the intersection of 5th and I streets (in front of the Amtrak Station). Limited archaeological deposits were encountered including two brick retaining walls and a late nineteenth/early twentieth-century refuse deposit. Neither of these resources was recommended as meeting National or California Register Criteria.

Based on various monitoring reports reviewed for this SEIR (see Table 4.4-4), archaeological remains observed during the monitoring have primarily consisted of industrial waste and isolated railroad-related features since the completion of the 2007 EIR. Notable resources included a cache of boilers which were recovered by the State Railroad Museum and are currently in their possession, wheel annealing pits, and brick footings for gas tanks associated with the old Sacramento Gas Works. In 2011, soil remediation crews contacted ICF to inform them that a concrete foundation had been exposed during excavation of a temporary detention basin in the SITF Phase 1 APE north of the Union Pacific Railroad (UPRR) and south of the Central Shops. The foundations measured 4 feet x 25 feet x 1.5 feet high. They were identified 2-4 feet below the current ground surface. Associated with the foundations were remnants of a wooden structure and petroleum residue. The foundations did not correlate to any known historic structures. No affiliation for the foundations could be determined.[39]

[38] PAR Environmental Services, 2012. Archaeological Monitoring Report 4th and I Street Project, Sacramento County, California.

[39] Roark, G. and A. Nardin, 2011. Memorandum from ICF International to Anmarie Medin (Caltrans) - Historical Archaeological Site Discovery, Sacramento Intermodal Transportation Facility, Sacramento, California, December 29, 2011.

TABLE 4.4-2.
HISTORIC PERIOD CULTURAL RESOURCES WITHIN THE RSP AREA

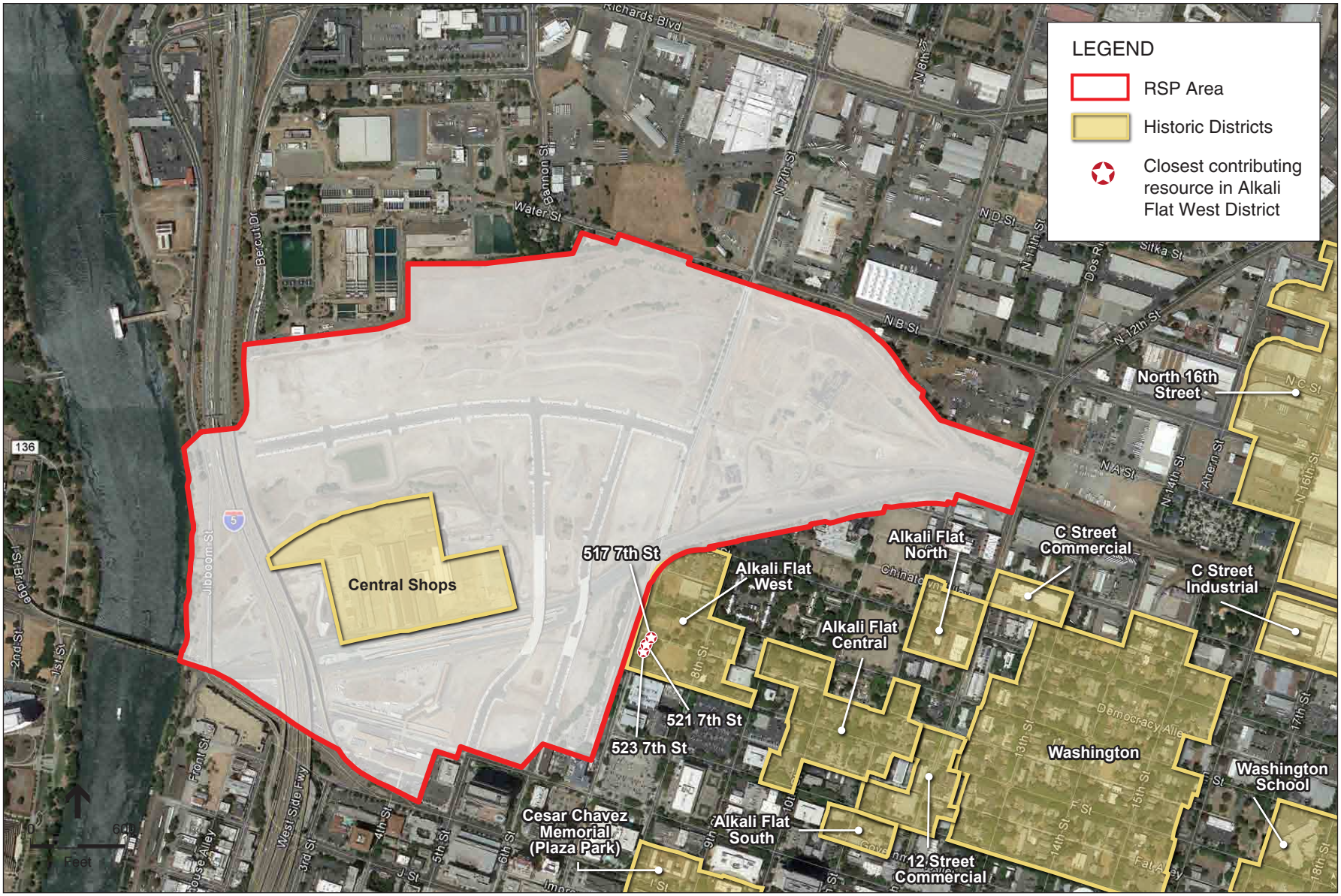
P#/Trinomial	Resource Name/Description (location)	Eligibility Determination
P-34-000505 / CA-SAC-000478H	First Transcontinental Railroad	Ineligible for listing
P-34-000859 / CA-SAC-000658H	Historic wharf remnant	Unevaluated archaeological resource, presumed ineligible
P-34-001000 / CA-SAC-000689H	Sacramento Gas Works remnants	Unevaluated archaeological resource, presumed ineligible
P-34-001004	Southern Pacific Railroad Sacramento Depot/ REA Building (401 I St Sacramento; 500 I St Sacramento; 431 I Street)	National, California, and Sacramento Register Listed building
P-34-001374	Jibboom Street Overhead (Jibboom Street Sacramento)	Ineligible for listing in the National or California Registers
P-34-001563 / CA-SAC-000942H	Historic trash scatter	Unevaluated archaeological resource, presumed ineligible
P-34-002358	Sacramento's Buried Cultural Landscape/ Sacramento Raised Streets/Hollow Sidewalks Historic District (boundary extends into the south end of the RSP Area, but no contributing resources are present in the RSP Area)	Appears eligible for the National or California Registers
P-34-002359	Pit House Site with burials	Unevaluated archaeological resource, presumed significant
P-34-002378	Old Sacramento Historic District (boundary extends into the southwest end of the RSP Area, but no contributing resources are present)	National Register Listed NHL Historic District
P-34-003460	Blacksmith Shop & Rolling Mill (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003461	Car Machine Shop (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003462	Car Shop (Car Building Shop) / Planning Mill (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003463	Locomotive Machine Shop & Locomotive Shop (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003464	New Boiler Shop (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003466	Transfer Table (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-003467	Transfer Table #2 (401 I St Sacramento)	Eligible for listing in National and California Registers; Contributor to Sacramento Register listed historic district
P-34-004110	CPRR Trestle over Lake Sutter Slough (Front Street, Old Sacramento State Historic Park (APN 2-01-04))	Unevaluated archaeological resource, presumed ineligible
P-34-004497	Historic wall remnant	ineligible

Source: NCIC, 2015

TABLE 4.4-3.
HISTORIC PERIOD CULTURAL RESOURCES IMMEDIATELY ADJACENT TO THE RSP AREA

P#/Trinomial	Resource Name/Description (location)	Eligibility Determination
P-34-000897	Sacramento River Water Treatment Plant and intake structure (101 Bercut DR Sacramento (APN 001-0210-023))	Appears eligible for the California Register; Sacramento Register listed structure
P-34-001711	Sacramento River Station "B"	National, California, and Sacramento Register Listed building
P-34-002325	Alkali Flat West Historic District (E St)	National, California, and Sacramento Register Listed Historic District
P-34-002360	Historic trash scatter	Unevaluated archaeological resource, presumed ineligible
P-34-002371	Sacramento Hall of Justice (813 6th St Sacramento (APN 006-031-03))	National, California, and Sacramento Register Listed building
P-34-002385	Anton Wagner Duplex (701 E St Sacramento (AP 186-002-101-15))	National, California, and Sacramento Register Listed building
P-34-002349	I Street Bridge	National, California, and Sacramento Register Listed structure
P-34-002421	Historic building (523 7th St; 525 7th St; 523-525 7t St)	Sacramento Register listed building
P-34-002422	Historic building (400 8th St Sacramento)	Sacramento Register listed building
P-34-002423	Historic building (406 8th St Sacramento)	Sacramento Register listed building
P-34-003164	Historic building (111 I St)	Contributor to National Register historic district
P-34-003165	Historic building (113 I St)	Contributor to National Register historic district
P-34-003167	Smith Building (1009 2ND St)	Contributor to National Register historic district
P-34-003185	Consumers Ice and Cold Storage Company (831 D St. Sacramento (APN 002-061-12))	Potentially eligible for local register
P-34-003292	Station A (6th and H St Sacramento (APN 002-141-6))	Appears eligible for the National or California Registers. Listed in Sacramento Register
P-34-003311	Historic building (719 F St Sacramento)	Listed in Sacramento Register
P-34-003383	Sacramento African Methodist Episcopal Church (715 7th St Sacramento)	State Historical Landmark 1013
P-34-003562	City Incinerator (731 N B St Sacramento (APN 002-0010-006))	Identified but not evaluated
P-34-003635	Office Furnishing Center/California Sunshine Company (1201 C St (APN 002-081-02); 1217 C St; 1201-1217 C St)	Listed in Sacramento Register
P-34-003667	The Glenwood (729 E St; 731 E St; 729-731 E St)	Listed in Sacramento Register
P-34-003677	Historic building (719 F St Sacramento)	Listed in Sacramento Register
P-34-003880	Site of China Slough	California Registered Historical Landmark 161

Source: NCIC, 2015



SOURCE: ESA 2015

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Figure 4.4-6
Historic Districts Overview Map

TABLE 4.4-4.
HISTORIC PERIOD CULTURAL RESOURCES WITHIN THE RSP AREA IDENTIFIED DURING MONITORING[40]

Date	Resource Name/Description (location)	Level of Documentation	Eligibility Determination
December 2011	Unnamed foundations	Cursory documentation of foundations exposed during remediation	Not eligible
May 2012	Central Pacific/Southern Pacific Railroad Car Wheel Foundry Annealing Pits	HAER-like recordation of surface manifestation of pits. See May 2012 ICF report in Table 4.4-2.	No specific statement of eligibility, but inferred to be part of the Central Shops District.
2012	6th Street Levee (P-34-1561/ CA-SAC-940H)	Cross section of levee exposed in 6th Street Corridor	Not eligible
2010-13	SAN-18	Railroad related refuse deposits.	Not eligible
2013	SAN-4/32 (ca. 1878-1925 Railroad Depot)	Building foundations and railroad related refuse	Not eligible
2013	SPRR Dump Site 1	Railroad related industrial waste	Not eligible
2012	Unnamed foundations and industrial waste deposit believed to be related to the Central Shops foundry.	Unnamed foundations and industrial waste deposit believed to be related to the Central Shops foundry	Not eligible
2014	NS-13	Cache of locomotive boilers	Unknown

Soil remediation at the Railyards in the 1990s exposed the Central Pacific/Southern Pacific Car Wheel Foundry Annealing Pits southeast of the Central Shops. These are currently exposed on the ground surface and are composed of circular and semicircular brick features. In 2012 ICF documented the surface manifestations of these features to HAER level standards.[41] The subsurface aspects of these features have not been documented.

In 2010 and 2013 ICF reported on archaeological testing along then extant old rail alignment in the southern part of the RSP Area for the Sacramento Intermodal Transportation Facility. This testing exposed a portion of brick foundations associated with the 1878-1925 railroad Arcade passenger depot (SAN-4/32). SAN-18 was identified as the remains of a structure and domestic refuse. No association for these materials could be determined. Also identified were refuse deposits associated with both railroad industrial processes and dining activities related to rail passenger service. These deposits extended as deep as 20 feet below the ground surface, and appear to be related to infilling of lake or wetland areas. All of the resources identified during testing were determined not eligible.[42,43]

[40] This table describes resources identified in archaeological monitoring conducted during soil remediation efforts on the Railyards site.

[41] ICF International, 2012. Mitigative Recordation Central Pacific/Southern Pacific Railroad Car Wheel Foundry Annealing Pits.

[42] ICF International, 2013. Extended Phase I and Phase II Archaeological Investigations, Sacramento Intermodal Transportation Facility Project, Sacramento, California.

A 2012 ICF memorandum to Kevin Kane (Kimley-Horn and Associates, Inc.) documented a segment of the 6th Street Levee (P-34-1561/CA-SAC-940H) exposed during archaeological testing along the 6th Street corridor. During this testing they also identified a brick structure and a layer of industrial refuse believed to be associated with the foundry at the Central Shops. These resources were determined to not be significant.[44]

Tremaine and Farris[45] discovered a Gold Rush era refuse deposit (P-34-2360) in the middle of 7th Street between H and I streets, five to eight and a half feet below the current ground surface. More substantial is the "Raised Street & Hollow District" (P-34-2358) documented by Tremaine and Farris.[46] This is a buried complex of nineteenth century infrastructure features (sidewalks, trolley lines, sewer lines, etc.) that extends from Front Street, east to 11th Street and from G Street south to L Street.

In 2002, the Institute for Maritime Archaeology conducted a survey evaluating navigational hazards in the Sacramento River through the City of Sacramento.[47] This survey documented known obstructions within the Sacramento River in Sacramento, as well as selective survey of areas of potentially buried obstructions. The survey identified P-34-859, a historic wharf remnant associated with the Pioneer Flouring Mill, on the southwestern boundary of the RSP Area. The remnant wharf lacks sufficient integrity to reflect its historic associations, and as such is presumed ineligible for listing in the National and California Registers. No other submerged historic or prehistoric resources have been documented within the RSP Area. The only other submerged resource within ½ mile of the RSP Area is the National Register-listed J Street Wreck, at the foot of J Street within the River (P-34-2352).

Previously Identified Prehistoric Archaeological Resources in the RSP Area

No prehistoric archaeological resources have been definitively identified within the RSP Area. In 2009, Tremaine and Farris[48] identified P-34-2359, a prehistoric site near the current location of H Street between 6th and 7th streets. Remains of the site complex consisted of two house pits, two burials, six cremations, and five fire hearths/burning features. The deposit was identified 9 feet below current ground surface. Artifacts found in association with the features date the site to primarily Phase 1 Emergent (Late) Period (circa AD 1000-1500) and the site was dated using

43 Roark, G., 2010. Memorandum from ICF International to Anmarie Medin (Caltrans) – Historical Archaeological Site Discovery (SAN-18), Sacramento Intermodal Transportation Facility, Sacramento, California.

44 Roark, G., 2012. Memorandum from ICF to Kevin Kane – Progress Report on Implementation of the Archaeological Testing Plan, 5th and 6th Street Projects, Railyards Initial Phase, Sacramento.

45 Tremaine, K. and G. Farris, 2009. Rediscovering A Legacy: Archaeological Monitoring Report for the Sacramento Regional Transit District Light Rail Extension Project. Sacramento, California.

46 Tremaine, K. and G. Farris, 2009. Rediscovering A Legacy: Archaeological Monitoring Report for the Sacramento Regional Transit District Light Rail Extension Project. Sacramento, California.

47 Institute for Maritime Archaeology, 2012. Evaluation of Navigation Hazards in the Sacramento River, Sacramento and Yolo Counties. Prepared for the California State Lands Commission.

48 Institute for Maritime Archaeology, 2012. Evaluation of Navigation Hazards in the Sacramento River, Sacramento and Yolo Counties. Prepared for the California State Lands Commission.

radiocarbon to AD 1480-1600. The work that uncovered P-34-2359 did not extend into the RSP Area and, as a result, it is not known whether the site extends into the RSP Area. Tremaine and Farris reported that it was their opinion based on field observations that the main habitation site associated with these features was located to the north and south in the GH67 and HI67 blocks. No other prehistoric artifacts, sites or features have been encountered in the RSP Area. Given the site's high level of artifact preservation and stratigraphic integrity, Tremaine and Farris[49] recommended that P-34-2359 should be considered eligible for the CRHR and the NRHP.

Native American Consultation

The City of Sacramento staff contacted the NAHC on August 12, 2015 to request a list of Native American contacts that might have further knowledge of cultural resources within or adjacent to the RSP Area. ESA staff contacted the NAHC on November 11, 2015 to request a database search for sacred lands or other cultural properties of significance within or adjacent to the RSP Area. The NAHC identified no sacred lands documented in the vicinity of the RSP Area. The NAHC provided a list of Native American contacts, and the City of Sacramento contacted the Shingle Springs Band of Miwok Indians (SSB), the United Auburn Indian Community of the Auburn Rancheria (UAIC), and the T'si-Akim Maidu via certified letter on September 3, 2015. Both the SSB and UAIC requested consultation under SB 18; the T'si-Akim Maidu could not be contacted at the address provided by the NAHC. On March 15, 2016 in compliance with CEQA and SB 18, staff from the City of Sacramento's Community Development Department met with representatives of the UAIC.

UAIC indicated the RSP Area is of interest to the Tribe as part of the area traditionally inhabited by native communities. The UAIC has identified (through oral history and documentation) three villages/cemeteries in the RSP Area, the generalized locations of which have been submitted by UAIC to the Native American Heritage Commission (NAHC) as part of the Sacred Site Inventory. The UAIC requested that these three sites be reflected in the documentation in the SEIR.

The UAIC has concerns regarding prehistoric archaeological finds and discoveries which could occur below fill material within native soils. Tribal representatives emphasized the importance of topographical features (high points) since villages were located near rivers in areas that were raised or elevated. The UAIC reported that Native American activities occurred in the area of Sutter Lake and that even after the railroad was developed, Native American people still came back and used the site in different ways.

The City described to the UAIC the research being undertaken for the RSPU SEIR to document and consider the extensive amounts of excavation, soil removal and remediation to depths of 35' as a factor of determining archaeological sensitivity. The UAIC requested monitoring of excavation in areas considered as having a high sensitivity for prehistoric archaeological

[49] Institute for Maritime Archaeology, 2012. Evaluation of Navigation Hazards in the Sacramento River, Sacramento and Yolo Counties. Prepared for the California State Lands Commission.

resources and if material resources are discovered that they be handled with proper dignity and respect in coordination with appropriate Native American tribal representatives. The UAIC provided general information about areas considered archaeologically sensitive by the tribe, but did not provide specific locational detail.

Tribal representatives also indicated that some sites may have intangible or religious consideration and requested that Traditional Cultural Properties (TCPs) evaluations be included, as needed. The Tribe indicated that mitigation for loss of these intangible values could include restoration to existing conditions, planting of native plants in parks, basketry plants that can be harvested. Other suggestions included parks/open space include native plants, with native tending if possible and that Native American interpretative features be considered.

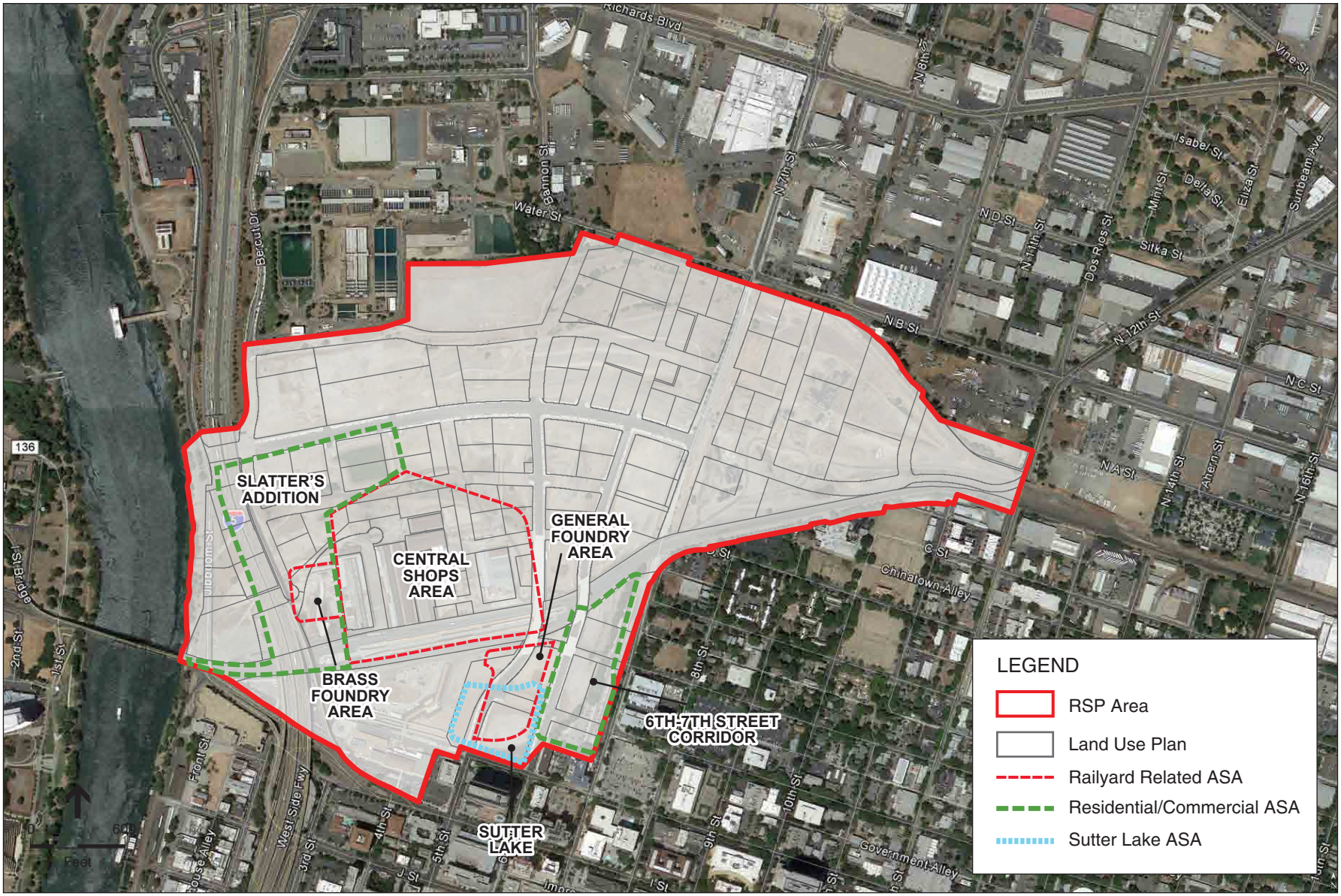
On March 31, 2016, City of Sacramento staff met with representatives of the Shingle Springs Rancheria and discussed the project and solicited information about any concerns the tribe might have. Representatives were aware of one archaeological site and provided City staff with an approximate location of the resource. This location corresponds very closely with P-34-2359, an area that has been identified as an ASA on **Figure 4.4-7**.

Observations of Subsurface Stratigraphy, Fill Layers and Groundwater

The following is extracted from the Archaeological Survey Report for the Sacramento Intermodal Transportation Facility.[50] The majority of sediments found in the RSP Area were developed in a low- to moderate-energy environment characterized by episodes of flooding where sands, silts, and clays were deposited. Channel dynamics including enlarging, deepening, and shifting the rivers, sloughs, and lake shorelines in the project vicinity resulted during flooding and scouring events. A hydrostratigraphic 'Gravel Zone' is present, composed of igneous and metamorphic alluvium with minor sedimentary clasts that were derived from the Sierra Nevada, which could represent ancestral river (American River) deposits that were laid down immediately after the Last Glacial Maximum, approximately 10,000 B.P. The composition of sediments in the RSP Area is compatible with those found in the lower reaches of glacial outwash deposits with the sediment transport capacity of the glacial melt waters originating from the Sierra Nevada decreased with time.[51] This, along with observation of gravels at a depth of approximately 50 feet below ground surface, suggests that the RSP Area was very dynamic geomorphic area since the Last Glacial Maximum.

[50] Roark, G., 2008. Archaeological Survey Report for the Sacramento Intermodal Transportation Facility, Sacramento, Sacramento County, California. Prepared by ICF Jones & Stokes for Caltrans, Marysville, CA.

[51] West, G.J., 1997. Pollen Analysis of Sediment Samples: A Record of Vegetation Change. In Historical Archaeology of an Overseas Chinese Community in Sacramento, California, Volume 1: Archaeological Excavations, by Mary Praetzellis and Adrian Praetzellis, pp. 273–280. February. Anthropological Studies Center, Sonoma State University Academic Foundation, Rohnert Park, California. Submitted to U.S. General Services Administration.



SOURCE: ESA 2015

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Figure 4.4-7

2007 RSP Archaeologically Sensitive Areas (ASAs)

As the Holocene progressed, the amount of water available and the bedload of the rivers created a lower-energy environment that resulted in conditions where sloughs, oxbow lakes, and low-lying swampy areas could form. Soil samples taken from the former Sutter Lake area suggest rapid deposition with little physical or chemical alteration after deposition. The plant communities in the project vicinity most likely consisted of the riparian gallery forest and the freshwater marsh communities.[52] These deposits represent thousands of years of deposition of fine materials.

Historic-period reclamation and flood-control efforts resulted in the RSP Area starting to become filled in. The geomorphic processes that created the thick sequence of alluvial sediments were permanently, though not completely, interrupted by the construction of levees on the surrounding rivers. Soils from this time period represent a thick Fill Sequence. Soils in the RSP Area developed during the present interglacial (i.e., the last 10,000 years). Soil development has been limited, with the majority of the sediments having been developed in a low- to moderate energy environment characterized by episodes of flooding where silts and clays were deposited. The dominant geomorphic process in the project vicinity prior to the filling of the lakes and marshes and construction of levees was overbank and lacustrine deposition (scour was limited to only high flow events). The first unit that is wholly identifiable as a native soil layer is the Clayey Silt Subunit of the Fill Sequences. Because of the presence of the artificial Fill Sequence, any artifacts that were left behind prior to ca. 1863 are presently buried. Resources, including hydrophytic plants such as tules and reeds, were widespread and may have encouraged habitation on higher-elevation surfaces, where present.

Groundwater elevations across the RSP are directly related to the Sacramento River stage elevation and duration of a given elevation. During high river stage events, particularly if such events last for extended durations, groundwater rises proportionally. In areas nearest to the river, groundwater is highest. Extending east, groundwater elevation decreases. During limited elevated river stage periods, groundwater at the western boundary can reach 19 feet above mean sea level, and approximately 15 feet to 9 feet at the central and eastern portions, respectively. During the dominant period of normal river stage, groundwater throughout he site can be as low as 2 to 3 feet above mean sea level. Soil remediation activities did not extend below where groundwater was encountered. Groundwater remediation is continuing at the site by UPRR.

Where groundwater is encountered is also a factor of the variability of the current ground levels within the RSP Area. Specifically, there are three main categories of ground levels that have been created within the RSP Area: 1) historic placed fill and embankments; 2) finished grades as set by past and present streets and development needs; and 3) excavations due to soil remediation, some of which has been backfilled for safety reasons.

[52] West, G.J., 1997. Pollen Analysis of Sediment Samples: A Record of Vegetation Change. In Historical Archaeology of an Overseas Chinese Community in Sacramento, California, Volume 1: Archaeological Excavations, by Mary Praetzellis and Adrian Praetzellis, pp. 273–280. February. Anthropological Studies Center, Sonoma State University Academic Foundation, Rohnert Park, California. Submitted to U.S. General Services Administration.

In terms of fill, there are several types of fill activities that have occurred with the RSP Area. These include the filling of Sutter Lake (late 19th/early 20th century), the filling of the former American River channel (1860s/1870s), industrial fill by the Southern Pacific Railroad (late 19th/early 20th century), and levee construction and filling by the City of Sacramento to address issues with flooding (late 19th/early 20th century).[53]

In addition to the significant investigative and corrective action work the has occurred since the early 1980s, the extensive exploration and remediation of the RSP Area that was undertaken over the last 15 years has allowed for a detailed characterization of the subsurface stratigraphy of the site. To graphically illustrate this, **Figure 4.4-8** provides representative examples of the depth of excavation as well as types of deposits encountered within each area of the RSP. This ability to characterize the subsurface stratigraphy and elevations at which groundwater is encountered for the different areas of the RSP Area is key to determining the site's archaeological sensitivity especially as it relates to the type and depth of fill layers and the potential depth and locations of natural soil.

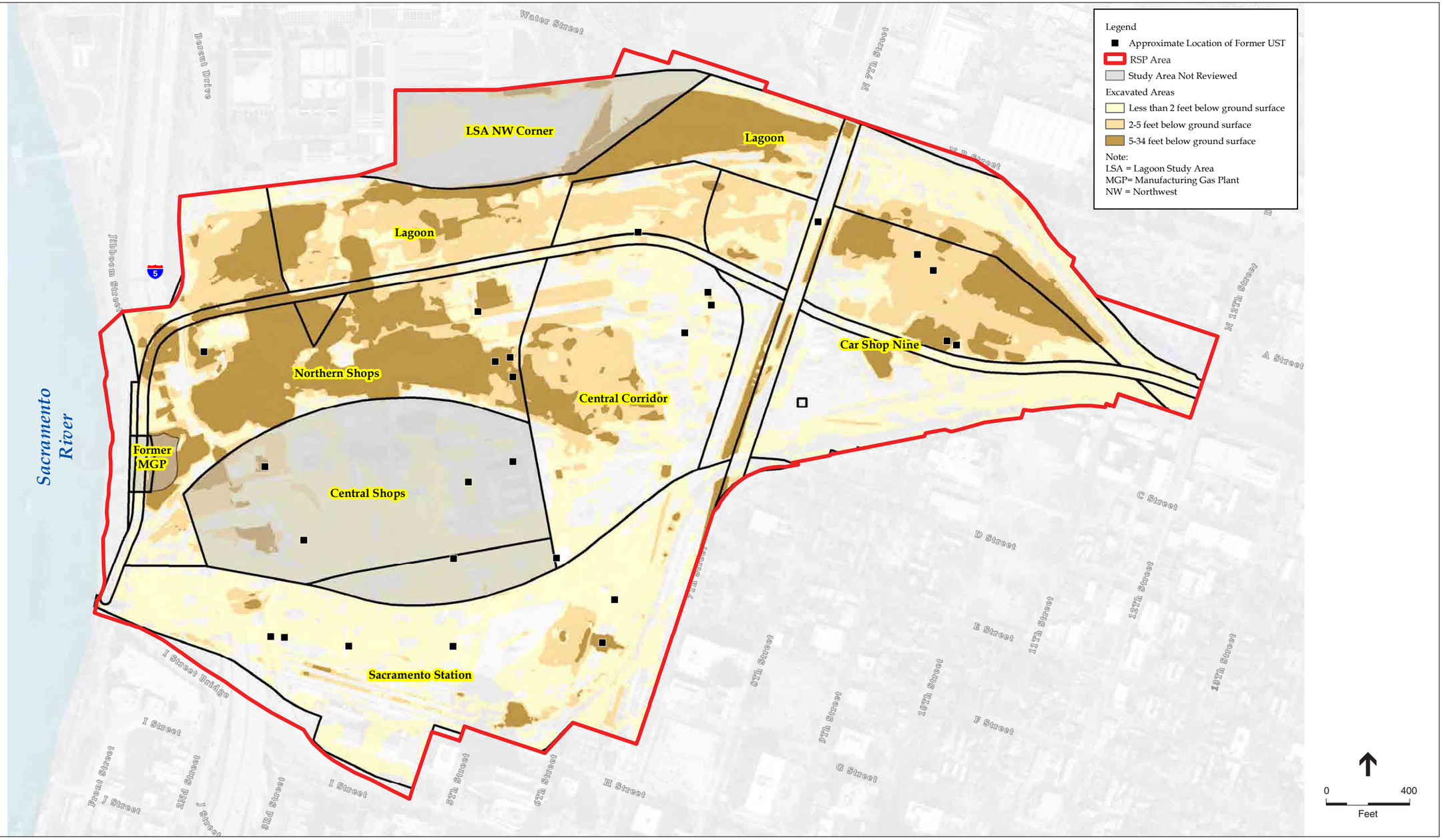
Reassessment of Archaeological Sensitivity

As noted above, the 2007 RSP EIR identified six "archaeologically sensitive areas" (see Figure 4.4-7):

- Slater's Addition
- The 6th–7th Street Corridor
- Sutter Lake
- The Central Shops Area
- The Brass Foundry Area
- The General Foundry Area

Since the completion of the 2007 RSP EIR, ongoing soil remediation efforts have processed approximately 1.2 million cubic yards of soil from the RSP Area (**Figure 4.4-8**). These ongoing efforts have explored the entirety of the RSP Area through investigative measures, and have exposed more than 50% of the RSP Area. Soil remediation in the archaeological sensitive areas identified in the 2007 RSP EIR has extended to a depth of 34 feet below the then current grade in several portions of the RSP Area identifying only one potentially significant archaeological resource. Areas explored include the General Foundry Area, Sutter Lake, and Slater's Addition. In each case, substantial portions (greater than 50%) of these sensitive areas have been excavated, with much of the work monitored by archaeologists and Native American representatives.

[53] Rashmawi, Elias, Managing Senior Principal and Brownfield Development Subsector Leader, Stantec, personal communication with Dana McGowan, ESA, January, 2016.



SOURCE: ERM 2015

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Figure 4.4-8

Total Excavation Depth From 1998 to 2014

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In addition, focused archaeological testing has taken place to a depth of 20 feet below the current ground surface.[54] During this work, only historic-period railroad and industrial-related archaeological resources have been identified and only one of these resources (the wheel annealing pits) within the RSP Area was determined potentially significant, although not officially evaluated.

Sizable portions of the Central Shops area and Brass Foundry Area have also been the subject of soil remediation with negative results. **Figure 4.4-8** depicts the extent of soil remediation in each of the remediation study areas, including the areas outside of the 2007 RSP EIR Phase 1 analysis area. These areas include LSA NW Corner, Lagoon, Car Shop Nine, portions of the Northern Shops and Central Corridor, and Sacramento Station, as shown in **Figure 4.4-8**.

The eastern portion of the Central Corridor and the southern portion of the Car Shop Nine area have not yet been subjected to deep excavations; however, both of these areas were reviewed as part of the 2007 EIR and deemed to not be archaeologically sensitive. The LSA NW Corner was not included in the soils review conducted to develop **Figure 4.4-8**, but this area has been heavily impacted by soil remediation with no significant archaeological resources identified to date.

During the course of the monitoring for remediation activities, industrial and railroad-related artifacts and features have been identified including concrete footings, a multi-ton anvil associated with the blacksmith shop, two large brick gas holder foundations associated with the Sacramento Gas Company, isolated locomotive and rail car components, locomotive boilers, bents associated with the a trestle from the original CPRR line through the project area, and isolated ceramics, bottles, cans, pipes, and unidentified metal.

Based on analysis completed for the Sacramento Intermodal Transportation Facility, now being referred to as the Sacramento Valley Station, it has been predicted that native soil could be encountered from 13 to 20 feet below the current ground surface within the Railyards.[55] However, focused archaeological investigations and archaeological monitoring of soil remediation in these areas have encountered neither native soil, nor any indications of Native American occupation or use of the land.[56]

Areas Still Considered Archaeologically Sensitive

Figure 4.4-9 depicts areas still considered archaeologically sensitive. The descriptions below provide additional detail and justification for the retention of these sensitive sites in consideration of the updated information since 2007.

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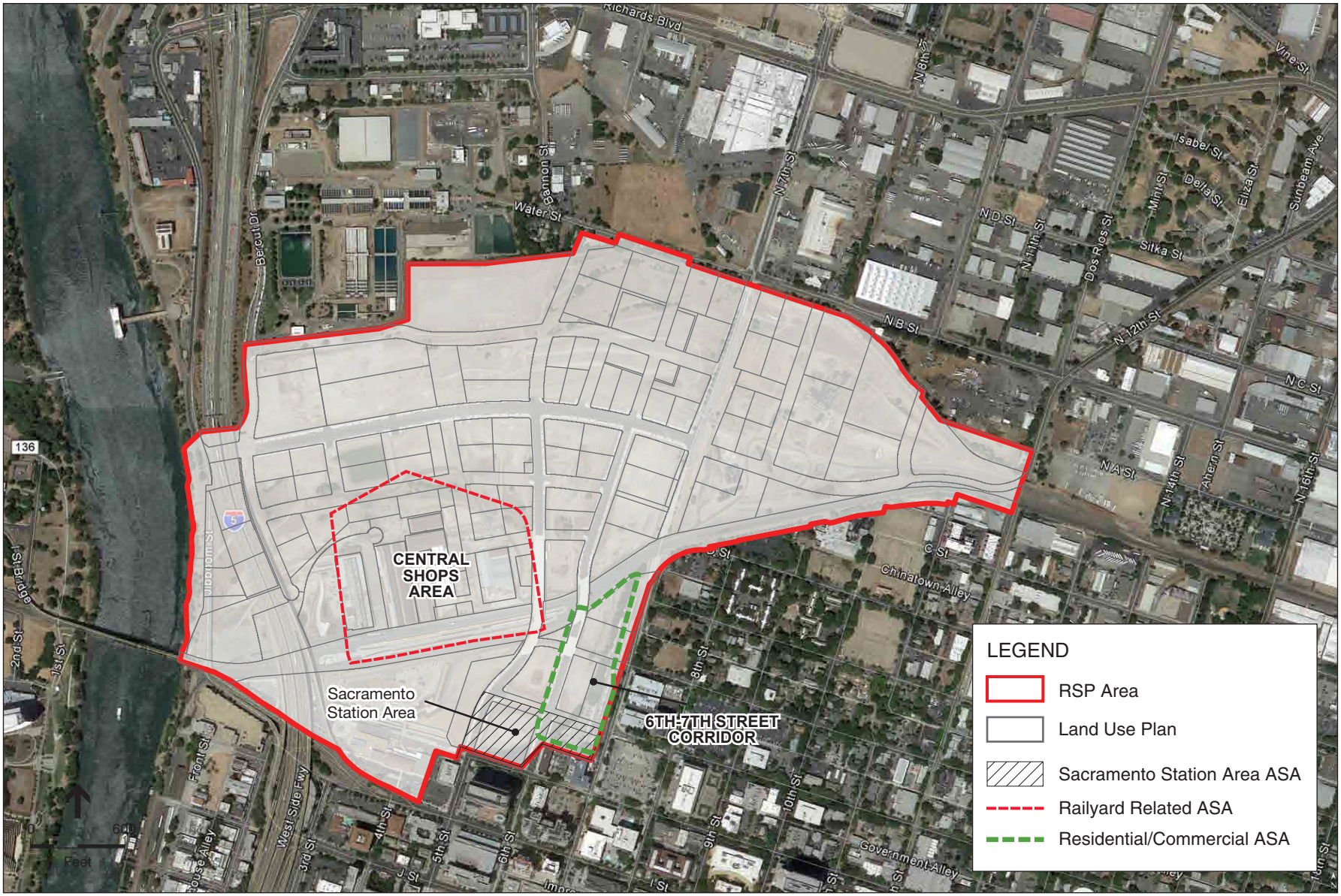
54 Havelaar, Christiaan, Archaeologist, ICF International, personal communication to R. Scott Baxter, ESA, February 11, 2016.

55 Roark, G., 2008. Draft Supplemental HPSR for the Sacramento Intermodal Transportation Facility, Attachment B Draft First Supplemental ASR for the Sacramento Intermodal Transportation Facility, pp. 5-4 to 5-6.

56 Havelaar, Christiaan, Archaeologist, ICF International, personal communication to R. Scott Baxter, ESA, February 11, 2016.



SOURCE: ESA 2016

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Figure 4.4-9
Archaeologically Sensitive Areas

The Central Shops

The Central Shops area was deemed archaeologically sensitive by the 2007 EIR, and, despite certain remediation activities, remains sensitive. There is a high potential for buried deposits and infrastructure features related to the Sacramento Register listed Central Shop facilities, especially under and between existing shop buildings, areas that have remained largely undisturbed since those buildings were constructed.

The 6th-7th Street Corridor

The 6th - 7th Street Corridor was deemed archaeologically sensitive in the 2007 EIR and this is the one area previously identified that has not yet been subjected to extensive soil remediation. Although no significant historical archaeological resources have been identified within this area, this part of the RSP Area has only been marginally affected by remediation activities and retains a high potential for archaeological resources related to the Sacramento Packing and Drying Co. (and subsequent iterations of such) and adjacent residential neighborhood, especially domestic refuse deposits.

Sacramento Valley Station Area

The 2007 RSP EIR reviewed only the eastern portion of the current Sacramento Valley Station area for archaeological sensitivity; this portion of the area was determined archaeologically sensitive. The boundaries of the Sacramento Raised Streets and Hollow Sidewalks District (P-34-2358) end just south of the RSP Area southern boundary. P-34-2358 is a complex of buried landscape and infrastructures features associated with nineteenth century Sacramento and has been determined eligible for the CRHR and NRHP. The boundaries of the district have evolved over time, and originally included portions of the Central/Southern/Union Pacific Railyards at Sutter Lake. It is likely that archaeological features associated with this site extend into the Sacramento Valley Station portion of the project area.

If native soil (which has the potential to contain prehistoric sites) remains intact in the RSP Area, it will be in areas where railroad construction and filling were limited and therefore where remediation activities were not extensive. Specifically, the margins of Sutter Lake have previously been identified as a likely to yield prehistoric archaeological resources. As described in the environmental setting section above, between 1863 and 1910, the lake was filled in, with some sources stating as much as 40 feet of fill placed in parts of the lake.[57] P-34-2359 was recorded at the predicted southeastern edge of the former Sutter Lake in the vicinity of the Old Folsom Powerhouse Sacramento Station A. The site was discovered only 9 feet below current street level in an area of the city where the streets were elevated to upwards of 10 feet to protect from flooding. This indicates that P-34-2359 was not deeply buried and was actually very close to historical ground surface. At the time, archaeologists speculated that this site possibly extended into the RSP Area. Archaeological trenching conducted by ICF International to the north of the

[57] City of Sacramento. 2016. Sacramento Valley Station; Early Site History. Available: https://www.cityofsacramento.org/Public-Works/Sacramento-Valley-Station/Background/Early-Site-History.

plotted location for P-34-2359 revealed no prehistoric materials. Given the proximity to a known site, however, this area would also be sensitive for prehistoric resources.

Remediation work within the area of Sutter Lake and on the north margin has yielded no prehistoric materials. Similarly, extensive testing conducted for the SITF project along the plotted northern margin of Sutter Lake with negative results.[58] Within this filled area, only large amounts of railyard-related materials have been identified during remediation and archaeological testing.

Areas with Limited Potential for Archaeological Resources

In the 2007 RSP EIR, Slater's Addition, Sutter Lake, the Brass Foundry Area, and the General Foundry Area were identified as being sensitive for archaeological resources based on historical maps and other archival research that had been undertaken in the preceding decade. Since that time, much of these areas (upwards of 50% to the total volume of soil) have been extensively disturbed during remediation. Some of these areas have been remediated to a depth of 34 feet. Much of the remediation work was monitored by an archaeologist and Native American representatives. The vast majority of archaeological remains that have been found in these areas have consisted of historic-period isolated railroad related and industrial remains with poor integrity and limited potential for significance. These finds including a cache of boilers, wheel annealing pits, and brick footings for gas tanks associated with the old Sacramento Gas Works. Of these finds, only the wheel annealing pits were determined significant. No prehistoric artifacts, features or sites have been identified in these areas despite extensive ground disturbing activities, indicating that development of the Railyards, filling, and subsequent remediation activities could have damaged or destroyed archaeological resources if they were present in these areas.

The levee embankment that runs along the north edge of the RSP Area from I-5 to 12th Street appears to have been mostly constructed in the early twentieth century, prior to the late 1920s, although a portion of it could have its origins in the 1860s before the American River channel was moved northward. The railroad had built earlier embankments on the north side of the Railyards, constructed immediately north of the tracks adjacent to the roundhouse and adjacent buildings. It is likely that Southern Pacific built the embankment at the north edge of the RSP Area as a secondary protection measure in addition to the levees built along the American River by Reclamation District 1 in the 1910s.

As part of the current proposed site grading, the northern embankment would be removed and graded to an elevation approximately 4 feet above the elevation of North B Street. The material in the embankment would be used to reduce the amount of imported fill required for the project, and land use development would extend north to North B Street. Portions of the northern levee embankment were demolished or altered through construction of the 7th Street extension in 2002, and no prehistoric or historic archaeological materials were identified during construction. As

58 ICF International, 2013. Extended Phase I and Phase II Archaeological Investigations, Sacramento Intermodal Transportation Facility Project, Sacramento, California.

such, there is limited potential for the presence of archaeological materials within the embankment. The historical ground surface below the embankment, however, has some potential for archaeological resources pre-dating the embankments early 20th century construction.

4.4.2 Regulatory Setting

State Laws and Regulations

California Environmental Quality Act

In general, a significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in in CEQA Guidelines Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource *or its immediate surroundings* [emphasis added] such that the significance of a historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Standards)[59] is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3)).

Per CEQA Guidelines Section 15064.5(c), CEQA applies to effects on archaeological sites under the following circumstances:

1. When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, listed in either the California or local registers, or

[59] Weeks, K. and A.E. Grimmer, 1995. Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. New York, NY.

any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to eligible for listing in the California Register.

2. If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

3. If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

4. If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Impacts to resources that do not qualify as historical resources or "unique" archaeological sites are not considered significant, and need not be considered further in the CEQA process (Public Resources Code (PRC) Section 21083.2).

Paleontological resources are addressed in CEQA Section V(c) of Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]". This provision discusses significant fossils – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Mitigation of significant adverse impacts to paleontological resources is therefore required under CEQA.

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.

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 eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). 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.

Similar to the National Register, to be eligible for the California Register, a cultural resource must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must be of sufficient age, and retain enough of its historic character or appearance (integrity) 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 on the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion on the California Register.

Senate Bill 18

Senate Bill (SB) 18 requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting tribal cultural resources. SB 18 applies to the adoption or substantial amendment of general plans and specific plans, and requires that the Lead Agency consult with California Native American Tribes that are on the Native American Heritage Committee (NAHC) contact list and have traditional lands located within the agency's jurisdiction. The results of this consultation are provided above under Native American Consultation.

Assembly Bill 52

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the Public Resources Code regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources," separately from archaeological resources (PRC § 21074; 21083.09), in recognition that archaeological resources have cultural values beyond their ability to yield data important to prehistory or history (Criterion 4/D). The Bill defines "tribal cultural resources" in a new section of the PRC Section 21074. AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC § 21080.3.1, 21080.3.2, 21082.3). Finally, AB 52 requires the Office of Planning and Research to update Appendix G of the CEQA Guidelines by July 1, 2016 to provide sample questions regarding impacts to tribal cultural resources (PRC § 21083.09).

The provisions of AB 52 only apply to projects that have a notice of preparation filed on or after July 1, 2015, and therefore the Bill's requirements are not applicable to the proposed projects (the NOP was published on June 5, 2015). This requirement will apply to future projects where site-specific CEQA review is necessary.

While the requirements of AB 52 do not apply to this SEIR, this SEIR evaluated the proposed projects' potential impacts on tribal cultural resources, as defined by Section 21074 of the PRC (added by AB 52). In addition, as provided in greater detail in Section 3.6.3, the City has consulted with California Native American tribes that are traditionally or culturally affiliated with the geographic area of the proposed projects.

Health and Safety Code, Sections 7052 and 7050.5

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC.

Public Resources Code, Section 5097

Public Resources Code (PRC) Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Local

City of Sacramento 2035 General Plan

The City of Sacramento 2035 General Plan (2015) Historic and Cultural Resource Element contains several goals and policies relevant to the protection of cultural resources within the project area. The Element provides policies directing the protection of historical, archaeological, and paleontological resources within the City. The following goals and policies from the 2035 General Plan are relevant to cultural resources:

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 ensure adequate protection of these resources.

HCR 2.1.3 Consultation. The City shall consult with appropriate organizations and individuals (e.g., California Historical Resources Information System (CHRIS) Information Centers, the Native American Heritage Commission (NAHC), the CA Office of Planning and Research (OPR) "Tribal Consultation Guidelines", etc.,) and shall establish a public outreach policy to minimize potential impacts to historic and cultural resources.

HCR 2.1.6 Planning. The City shall take historical and cultural resources into consideration in the development of planning studies and documents.

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.

HCR 2.1.14 Adaptive Reuse. The City shall encourage adaptive reuse of historic resources when the original use of the resource is no longer feasible.

HCR 2.1.16 Archaeological & Cultural Resources. The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological and cultural resources including prehistoric resources.

As discussed below and in Impacts 4.4-1 through 4.4-10, the proposed RSPU, including the proposed projects would be required to comply with City standards for the protection cultural resources. As part of this SEIR analysis, the proposed projects analysis included archival review through consultation with the CHRIS and NAHC, coordinated consultation between Native American groups and the lead agency for the RSP Area, and review of compatibility with the Central Shops Historic District located within the RSP Area. With implementation of standards pursuant to City Preservation oversight and mitigation identified below, the proposed projects would be consistent with the General Plan goals and policies.

Railyards Specific Plan Update Policies and Design Guidelines

The proposed Railyards Specific Plan Update (RSPU) includes the locally-designated Central Shops Historic District as well as the Transition Zone around the Central Shops to ensure that

new development surrounding the District would complement the historic buildings, though noting the historic district and transition zone boundaries would be somewhat different from the 2007 RSP due to proposed changes to street alignment and parcel changes. The other individually-listed resources also existing within the Plan Area, includes the SPRR Sacramento Depot/Sacramento Valley Station. The RSPU contains the following goals policies related to cultural resources:

Community Character

Goal CC-2. Reinforce urban form, character, and materials through the appropriate height in building and scale transitions to surrounding areas.

Policies

CC-2.1. Ensure that the form and massing of buildings contribute to the creation of a cohesive urban fabric that:

- Extends the pattern of downtown Sacramento
- Complements the historic Central Shops and Depot/Sacramento Valley Station complex
- Transitions in scale to the surrounding residential areas

CC-2.3. Ensure an appropriate scale transition to the Alkali Flat neighborhood.

CC-2.4. Ensure that any new buildings in the Central Shops district or extensions to existing buildings in the district respect the scale, design, and character of existing historic structures and features.

CC-2.5. Ensure an appropriate scale transition between the Central Shops and new districts adjacent to the Central Shops district.

Historic Resources

Goal HR-1. Provide for the public use and enjoyment of historic resources within the Plan Area.

Goal HR-2. Identify and protect archaeological resources that contribute to the understanding of the history and prehistory of the Railyards area.

Policies

HR-1.1. Allow a mixture of public-oriented, cultural and commercial-recreational uses that reinforce the Central Shops district as a regional destination, and that promote viable reuse of the historic district.

HR-1.2. Preserve historic resources within the historic core of the Central Shops district.

HR-1.3. Ensure that rehabilitation of the historic Central Shops complex and features conform to standards for preservation of historic properties set forth in Section 17.604 and other related sections of Title 17 of the Sacramento Municipal Code.

HR-1.4. Preserve and rehabilitate the Southern Pacific Railroad Depot/Sacramento Valley Station complex in a manner that will enhance its civic significance in the downtown and Railyards area and in conformance with the City of Sacramento's SITF/Sacramento Valley Station plan.

HR-2.1. Develop and implement an archaeological observation and evaluation plan to identify and recover archaeological resources, if any, within areas of the site during excavation, grading, and piling.

HR-2.2. Incorporate and interpret artifacts that highlight the site's prehistory, history, and especially the historic role and significance of the Railyards.

The proposed RSPU and Design Guidelines are organized by the larger geographical planning areas, or "districts" (different from historic districts) identified for the RSP Area, and provide principles and guidelines for the design of proposed projects to be developed within these various districts. All projects involving historic resources are to comply with the Secretary of Interior's Standards for the Treatment of Historic Properties and Title 17 of the City Code, the Planning & Development Code. The Design Guidelines discuss the Erecting Shop, Masonry Water Closet (i.e., Privy), Blacksmiths Shop, Car Shop 3, Planing Mill, Paint Shop, Boiler Shop, Turntable, Car Machine Shop, the Water Tower, and the Depot as historic resources within the RSP Area (see **Figure 4.4-10**).

Design guidelines related to all the RSP Area historical resources provide guidance for the design of proposed new development within the historic district, on the site of individual historical resources, and within surrounding Transition Zone areas, to respect the historic context, consistent with SOI the Standards. There are two goals concerning historic resources at the RSP Area: to ensure that the adaptive reuse of historic resources is done in an appropriate and sensitive manner and to ensure that the scale, massing, and character of new construction within the boundaries of/adjacent to historic resources will not adversely affect the historic resources. To this end, the RSPU delineates two special districts in the vicinity of the Central Shops: the Central Shops Historic District and the Transition Zone (see **Figure 4.4-11**). The Depot building is located in a separate SPR district which includes its' own design guidelines.

4.4.3 Analysis, Impacts, and Mitigation

Analysis Methodology and Assumptions

The following methodology and findings includes text excerpted and summarized from the 2007 RSP EIR. The archival, field survey and consultation methodologies undertaken for the current analysis are similar to those from the 2007 effort. This information has been updated to reflect the most current understanding of the archaeological and built environments, as well as updated Native American consultation to reflect tribal cultural values.

Archival Review

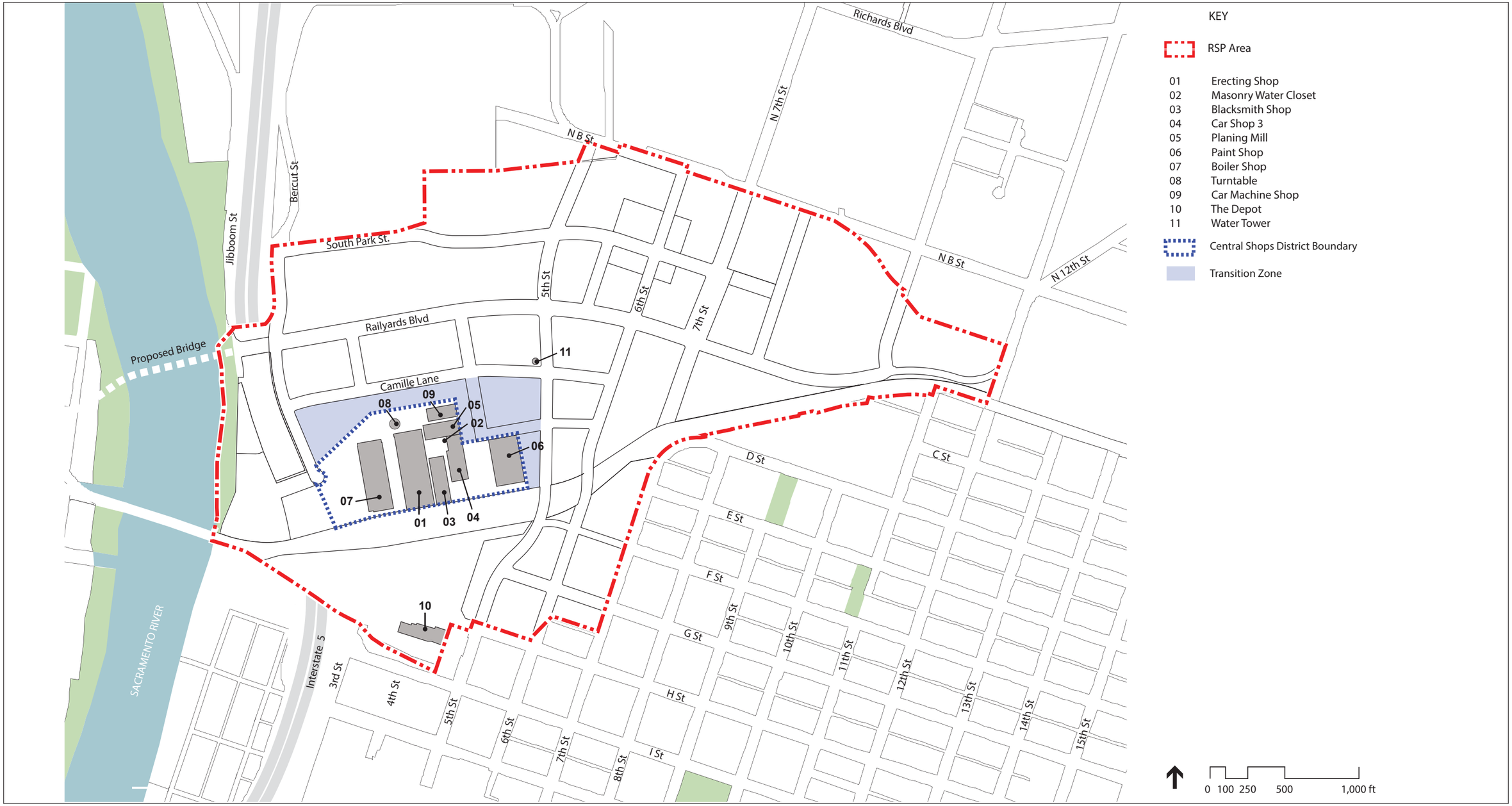
The 2007 RSP EIR and the Archaeological Studies Center's supporting archaeological report provided a comprehensive overview of the archaeological setting of the RSP Area.[60] ESA staff conducted an updated record search at the North Central Information Center on November 19, 2015 (NCIC No. SAC-15-183), which identified 24 cultural resource studies within or immediately adjacent to the RSP Area, and 77 studies completed within ½ mile of the RSP Area. Review of the records search revealed 11 cultural resources studies have been completed in or

[60] Walker, M., H. Koenig, S. Stewart, G. Dalldorf, A. Praetzellis, and M. Praetzellis, 2007. Sacramento Railyards, Initial Phase, Archaeology Study.

immediately adjacent to the current study area since 2005. **Table 4.4-5** provides a summary of these studies. Only two of these involved ground-disturbing activities. These are described below.

TABLE 4.4-5.
ARCHAEOLOGICAL STUDIES IN THE STUDY AREA COMPLETED SINCE 2005, AVAILABLE AT NORTH CENTRAL INFORMATION CENTER

Report No.	Authors	Year	Title	Resources
004468	Waechter, Sharon A. and Stephen Wee	n.d.	Cultural Resources Element for the City of Sacramento's Fish Screen Improvement Project, Environmental Assessment Initial Study, Sacramento and American Rivers	34-000490, 34-000509, 34-000897
006572	Jones, E. Timothy	2005	Re: Cultural Resources Study, Jibboom Street Viaduct, Sacramento, Sacramento County, California. LSA Project #NOL430	-
008619	Cindy Arrington et al.	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	-
009423	Joanne S. Grant	2008	Cultural Resources Survey for the Urban Levee Project	-
010121	Kim Tremaine and Glenn Farris	2009	Rediscovering A Legacy: Archaeological Monitoring Report for the Sacramento Regional transit District Light Rail Extension Project	34-002358, 34-002359, 34-002360
010438	Lawrence W. Speed	2009	American Recovery and Reinvestment Act (ARRA) Funded Security Enhancement Project (PRJ29112361) - Station Hardening, CCTV Surveillance System Upgrades, and Airborne Particle Detection, Sacramento Station, Sacramento, Sacramento County, CA	-
010499	Michael Hibma	2009	Historic Property Survey Report/Finding of No Adverse Effects for the 4th Street and I Street Intersection Project, Sacramento, Sacramento County California, CalTrans District 3 (EA# 03-928544)	-
010551	Page & Turnbull	2010	Cultural Resources Report Sacramento Valley Station 401 I Street, Sacramento, CA	34-001004
010812	Kovak, Amy	2010	Cultural Resources Inventory for the SMUD Station A Reconductor Project Sacramento County, California	34-000421, 34-000891, 34-002358, 34-002359, 34-002364, 34-002371, 34-003207, 34-003211, 34-003229, 34-003292, 34-003307
011022	PAR Environmental Services, Inc.	2012	Archaeological Monitoring Report 4th and I Street Project, Sacramento County, California	34-004497
011024	PAR Environmental Services, Inc.	2012	Historic Properties Survey Report, 12th Street Corridor Project, City of Sacramento, Sacramento County, California	-



SOURCE: AECOM, May 6, 2016

Figure 4.4-10
Historic Resources

SOURCE: AECOM, May 6, 2016

Figure 4.4-11
Proposed Central Shops District and Transition Zone

In addition to the studies provided by the record searches conducted in 2007 and 2015, Elias Rashmawi, Stantec Managing Senior Principal, Dana McGowan, former Jones & Stokes Railyards Cultural Resources Project Manager, and Christiaan Havelaar, ICF International Archaeologist, provided archaeological monitoring reports and other documents that summarize the findings of archaeological monitoring during remediation and infrastructure improvements at the Railyards. These reports are not on file at the Information Center, but are summarized below in **Table 4.4-6**. Since at least 2000, Kyle Wyatt has served as curator at the California State Railroad Museum. Mr. Wyatt has identified industrial archaeology features and artifacts of interest to the Museum. He has not conducted any formal evaluations of significance for these materials, and has not provided any formal documentation.[61]

TABLE 4.4-6.
ARCHAEOLOGICAL MONITORING REPORTS NOT ON FILE AT NORTH CENTRAL INFORMATION CENTER

Authors	Year	Title	Resources
Wyatt, Kyle	2000	EMR-West Daily Monitoring Reports	Isolated railroad related artifacts.
Wyatt, Kyle	2001	EMR-West Daily Monitoring Reports	Isolated railroad related artifacts and features.
EMR-West	July 2004	Appendix J: 2004 Cultural Resources Handling Plan, Former Southern Pacific Transportation Company Sacramento Rail Yard Sacramento, California	-
EDAW	2004	Cultural Resources Monitoring for the Sacramento Rail Yard, 2004 Soil Remediation Activities	"…no significant finds during monitoring of the 2004 loci"
EMR-West		2000 Soil remediation Summary	"No significant industrial artifact or pre-industrial artifact was discovered."
EMR-West	October 2006	2001 Soil remediation Summary	"No significant industrial artifact or pre-industrial artifact was discovered."
McGowan, Dana	August 2007	Sacramento Rail Yard Cultural Resources Monitoring Status Summary	Identified isolated industrial features discovered near Central Shops in 2003. Noted ongoing soil remediation was in "non-sensitive areas".
ICF	October 2008	HPSR Sacramento Intermodal Transportation Facility	Overview of historic resources in southern half of project area.
Roark, Gabriel	December 2008	Draft Supplemental HPSR Sacramento Intermodal Transportation Facility	Overview of historic resources in southern half of project area.
Unk	February 2009	Draft Section 4(f) Evaluation, Sacramento Intermodal Transportation Facility	Sacramento Southern Pacific Railroad Station Depot, Sacramento Southern Pacific Railroad Station District, *Railway Express Agency Building,* 6th Street Levee (P-34-1561/CA-SAC-940-H), Central Shops Historic District
Roark, Gabriel	April 2009	Cultural Resources Monitoring for the Railyards 2007 and 2008 Remediation Activities	A number of railroad related features were identified, but "No pre-industrial archaeological materials were identified"

[61] Wyatt, Kyle, California State Railroad Museum, Personal communication with R. Scott Baxter, ESA, December 3, 2015.

TABLE 4.4-6.
ARCHAEOLOGICAL MONITORING REPORTS NOT ON FILE AT NORTH CENTRAL INFORMATION CENTER

Authors	Year	Title	Resources
Havelaar, Christiaan	February 2010	Archaeological Testing Plan Railyards Specific Plan	Archaeological testing plan for the 5th and 6th Street Corridor and Railyards Blvd.
Roark, Gabriel	May 2010	Historic Archaeological Site Discovery (SAN-18), Sacramento Intermodal Transportation Facility, Sacramento, California	Identification, testing, and evaluation of historic period deposits in southern portion of project area. Determined not significant.
Roark, Gabriel	September 2011	APE Modification for West Pedestrian Tunnel Ramp, Phase I of the Sacramento Intermodal Transportation Facility Project	Archaeological sensitivity assessment of a small area in southern portion of Project area.
Roark, Gabriel	September 2011	Historic Archaeological Site Discovery (SAN-18), Sacramento Intermodal Transportation Facility, Sacramento	Identification of railroad related domestic refuse.
Roark, Gabriel and Andrea Nardin	December 2011	Historic Archaeological Site Discovery, Sacramento Intermodal Transportation Facility, Sacramento, California	Discovery of foundations in southern portion of project area.
ICF	2011	Archaeological Monitoring Plan Phase 1 (Track Relocation) of the Sacramento Intermodal Transportation Facility	Monitoring plan for area in southern portion of project area.
Roark, Gabriel	March 2012	Progress Report on Implementation of the Archaeological Testing Plan, 5th and 6th Street Extension Projects, Railyards Initial Phase, Sacramento	Identified portions of 6th Street Levee (P-34-1561/CA-SAC-940H), building foundations, and industrial refuse deposit. Further investigation proposed.
ICF	May 2012	Mitigative Recordation Central Pacific/Southern Pacific Railroad Car Wheel Foundry Annealing Pits	HAER level recordation of car wheel annealing pits
EMR-West	2013	2012-2013 Soil Summary Report	“miscellaneous railroad car parts and numerous locomotive fire boxes and boilers”
ICF	2013	Extended Phase I and Phase II Archaeological Investigations, Sacramento Intermodal Transportation Facility Project, Sacramento, California	Archaeological testing in southern portion of project area. Identified non-significant historic-period resources.
Havelaar, Christiaan	2014	Cultural Resources Monitoring for the Railyards 2012 and 2013 Remediation Activities	Several industrial era resources were located including miscellaneous metal fragments, concrete footings, wood, a cache of locomotive boilers, various brick features, cut bone, and glass fragments.
Rashmawi, Elias	2015	Northern Area Excavations	Figure graphically displaying depths of excavation for soil remediation 1996-2014.
ICF	n.d.	Archaeological Testing in the 5th and 6th Street Corridors	Testing plan for 5th and 6th Street areas.
ICF	n.d.	Draft Cultural Resources Monitoring Report for Phase 1 of the Sacramento Intermodal Transportation Facility Construction Project	Three inadvertent archaeological discoveries.
ICF	n.d.	Draft Addendum Archaeological Survey Report for the Sacramento Intermodal Transportation Facility, City of Sacramento	

Field Review

Katherine Anderson, M.A., ESA historian and R. Scott Baxter, M.A., RPA ESA senior archaeologist attended a December 2, 2015 site visit of the property. The site visit included a tour of the entire RSP Area and examination of the structures at the Central Shops. The vast majority of the RSP Area has undergone soils remediation, which consists of digging down as much as 34 feet below the current ground surface (bgs), removing or treating the contaminated soil, and backfilling the excavation with clean fill. This remediation work was ongoing during the site visit. The currently exposed ground surface consists of clean fill, not native ground surface. For this reason, a formal pedestrian survey of the property was not conducted.

Significance Criteria

This SEIR assumes implementation of the proposed projects would have a significant impact related to cultural resources if they would:

- Cause a substantial change in the significance of historical or archaeological resource as defined in CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource; or
- Adversely affect tribal cultural resources.

These significance criteria for the provision of cultural resources have been updated since the 2007 RSP EIR, and do not specifically call out impacts of human remains. The City of Sacramento uses the above standard of significance in its Initial Study Checklist.

For the purposes of the impact discussion, “historic resources” is colloquially used to describe built environment historic period resources. Archaeological resources (both prehistoric and historic), while referred to as “historical resources” per the CEQA guidelines, are discussed separately from historic resources.

Issues Not Discussed in Impacts

Impact 6.3-4 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact on the Sacramento Depot/Sacramento Valley Station as a result of the relocation of the UPRR main line tracks. The tracks have been relocated since 2007, and the relocation is now part of the existing setting rather than proposed as part of the RSPU. Therefore this issue is not addressed further.

Impacts and Mitigation Measures

Impact 4.4-1: The proposed projects could cause a substantial adverse change in the significance of an archaeological resource, including human remains.

The 2007 RSP EIR discussed impacts to archaeological resources and human remains under Impact 6.3-1 on pages 6.3-45 through 6.3-49.

Impact 6.3-1 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating the archaeological resources with the implementation of Mitigation Measure 6.3-1. Mitigation Measure 6.3-1 included guidance for Archaeological Treatment Plans for Archaeologically Sensitive Areas, monitoring of sensitive areas, and guidance for unanticipated discovery of archaeological resources or human remains.

Railyards Specific Plan Update

The 2007 RSP EIR stated that the RSP Area has environmental attributes, such as the confluence of two major rivers and elevated areas suitable for habitation, to support a wide range of prehistoric resource types, from long-term occupation sites to isolated artifacts. In addition, the 2007 EIR stated that the RSP Area could contain a variety of important historic-period archaeological features. However, at the time the 2007 EIR was prepared, any archaeological features within the RSP Area were covered by fill or pavement. Since 2007, extensive excavation has occurred during remediation of contaminated soils, and much more is known about what resources could be located within the RSP Area.

While monitoring proven that the property contains a wide variety of isolated historic-period artifacts, only one significant historic-period archaeological resource (the wheel annealing pits) has been identified in the RSP Area. The wheel annealing pits were documented as part of remediation activities, and a treatment plan was developed and implemented for this resource.[62] Therefore, it would not be affected by the proposed RSPU, and is not addressed further in this analysis.

Despite the fact that extensive ground disturbance has occurred since the 2007 RSP was adopted, no known prehistoric resources have been identified within the RSP Area. One nearby prehistoric resource, P-34-2359, was recorded subsequent to the 2007 RSP EIR in 2009.[63] This site was recorded adjacent to the RSP Area within H Street between 6th and 7th streets. Tremaine and Farris suggested that this site possibly extends into the Railyards property but this has not been confirmed through excavations.

Native American tribal representatives from the UAIC have indicated that there may have been three village/cemetery locations based oral history information within the RSP Area, and that these are areas of concern to the Tribe. The SSB included in their concerns a site location plotted directly adjacent to P-34-2359, an area that is included in in Sacramento Station Area ASA as described below.

A reassessment of the RSP Area indicates that while there has been extensive disturbance during the remediation process, some areas could still contain a variety of important, prehistoric and

62 ICF International, 2012. Mitigative Recordation Central Pacific/Southern Pacific Railroad Car Wheel Foundry Annealing Pits.

63 Tremaine, K. and G. Farris, 2009. Rediscovering A Legacy: Archaeological Monitoring Report for the Sacramento Regional Transit District Light Rail Extension Project. Sacramento, California.

historic-period archaeological resources. Areas that retain archaeological sensitivity are designated Archaeologically Sensitive Areas for the purpose of this SEIR and are depicted in Figure 4.4-7, including:

- The Central Shops area, which could contain important archaeological resources relating to the development and expansion of the Railyards' manufacturing operations that could provide information on 19th- and early 20th-century technological processes;

- The 6th-7th Street Corridor; which could contain important archaeological remains relating to early settlement, levee construction, and the development of working-class neighborhoods in 19th- and early 20th-century Sacramento.

- Sacramento Valley Station Area, which could contain important archaeological remains relating to early settlement, and the development of working-class neighborhoods in 19th- and early 20th-century Sacramento and is also sensitive for prehistoric archaeological resources.

Additionally, as described above and in further detail in the Project Description (Chapter 2), the current proposed site grading includes the removal and grading of the northern embankment to an elevation approximately 4 feet above the elevation of North B Street. The material in the embankment would be used for fill within the RSP Area, and new development would extend over the current embankment footprint to North B Street. Previous construction efforts associated with the 2002 7th Street extension demolished portions of the embankment. No prehistoric or historic archaeological materials were identified during construction. As such, there is limited potential for the presence of archaeological materials within the embankment. The historic ground surface below the embankment has some potential for archaeological resources pre-dating the embankments early 20th century construction, but is not considered to be an archaeologically sensitive area. While the current RSPU grading plan does not include excavation below the current base of the levee embankment, excavation below the historic ground surface assumed to be equivalent to North B Street has the potential to affect the physical integrity of subsurface archaeological resources.

Archaeological resources could be affected from construction activities such as excavation and grading that could affect the physical integrity of the archaeological resource or its suitability for scientific research or expose Native American human remains. Such impacts include:

- activities that physically destroy the resource or portions thereof. These could include pile driving, grading, further soil remediation, subsurface construction (such as basements and underground utilities), and the alteration of conditions such that the resource's future integrity is at risk, through activities such as erosion or looting; and,

- activities that do not directly destroy the resource or portions thereof, but that adversely affect those physical characteristics that convey its historical significance and justify its

eligibility for inclusion in the CRHR. These consist of activities such as deep filling or the use of construction techniques that remove the potential for research by effectively rendering the resource inaccessible.

RSPU Policy HR-2.1 calls for the development and implementation of an archaeological observation and evaluation plan to identify and recover archaeological resources, if any, within areas of the site during excavation, grading, and piling. However, because the policy does not address identification of potential archaeological resources in sensitive areas prior to grading or specify the steps to be taken to ensure that archaeological resources are protected, additional previously unidentified resources could be discovered, damaged, or destroyed during project construction. In addition, although unlikely due to the level of prior disturbance, it is possible that archaeological resources could be present in areas that are outside of the archaeologically sensitive areas. Therefore the proposed RSPU could result in **potentially significant impacts** to archaeological resources.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to archaeological resources and human remains would be the same as discussed above for the RSPU, because the same archaeologically sensitive areas would be subject to disturbance. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects to the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **potentially significant impact**.

KP Medical Center

The KP Medical Center is not proposed in an area that was previously or currently considered sensitive for prehistoric or historic period archaeological resources. The closest previously identified archaeologically sensitive area is Slater's Addition, an area as archaeologically sensitive for historic period resources in the 2007 RSP EIR. Slater's Addition is mapped as an area extending west from the Central Shops Area, which is shown on maps as a residential development in the 1850s which was later subsumed by the Railyards development. This area, as shown on **Figure 4.4-7**, was extensively modified by railroad construction and railyard development. Subsequently, the area of Slater's Addition and the proposed site of the KP Medical Center have been subjected to ground disturbing activities associated with remediation activities, as illustrated in **Figure 4.4-8**. During this extensive remediation work, no prehistoric-period materials were observed during monitoring and no significant historic-period archaeological remains were identified. For these reasons, it is not considered likely that archaeological resources would be encountered during construction of the KP Medical Center. However, while unlikely, it is possible that archaeological resources could be present in areas that were not subject to deep excavation. In addition, some aspects of construction (e.g., pile driving and/or augers) could extend below the depths of previous excavation. Potential impacts to resulting from unanticipated discovery of archaeological resources and human remains would be a **potentially significant impact**.

MLS Stadium

The MLS Stadium is not proposed in an area that was previously or currently considered sensitive for prehistoric or historic period archaeological resources. The closest previously identified archaeologically sensitive area is the 6th-7th Street Corridor, which was characterized as archaeologically sensitive for historic period resources in the 2007 RSP EIR. This area, which is at a considerable distance, has been modified extensively by railroad construction and railyard development. Subsequently, the area of the proposed site of the MLS Stadium was the location of extensive ground disturbing activities associated with remediation activities, as illustrated in **Figure 4.4-8**. During this extensive remediation work, no prehistoric-period materials were observed during monitoring and no significant historic-period archaeological remains were identified. For these reasons, it is not considered likely that archaeological resources would be encountered during construction of the MLS Stadium. However, while unlikely, it is possible that archaeological resources could be present in areas that were not subject to deep excavation. In addition, some aspects of construction could extend below the depths of previous excavation. Potential impacts to resulting from unanticipated discovery of archaeological resources and human remains would result in a **potentially significant impact**.

Stormwater Outfall

The Stormwater Outfall would be constructed in an area that was not previously identified as archaeologically sensitive. The closest previously identified archaeologically sensitive area is Slater's Addition. A thin strip of this circa 1850s former residential area is mapped just to the south of the proposed Stormwater Outfall.

As detailed in the setting, while shipwrecks have been documented along the Sacramento River, no historically documented shipwrecks have been identified within the footprint of the Stormwater Outfall. The remnants of the historic Pioneer Flouring Mill lack sufficient integrity to reflect their historic associations, and as such have been recommended ineligible for listing. No other known submerged resources have been documented within or in the river adjacent to the RSP Area. However, there could be unanticipated archaeological resources and/or human remains located within the Stormwater Outfall footprint, and any disturbance of such resources would result in a **potentially significant impact**.

Summary

The proposed projects would include construction involving ground disturbing activities that could disturb or destroy potentially significant buried resources, including human remains, or submerged archaeological sites. Destruction or loss of these resources would potentially result in **significant impact**.

The magnitude of this impact is similar to the impact described in the 2007 RSP EIR, except that the potential areas where such impacts are expected to be most likely to occur has been reduced due to the extent of remediation-related excavation.

Mitigation Measure

Mitigation Measure 4.4-1 described below is similar to Mitigation Measure 6.3-1 on page 6.3-45 of the 2007 RSP EIR. The measure has been revised to include updated sensitivity analysis prepared for this SEIR. Mitigation Measure 4.4-1(a) would apply to the portions of the RSP Area shown in Figure 4.4-9 as archaeologically sensitive areas. Mitigation Measure 4.4-1(b) addresses the potential for subsurface resources that are potentially present below the northern levee embankment. Mitigation Measure 4.4-1(c) addresses the discovery of unanticipated archaeological resources, and applies to all of the proposed projects. Implementation of the following mitigation measures would ensure that (1) CRHR-eligible resources are identified and (2) that the important information these remains contain is recovered, as well as (3) ensuring that human remains are treated appropriately. These actions would reduce these impacts to a less-than-significant level.

Mitigation Measure 4.4-1(a) (RSPU ASAs)

i. Prior to any ground-disturbing activity in Archaeologically Sensitive Areas (ASAs), a focused Archaeological Testing Plan (ATP) shall be prepared and implemented to determine the presence/absence of archaeological resources and to assess their eligibility to the CRHR. The ATP shall be reviewed and approved by the Preservation Director prior to implementation. An example outline of the ATP is included in Appendix E of this Draft SEIR.

ii. If the testing program identifies CRHR-eligible archaeological resources, an Archaeological Mitigation Plan shall be prepared and implemented.

iii. Based upon the results of test excavations, it may be necessary to conduct archaeological monitoring in some areas. In these areas, an Archaeological Monitoring Plan shall be prepared and implemented to ensure appropriate identification and treatment of anticipated archaeological resources, if any are discovered during grading or construction activities. At a minimum, the Monitoring Plan shall include provisions to result in the cessation of activities upon discovery, evaluation of such resources for historic significance, and if the resource is significant, appropriate treatment based on recommendations of a qualified archaeologist. Appropriate treatment shall include protection of the resource from further damage, and one of the following, as appropriate: (1) preservation in place; (2) return of the resource to the most likely descendent (MLD) (if determined to be of Native American origin), (3) curation in an appropriate location or facility, and/or (4) recordation. The City Preservation Director shall approve the Archaeological Monitoring Plan prior to implementation. An example outline of an Archaeological Monitoring Plan is included in Appendix E of this Draft SEIR.

iv. Prior to construction activities, an archaeologist will lead an in-field tailgate training session for project construction crews on the kinds and types of resources that may be present, and give plans for actions of work stoppage to occur should archeological features be encountered.

Mitigation Measure 4.4-1(b) (RSPU, footprint of the northern levee embankment only)

Within the current footprint of the northern levee embankment, prior to ground-disturbing activities that are anticipated to extend below the level of North B Street (e.g. excavation below the base of the extant levee embankment), an Archaeological Monitoring Plan shall be prepared and implemented to ensure appropriate identification and treatment of anticipated archaeological resources, if any are discovered during grading or construction activities. In the event of inadvertent discovery of a potential archaeological resource or human remains, Mitigation Measure 4.4-1(c) will be implemented.

Mitigation Measure 4.4-1(c) (RSPU, KPMC, MLS, SO)

In the event that unanticipated archaeological resources or human remains are encountered, compliance with federal and state regulations and guidelines regarding the treatment of cultural resources and human remains shall be required. The following details the procedures to be followed in the event that new cultural resource sites or human remains are discovered.

i. If a monitoring archaeologist or a member of the construction team believes that an archaeological resource has inadvertently been uncovered, all work adjacent to the discovery shall cease, and an SOI qualified archaeologist immediately notified. Appropriate steps shall be taken, as directed by the archaeologist, to protect the discovery site. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the archaeological resources in accordance with Federal and State Law. At a minimum the area will be secured to a distance of 50 feet from the discovery. Vehicles, equipment, and unauthorized personnel shall not be permitted to traverse the discovery site. The archaeologist shall conduct a field investigation and assess the significance of the find. Impacts to cultural resources shall be lessened to a less-than-significant level through data recovery or other methods determined adequate by the archaeologist and consistent with the Secretary of the Interior's Standards for Archaeological Documentation. All identified cultural resources shall be recorded on the appropriate DPR 523 (A-L) form and filed with the North Central Information Center.

ii. If human remains are discovered at the project construction site during any phase of construction, all ground-disturbing activity within 50 feet of the resources shall be halted and the County Coroner shall be notified immediately, according to Section

5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. If the remains are determined to be Chinese, or any other ethnic group, the appropriate local organization affiliated with that group shall be contacted and all reasonable effort shall be made to identify the remains and determine and contact the most likely descendant. The approved mitigation shall be implemented before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.

If the remains are of Native American origin, the landowner or the landowner's representative shall contact the Native American Heritage Commission to identify the Most Likely Descendant. That individual shall be asked to make a recommendation to the landowner for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.983.

If the Most Likely Descendant fails to make a recommendation or the landowner or his or her authorized representative rejects the recommendation of the descendant, and if mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner, then the landowner or authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Mitigation Measure 4.4-1(d) (SO)

The title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the California State Lands Commission (CSLC) (PRC Section 6313[a]). In the case of an inadvertent discovery of a submerged shipwreck or related artifacts, all work must cease in the immediate vicinity of the find and the lead agency's archaeological resource staff will be notified immediately in order to initiate consultation with the CSLC staff within two business days of such discovery.

PRC Section 6313 (c) states any submerged historic resource remaining in state waters for more than 50 years will be presumed to be archaeologically or historically significant. If the lead agency's archaeologist, in consultation with the CSLC staff, determines that a historical resource may be present, the lead agency will retain the services of a qualified maritime archeological consultant. The maritime archeological consultant will recommend whether the discovery is an historical/archeological resource that retains sufficient integrity and is of potential historical or scientific significance. The maritime archeological

consultant also will recommend as to what action, if any, is warranted. Based on this information, and consultation with the CSLC, implementation of additional measures may be required.

Measures shall include preservation in situ of the historical resource, implementation of a data recovery program, or other such action that preserves the cultural value of the resource. The maritime archeological consultant will submit a Final Cultural Resources Technical Report to the lead agency, NCIC, and the CSLC staff. This report will include an evaluation of the historical significance, with a description of the archeological and historical research methods employed in any archeological data recovery program undertaken.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 4.4-1(a) through (d), this impact would be reduced to a **less-than-significant** level. Implementation of pre-construction testing and accidental discovery procedures during construction would lessen anticipated impacts to prehistoric and historic period, including Native American archaeological resources by ensuring that previously unidentified archaeological resources are protected. During construction activities, inadvertent discoveries of submerged resources in the Sacramento River would be protected through the appropriate evaluations of the resource and proper steps to take to preserve or recover the resource.

Impact 4.4-2: The proposed projects could cause a substantial adverse change in to the Central Shops Historic District or the Water Tower.

The 2007 RSP EIR discussed direct impacts on the Central Shops Historic District under Impact 6.3-2 on pages 6.3-49 through 6.3-51. As part of the proposed 2007 analysis, the Water Tower was to be relocated into the Central Shops Historic District, and impacts to it as an individual resource were not addressed.

Impact 6.3-2 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating to the Central Shops Historic District with the implementation of Mitigation Measure 6.3-2. Mitigation Measure 6.3-2(a) and (b) included guidance for formal documentation of the Central Shops Historic District, completion of HAER documentation for the Southern Pacific Company Sacramento Shops, and completion of a Historic District Plan for the Central Shops.

Railyards Specific Plan Update

The RSPU anticipates plans to rehabilitate the buildings in the Central Shops District, as defined by the Specific Plan, to prepare them for habitation and use by tenants. In conjunction with the 2007 RSP, the Central Shops District was listed in the Sacramento Register as a Historic District. Contributing resources were identified, as well as and significant features and characteristics of

the district. The Sacramento County Historical Society and other non-profit organizations also prepared and submitted a National Register nomination to the State Historic Preservation Officer (SHPO) in 2007. This submittal was reviewed by SHPO, which provided comments in 2008, but the nomination was not finalized.

The proposed RSPU and Design Guidelines include goals, policies, and guidelines for proposed new development, tenant improvements, signage and open space improvements within the Central Shops Historic District, a surrounding Transition Zone the Water Tower site, and for the area surrounding the Sacramento Valley Station. The RSPU states that work conducted within the Central Shops Historic District, at the Water Tower, and at the Sacramento Valley Station site, would comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties, Rehabilitation Standards.

The Central Shops Historic District is listed as a Historic District in the Sacramento Register. The Central Shops Historic District's designation ordinance, listing it in the Sacramento Register, identifies the significant features and characteristics of the district and its contributing resources. Any proposed new projects that do not comply with the Secretary of the Interior's Rehabilitation Standards could significantly affect the character defining features of the district and could jeopardize its eligibility as an historical resource, and would be a **significant impact** to the historic district.

The Water Tower, located approximately 500 feet northeast of the Central Shops Area, is considered a potentially eligible individual local Landmark. The designation of the Water Tower as an individual Landmark would require proposed new projects on the Water Tower parcel to be reviewed for compliance with the City's Planning & Development Code and applicable SOI Standards. No development on the Water Tower parcel is currently anticipated, and if a proposal were made, compliance with the code and SOI standards would ensure that any potential development would be done in compliance to treatment of the Water Tower as a historic resource. No additional mitigation is required for impacts to the Water Tower.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to the Central Shops Historic District, the Water Tower, and the Sacramento Valley Station would be the same as discussed above for the RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and effects to the RSPU Land Use Variant would be equal to those of the RSPU, resulting in **a significant impact**.

KP Medical Center

Because the KP Medical Center is not located near the Central Shops, the Water Tower, nor the Sacramento Valley Station, no direct impacts to the shops will occur due to the construction or operation of KP Medical Center. This would result in **no impact** to historical resources, so no mitigation is required.

MLS Stadium

Because the MLS Stadium is not located near the Central Shops, the Water Tower, nor the Sacramento Valley Station, no direct impacts to the district will occur due to the construction or operation of the Stadium. This would result in **no impact** to historical resources and no mitigation required.

Stormwater Outfall

Because the Stormwater Outfall is not located near the Central Shops, the Water Tower, nor the Sacramento Valley Station, no direct impacts to the district will occur due to the construction or operation of the Stormwater Outfall. This would result in **no impact** to historical resources and no mitigation required.

Summary

The proposed KP Medical Center, MLS Stadium, and Stormwater Outfall would have **no impact** on the Central Shops Historic District, the Water Tower, or on the Sacramento Valley Station. The RSPU and Land Use Variant would include the anticipated rehabilitation and adaptive reuse of the Southern Pacific Railroad Shops. The Central Shops Historic District is listed as a Historic District in the Sacramento Register. The Central Shops Historic District's designation ordinance, listing it in the Sacramento Register, identifies the significant features and characteristics of the district and its contributing resources. Any proposed new projects that do not comply with the Secretary of the Interior's Rehabilitation Standards could significantly impact the character defining features of the district and could jeopardize its eligibility as an historical resource, and could result in a **significant impact** to the historic district.

The magnitude of this impact is less than described in the 2007 RSP EIR due to the completion of a Sacramento Register nomination, as required by 2007 RSP EIR mitigation measures.

Mitigation Measure

Mitigation Measure 4.4-2, below, is similar to Mitigation Measure 6.3-2 on page 6.3-51 of the 2007 RSP EIR. The measure has been revised to reflect the designation of the Central Shops as a local historic landmark. The mitigation addresses compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, the Rehabilitation Standards, completion of a Central Shops Historic District Plan, and completion of HABS/HAER documentation for the Southern Pacific Company Shops. This would reduce impacts to the Central Shops Historic District to a less-than-significant level by ensuring that the complex is documented, and that any new construction in proximity to these historic resources would be compatible.

Mitigation Measure 4.4-2(a) (RSPU Central Shops District)

Consistent with Section 17.604 and other section s of Title 17 of the City's Planning & Development Code, and in coordination and consultation with the Preservation Director and the Preservation Commission, and adopted by the City Council, a Historic District

Plan that is specifically focused on the Historic District in the Central Shops shall be prepared. Any development within the Historic District shall comply with the standards and criteria identified in the plan. The Historic District Plan shall include, at a minimum, the following components:

1. *Statement of the goals for review of development projects within the Historic District;*

2. *A representation of the historical development of land uses, existing land uses, and any adopted plans for future land uses;*

3. *A statement of findings, including the following:*

    a. *The historical or pre-historical period to which the area is significant.*

    b. *The predominant periods or styles of the structures or features therein.*

    c. *The significant features and characteristics of such periods or styles, as represented in the Historic District and incorporating the findings of the historic district designation completed by the City in 2007, including, but not limited to, structure height, bulk, distinctive architectural details, materials, textures, archeological and landscape, hardscape and site features and fixtures.*

    d. *A statement, consistent with Title 17, Sacramento Register of Historic and Cultural Resources, of this chapter, of the standards and criteria to be used in determining the appropriateness of any development project involving a landmark, contributing resource or noncontributing resource within the Historic District.*

Mitigation Measure 4.4-2(b) (RSPU Central Shops District)

A copy of the full Southern Pacific Company Sacramento Shops HAER document (HAER CA303) shall be completed, and filed with the City's Preservation Office and Center for Sacramento History, including the historic narrative, architectural drawings, and photographs, and archive quality copies disseminated to the appropriate state, regional, and local repositories.

Impact Significance After Mitigation: With the implementation of **Mitigation Measures 4.4-2(a) and 4.4-2(b)** listed above, this impact would be reduced to a **less-than-significant** level by ensuring that the integrity of the Central Shops Historic District is protected. All proposed new work would comply with the Secretary of the Interior's (SOI) Rehabilitation Standards. The 2007 EIR Mitigation Measures 6.3-2(a) and (b) included the Sacramento Register listing of the Central Shops as a Historic District which has been completed, concurrent with the adoption of the to the

2007 Railyards Specific Plan. Mitigation Measure 6.3-2(b) and (c) required preparation of a Historic America Building Survey document and Historic District Plan for the Central Shops Historic District, and are reiterated in Mitigation Measure 4.4-2. Implementation of the proposed Specific Plan policies and design guidelines, along with Mitigation Measure 4.4-2 would ensure that no new impacts to the Central Shops Historic District would occur as a result of the proposed RSPU.

Impact 4.4-3: The proposed projects could cause a substantial adverse change to the Central Shops Historic District, or Water Tower, by new construction surrounding and affecting the contributing resources and the significant features and characteristics of the district.

The 2007 RSP EIR discussed indirect impacts on the Central Shops Historic District under Impact 6.3-3 on pages 6.3-51 through 6.3-52.

Impact 6.3-3 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating to the Central Shop Historic District with the implementation of Design Guidelines and the designation of the Transition Zone, along with compliance with the City Preservation Ordinance.

Railyards Specific Plan Update

As noted above, in conjunction with the adoption of the 2007 RSP, the Central Shops Historic District was listed in the Sacramento Register as an Historic District and specific policies, rehabilitation standards and design guidance for proposed new projects within the Central Shops Historic District and in the Transition Zone were also adopted.

As explained in greater detail in the Chapter 2, Project Description, the proposed 2016 land use designation for Central Shops Historic District parcels is proposed to be changed from those in the approved 2007 RSP. The boundary for the Central Shops Historic District is proposed to be slightly modified from the adopted 2007 boundary. Figure 4.4-11 shows the 2007 historic district boundary, the currently proposed historic district boundary, and the current transition zone. The primary driver for this change is slight northward alignment of the proposed public right-of-way currently referred to as Camille Lane, shifting the Transition Zone area north of the Historic District. Interstate 5 abuts the Central Shops Historic District to the west, creating a physical barrier and transition between the Sacramento River and the Central Shops Historic District. In general, the proposed boundary change proposed for the Central Shops Historic District would increase the land acreage within the district from 11.6 acres (2007) to 12.5 acres (2016), while retaining the Transition Zone acreage at 7.2 acres, though reconfigured. Although not on a contiguous parcel, the existing Water Tank located north-west to the intersection between Camille Lane and 5th Street, which was originally planned to be moved into the Historic District, is now proposed to be individually listed because the structure is now proposed to be preserved at

its current location, and the historic district ordinance is proposed to be amended to no longer include it as a contributing resource within the historic district.

The primary purpose of redefining the Central Shops Historic District and Transition Zone boundaries is related to proposed street alignment and parcel map changes. Any new buildings in the Transition Zone will be reviewed for their compatibility with the Central Shops Historic District to the south and west and transition to the scale of the West End District to the north and east.

The proposed RSPU and Design Guidelines include goals, policies, and guidelines for proposed new development, tenant improvements, signage and open space improvements within the Central Shops Historic District, a surrounding Transition Zone, for the Water Tower site, and for the area surrounding the Sacramento Valley Station. The proposed RSPU states that work conducted within the Central Shops Historic District, at the Water Tower, and at the Sacramento Valley Station site, would comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties, the Rehabilitation Standards.

The parcels immediately surrounding the Central Shops Historic District are included within a Transition Zone within the RSPU. The transition zone is proposed to ensure that new construction, streetscape, site and landscaping, and additions, alterations, or other improvements adjacent to the Central Shop Historic District complement the historic resources. The designation of the Transition Zone immediately adjacent to the Central Shops Historic District and Water Tower would lessen the isolation of the Water Tower from the Historic District. The retention of the Water Tower at its original location encourages the view of the historic Southern Pacific Railyards as an expansive working property, rather than a false view of a smaller, more compact historic use of the Railyards space.[64] The designation of the Water Tower as an individual Landmark will ensure that if new projects are proposed for the Water Tower parcel, they will be reviewed for compliance with the City's Planning & Development Code and the SOI Standards. Furthermore, the RSPU states that the facades of development adjacent to the Water Tower (on Lot 4d) shall be reviewed by the City's Preservation Director for compatibility with the Water Tower. Impacts relating to construction vibration on parcels adjacent to historic resources are addressed in the Noise and Vibration Section of this SEIR (Section 4.10). No additional mitigation is required for indirect impacts to the Water Tower.

In addition to the introduction of the potential for new construction immediately adjacent to the Central Shops Historic District, the proposed RSPU tentative map includes the introduction of new parcels within the Historic District boundaries, which could result in new construction. within the Central Shops Historic District. No plans currently exist for any project on these proposed new lots, but the lots as proposed would be considered "buildable lots." Introduction of incompatible construction within a historic district or affecting significant features and

64 Deering, Roberta. Personal communication with Kathy Anderson, ESA. May 16, 2016.

characteristics of the historic district could result in a potentially significant impact by allowing construction that could be out of scale with the existing shop buildings, could impact historic features and characteristics, or could impact the historic integrity of the site.

City Code Ordinance Chapter 17.604 and other sections of Title 17, the Planning & Development Code, provides protections for buildings, structures, objects, sites, and districts that are listed in, or nominated to the Sacramento Register. The chapter is intended to nominated and protect city-designated landmarks/historic districts and provides the clearest legal authority to the protection of city landmarks/historic districts. The introduction of incompatible elements, scale and design would, however, result in a **potentially significant** impact.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential indirect impacts to the Central Shops Historic District or Water Tower would be the same as discussed above for the RSPU, because the land use designations would not change for these areas. As such, the discussion above would be applicable to the RSPU Land Use Variant and the impact would be **significant**.

KP Medical Center

The proposed KP Medical Center is not located in proximity to the Central Shops Historic District or Water Tower, so no indirect impacts to historical resources would occur due to the construction or operation of KP Medical Center. This would result in **no impact** and no mitigation required.

MLS Stadium

In consideration of the distance of the proposed MLS Stadium from the Central Shops Historic District or Water Tower, no indirect impacts to historical resources would occur due to the construction or operation of the Stadium. This would result in **no impact** and no mitigation required.

Stormwater Outfall

In consideration of the distance of the proposed Stormwater Outfall from the Central Shops Historic District or Water Tower, no indirect impacts to historical resources would occur due to the construction or operation of the Stormwater Outfall. This would result in **no impact** and no mitigation required.

Summary

The RSPU and land use variance would include the introduction of new construction within the vicinity of the Central Shops Historic District or Water Tower. Proposed new projects on the sites of historic resources for the RSPU and land use variant only could adversely affect these historic resources. Therefore, this impact would be ***potentially significant***.

The magnitude of this impact is greater than that described in the 2007 RSP EIR, as a result of the introduction of the potential for development on the proposed new Lot 22 within the Central Shops Historic District.

Mitigation Measure

Mitigation Measure 4.4-3, below, is a new measure, because the proposed new Lot 22 was not included in the 2007 RSP. The mitigation below addresses compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, the Rehabilitation Standards, compliance with an adopted Central Shops Historic District Plan, and with Preservation review by the City's Preservation Development Project Site Plan & Design Review procedures and levels of review by the Preservation Commission, Preservation Director or Preservation Staff, as appropriate. This would reduce impacts to the Central Shops Historic District to a less-than-significant level by ensuring that any new construction in proximity to these historic resources would be compatible.

Mitigation Measure 4.4-3 (RSPU, Central Shops and Transition Zone)

Any proposed new project within the Central Shops Historic District (including new construction on Lot 22) shall be designed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, specifically the standards for rehabilitation and new construction within a historic district. Standards 9 and 10 for Rehabilitation state that:

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and shall be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The RSPU Design Guidelines and policies shall be consistent with these standards. In addition to compliance with the above, with the proposed adopted Historic District plan, and with the Design Guidelines established as part of the proposed RSPU, the project developer shall ensure that any new project involving the design of a new building shall not have a significant impact on the Historic District's contributing resources or its features and characteristics. The City of Sacramento Preservation Director, or the Commission, as appropriate per Preservation Development Project Site Plan & Design Review requirements of Title 17 of the City Code, shall review any proposed project's site plan and design to ensure its compatibility with the SOI Standards and the adopted Historic District plan.

Impact Significance After Mitigation: With the implementation of **Mitigation Measure 4.4-3**, this impact would be reduced to a **less-than-significant level**. Compliance with the Secretary of the Interior's Rehabilitation Standards, the proposed Historic District plan, and the proposed RSPU Design Guidelines and policies, in conjunction with the design and preservation site plan and design review requirements in Mitigation Measure 4.4-3, would reduce anticipated impacts on the Central Shops Historic District and Water Tower to a less-than-significant level through design standards and historic district plan and design guidelines guidance.

Impact 4.4-4: The proposed projects could cause a substantial adverse change to the I Street Bridge.

The 2007 RSP EIR discussed impacts to the I Street Bridge under Impact 6.3-5 on page 6.3-53.

Impact 6.3-5 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact on the to the I Street Bridge, because removal of the Jibboom Street Overhead, a non-contributing resource, would not materially impair the significance of the I Street Bridge as a National Register listed resource.

Railyards Specific Plan Update

The RSPU would alter the approach to the I Street Bridge by removing the Jibboom Street Overhead, but this would not cause a substantial adverse change to the NRHP listed I Street Bridge (Bridge 22C0153). The I Street Bridge itself is not located within the RSP Area and the eastern approaches to the I Street Bridge over the Sacramento River are not contributing structures to the NRHP listed property. These approaches include Jibboom Street Overhead (Bridge 24C0006), built in 1937, I Street Viaduct (Bridge 24C0364L), built in 1936, and the J Street Viaduct (Bridge 24C0364R), built in 1969.

The RSPU Circulation Plan shows that the Jibboom Street would be lowered to ground level, and that the Jibboom Street Overhead would be demolished and Bercut Drive completed as a dead-end street. The I Street Viaduct and its west bound lanes would remain in place, and the J Street Viaduct, which carries east bound traffic off the I Street Bridge on a concrete box girder structure down to J Street, would not be affected.

The Jibboom Street Overhead is not a historical resource in its own right nor is it a contributing element to the Historic I Street Bridge. The removal of the Jibboom Street Overhead would not alter or otherwise materially impair the NRHP-listed I Street Bridge and would not diminish the historic integrity of the I Street Bridge resulting in a **less-than-significant impact**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to the I Street Bridge would be the same as discussed above for the RSPU. The Jibboom Street Overhead would be removed, but because it is not a historical resource, the impact would be **less than significant.**

KP Medical Center

In consideration of the distance of the proposed KP Medical Center from the I Street Bridge, no direct or indirect impacts to the bridge would occur due to the construction or operation of KP Medical Center. This would result in **no impact** and no mitigation required.

MLS Stadium

In consideration of the distance of the proposed MLS Stadium from the I Street Bridge, no direct or indirect impacts to the district would occur due to the construction or operation of the Stadium. This would result in **no impact** and no mitigation required.

Stormwater Outfall

In consideration of the distance of the proposed Stormwater Outfall from I Street Bridge, no direct or indirect impacts to the bridge would occur due to the construction or operation of the Stormwater Outfall. This would result in **no impact** and no mitigation required.

Summary

The proposed projects would include the removal of the Jibbom Street Overhead, a noncontributing component of the historic I Street Bridge. As a noncontributing element, demolition of this feature would not impact the historic significance of the bridge, and no mitigation is required.

The magnitude of this impact is the same as described in the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.4-5: The proposed projects could cause a substantial adverse change in the significance of historic resources outside of the Central Shops, specifically the remnant portion of the Pioneer/Sperry Grain Mill, California State Landmark 780 the First Transcontinental Railroad, and the Sacramento River Levees.

Impact 6.3-6 of the 2007 RSP EIR found that the 2007 RSP would have a significant impact on the First Transcontinental Railroad, which would be reduced to a less-than-significant level as a result of Mitigation Measure 6.3-6, which required documenting the railroad on HABS/HAER recordation and a historic display. The remaining resources were recommended ineligible for

listing in the California and National Registers, and as such not considered historical resources under CEQA.

Railyards Specific Plan Update

As discussed above, other built environment resources are located in the RSP Area including a remnant of the Pioneer/Sperry Grain Mill adjacent to the Sacramento River, the route of the First Transcontinental Railroad, and levees.

Pioneer/Sperry Grain Mill – The remnant portion of the Pioneer/Sperry Grain Mill is located on a parcel to the west of the Jibboom Street Viaduct on property owned by the State of California Department of Parks and Recreation. The 2007 EIR identified this resource as ineligible for listing in the California or National Registers due to a lack of sufficient physical integrity. The documentation was reviewed for this SEIR analysis, and the findings were confirmed. Therefore, the remnant portion of the Pioneer/Sperry Mill does not appear to be a historical resource for the purposes of CEQA and therefore no impact would occur and no mitigation is required.

The First Transcontinental Railroad Route – The proposed public right-of-way currently referred to as Camille Lane was, in the 2007 RSP, proposed to be constructed in an arc-shaped footprint that would generally follow the path of the First Transcontinental Railroad route as it passed through the RSP Area in Sacramento. The proposed new alignment of Camille Lane would not follow the original Transcontinental Railroad route. As required by Mitigation Measure 6.3-6 of the 2007 RSP EIR, the route within the RSP Area was evaluated for historical significance and found to be ineligible for listing on the National or State registers. Significant portions of the track along the route have been removed during soil remediation on the property. For these reasons, the proposed projects would not have any impact to physical features of California State Landmark 780, the First Transcontinental Railroad, and its route, portions of which were recorded outside of the RSP Area.

Levees – The levee embankment that runs along the north edge of the RSP Area from I-5 to 12th Street appears to have been mostly constructed in the early twentieth century, prior to the late 1920s, although a portion of it could have its origins in the 1860s before the American River channel was moved northward. The railroad had built earlier embankments on the north side of the Railyards, constructed immediately north of the tracks adjacent to the roundhouse and adjacent buildings. It is likely that Southern Pacific built the embankment at the north edge of the RSP Area as a secondary protection measure in addition to the levees built along the American River by Reclamation District 1 in the 1910s. The integrity of this embankment has been compromised, most recently by the 7th Street Extension, and the assessment of this structure in the 2007 RSP EIR indicates that it does not appear to meet the criteria for listing in the NRHP and would not be considered a historical resource for the purposes of CEQA compliance. Therefore, the proposed projects would not have an adverse effect on the historic significance of the embankment. The archaeological resource potential of the levees and embankments has been covered in Impact 4.4-1 above.

For the reasons discussed above, the proposed projects would have a **less-than-significant impact** on historic resources within the RSP Area other than the Central Shops. This impact is similar to but less severe than Impact 6.3-6 of the 2007 RSP EIR because the 2007 mitigation has been implemented.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would develop the same area as the proposed projects, which as discussed above, does not contain historically significant resources other than the Central Shops. Therefore, the effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant impact**.

KP Medical Center

As described above, the Sacramento River levee and associated northern levees were recommended ineligible for listing in the 2007 EIR, and as such are not considered historical resources for the purposes of CEQA. Therefore, the proximity of the proposed KP Medical Center to the northern levees would result in no direct or indirect impacts to historical resources resulting from the construction or operation of KP Medical Center. This would result in **no impact** and no mitigation is required.

MLS Stadium

As described above, the Sacramento River levee and associated northern embankments were recommended ineligible for listing in the 2007 EIR, and as such are not considered historical resources for the purposes of CEQA. Therefore, the proximity of the proposed MLS Stadium to the northern levees would result in no direct or indirect impacts to historical resources resulting from construction or operation of the Stadium. This would result in **no impact** and no mitigation is required.

Stormwater Outfall

The US Army Corps of Engineers has recognized flood control project levees on the Sacramento River as eligible for listing in the NRHP in their recent emergency work to upgrade levees around the city. This conclusion was meant to facilitate the environmental process for the levee improvement projects, wherein SHPO accepts a presumed eligibility and reviews the potential effects that the project might have on the various project levees. It is understood that this presumed eligibility is only used for consideration under the emergency levee improvement projects. The Stormwater Outfall would affect portions of the Sacramento River levee system.

The levee on the western edge of the RSPU area is immediately adjacent to the portion of levee evaluated by JRP in 1998, which was recommended ineligible for the National and California Registers due to a lack of significant historical associations within its historic context. It is likely that the portion of the levee within the RSP Area shares a similar history, particularly as it relates to the Sacramento River Flood Control Project and improvements that the Corps made to the levees in the vicinity, and as such is presumed similarly ineligible for listing in the National and

California Registers due to a lack of significant associations within its historic context. As such, **no impact** to historical resources is anticipated and no mitigation is required.

Summary

The proposed projects would include the construction that would alter previously recorded historic period structures and buildings within the RSP Area, including the Pioneer/Sperry Grain Mill adjacent to the Sacramento River, the route of the First Transcontinental Railroad, and levees. Evaluations of the levees and the Pioneer/Sperry Grain Mill in 2007 recommended these resources ineligible for listing in the National and California Registers. Soil remediation efforts in the vicinity of the route of the First Transcontinental Railroad have identified and documented no physical remains of the alignment. Because these resources are not eligible for listing, the proposed projects would result in **no impact** on built historical resources outside of the Central Shops.

The magnitude of this impact is the same as described in the 2007 RSP EIR.

Mitigation Measures

None required.

Impact 4.4-6: The proposed projects could cause a substantial adverse change in the significance of the Alkali Flat West and North Historic Districts.

The 2007 RSP EIR discussed impacts to the Alkali Flat West and North Historic Districts under Impact 6.3-7 on pages 6.3-55 and 6.3-56.

Impact 6.3-6 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating to the Alkali Flat Historic Districts as a result of implementation of RSPU Design Guidelines.

Railyards Specific Plan Update

The Alkali Flat West Historic District is located east of and adjacent to the Railyards Depot District. The Alkali Flat North Historic District extends south from the intersection of 7th and D streets to 7th and F streets, and east to 8th and D streets, and is located approximately 1,000 feet south of the proposed MLS Stadium. New development adjacent to these NRHP, CRHR and Sacramento Register-listed districts could disrupt the setting of the neighborhood and threaten the integrity of this historical resource.

The proposed configuration of the RSP's East District is essentially the same as in the 2007 RSP, although building height restrictions in the northern part of district, between South and North Park streets from 7th and 10th, are proposed to be removed. This district continues to be proposed as a largely residential neighborhood, but the traditional, more fine-grained grid system depicted

in the 2007 RSP would be replaced with larger blocks. In addition, in the RSPU, the blocks between 8th Street and 10th Street, north of Railyards Boulevard would be the site for the proposed MLS Stadium. The proposed configuration of the Depot District, located adjacent to Alkali Flat Historic District along 7th Street, is unchanged from the 2007 RSP, but design guidelines have been changed to allow mid-rise as well as high-rise commercial mixed-use buildings.

The RSPU policies and Design Guidelines contain guidance for the area of development adjacent to Alkali Flat West Historic District. While the boundaries of the district extend to this location, the majority of contributing resources within the district are located along E and F streets starting on the eastern end of the 7th Street block and extending to the eastern end of the 8th Street block. Contributing resources located along 7th Street include 517 7th Street, 521 7th Street, and 523 7th Street (shown on Figure 4.4-6). Proposed changes in height restrictions in the land uses on the west side of the 7th Street corridor would increase building heights from 85 feet with a 35-foot street-wall, to 120 feet with a 65-foot street-wall in the vicinity of those contributing buildings. The introduction of buildings and structures incompatible with the historic character of the Alkali Flat West Historic District could result in a potentially significant indirect impact to the historic setting of the district, impacting the historic context of the district and its integrity of setting. While building heights along 7th Street in the RSPU are unrestricted south of the contributors, and have increased along the E/F block of 7th Street, 7th Street currently acts as a boundary separating the Alkali Flat West Historic District from the RSP Area, and is proposed to be widened along its western end, further differentiating the district from existing and proposed modern development described in the Project Description (Chapter 2).

According to the RSPU Design Guidelines, the Depot District has specific design guidelines that address impacts to the Alkali Flat neighborhood. The design guidelines address relating to existing scale and character of the Alkali Flat neighborhood, specifically in the blocks bounded by 7th, 8th, F and D streets, and adjoining Central City. By requiring design elements that are similar to those of the Alkali Flat Neighborhood, the new development would likely not be a stark contrast to the existing neighborhood. As such, the proposed change to the land use would not result in a significant impact to the Alkali Flat West Historic District. Adherence new design guidelines and policies would ensure less-than-significant impact on the Alkali Flat West Historic District.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to the Alkali Flat West Historic District would be the same as discussed above for the RSPU, because the Design Guidelines for the area adjacent to Alkali Flat would be the same. Therefore, the impact would be the same as the RSPU, resulting in a **less-than-significant impact**.

KP Medical Center

The proposed KP Medical Center site is not located near the Alkali Flat West Historic District, so **no impact** on this district would occur due to the construction or operation of KP Medical Center.

MLS Stadium

The proposed MLS Stadium is located approximately 1,000 feet north of the boundary of the Alkali Flat North Historic District boundary at Chinatown Alley and 11th Street. The introduction of the MLS Stadium would be located on the other side of the railroad levee, hindering views of the Stadium from the district. The distance between the MLS Stadium and the district, the obstruction provided by the tracks, and implementation of the RSPU Design Guidelines would provide adequate differentiation and distance to lessen any potential indirect impacts. Therefore, the impact would be **less than significant.**

Stormwater Outfall

Because of the distance of the proposed Stormwater Outfall from the Alkali Flat Historic Districts, **no impact** on these districts would occur due to the construction or operation of the Stormwater Outfall.

Summary

The proposed projects would include the introduction of new development adjacent to or in close proximity to the Alkali Flat West Historic District. Within the immediate proximity of the districts, proposed height restrictions along 7th Street, the visual obstruction of the railroad berm, and Design Guidelines and policies would ensure the impact to the Alkali Flat West Historic District would be **less than significant**.

The magnitude of this impact similar to the impact described in the 2007 RSP EIR.

Mitigation Measures

None required.

Impact 4.4-7: Construction of the proposed projects could damage and/or destroy paleontological resources.

The 2007 RSP EIR did not address paleontological resources.

Railyards Specific Plan Update

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 construction and remediation efforts within the RSP Area have largely removed any potential traces of paleontological resources. Based on a review of known disturbances, 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 and/or and related construction activities. Therefore, this impact would be **potentially significant**.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, potential impacts to paleontological resources would be the same as discussed above for the RSPU, resulting in a **potentially significant impact**.

KP Medical Center

The proposed KP Medical Center is not proposed in an area that was considered sensitive for paleontological resources. Nonetheless, as discussed above, the unanticipated discovery of paleontological resources during MLS Stadium construction, if such resources were present, would be a **potentially significant impact**.

MLS Stadium

The proposed MLS Stadium is not proposed in an area that was considered sensitive for paleontological resources. Nonetheless, as discussed above, the unanticipated discovery of paleontological resources during MLS Stadium construction, if such resources were present, would result in a **potentially significant impact**.

Stormwater Outfall

The Stormwater Outfall is not proposed in an area that was considered sensitive for paleontological resources. Nonetheless, as discussed above, the unanticipated discovery of paleontological resources during Stormwater Outfall construction, if such resources were present, would result in a **potentially significant impact**.

Mitigation Measures

Mitigation Measure 4.4-7 is a new measure, because paleontological resources were not analyzed in the 2007 RSP EIR.

> **Mitigation Measure 4.4-7 (RSPU, KPMC, MLS, SO)**
>
> *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 4.4-7 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 more highly 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 of Sacramento, 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 4.4-8: The proposed projects could contribute to the cumulative loss or alteration of archaeological resources, including human remains.

Based upon previous cultural resource surveys and research, the area that comprises the City of Sacramento and surrounding area has been inhabited by prehistoric peoples for thousands of years. The proposed projects, in combination with other development in the City of Sacramento, could contribute to the loss of significant archaeological resources. Because all significant archaeological resources are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. While the annealing pits potentially associated with the Central Shops were identified within the RSP Area and were considered potentially significant, no other known significant archaeological resources are documented within the RSP Area. Nonetheless, the proposed projects have the potential to adversely affect significant archaeological resources through excavation or accidental discovery. As unique and non-renewable members of finite classes, the project's incremental contribution to the cumulative effects would itself be potentially cumulatively considerable; therefore, this is a **potentially significant cumulative impact**.

Mitigation Measures

Mitigation Measure 4.4-8 (RSPU, SO)

Implement Mitigation Measures 4.4-1(a) through 4.4-1 (d).

Impact Significance After Mitigation: Implementation of **Mitigation Measures 4.4-1(a) through 4.4-1 (d)** 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 4.4-9: The proposed projects could contribute to the cumulative loss or alteration of historic built resources, including the Central Shops Historic District (the Southern Pacific Railroad Shops,) the Water Tower, the Sacramento Valley Station, or the Alkali Flat Historic Districts.

Historic development of the City of Sacramento dates back to the mid-nineteenth century and reflects the ongoing development of the City. The Railyards, as a component of the urban core, reflects the ongoing development of the City, including the transportation, economic growth, and changing patterns of urban development through the nineteenth and twentieth centuries.

The proposed projects have the potential to directly and indirectly affect the historic resources within the Central Shops Historic District either through the alteration of the resources or the setting. The proposed Specific Plan changes, Special Planning District changes, proposed Tentative Map parcels within and surrounding the Central Shops Historic District, and the proposed boundary changes to the Central Shops Historic District and the Transition Zone within the RSP Area could cause a substantial adverse change in the significance of an historical resource. If historic resources were damaged or destroyed during construction of the proposed projects. that would be allowed pursuant to the RSPU, then the project's contribution to cumulative loss of historic resources would be considered **significant**.

Federal, state, and local laws can generally protect historical resources in most instances. Even so, it is not always feasible to retain historical resources. For this reason, the cumulative effects of the proposed RSPU coupled with other development in the City of Sacramento would constitute a **potentially significant** impact.

The RSP Area includes several historical resources, including the Central Shops Historic District, the Water Tower, and the Sacramento Valley Station. The RSPU proposes to protect these resources through designation of the Central Shops Historic District and establishment of the Transition Zone, as well as protection of the Water Tower as a Landmark in the Sacramento Register. Because the Sacramento Valley Station and Alkali Flat North and West Historic Districts (which are located adjacent to and west of the RSP Area) are listed in the NR, CR, and Sacramento Registers, there are provisions in the City Code for these resources. Proposed new development projects involving listed historical resources must comply with the Secretary of the Interior's Rehabilitation Standards and the Preservation Site Plan & Design Review process. Compliance with City Codes and SOI Standards, and review by the City's Preservation Director of building designs within the Transition Zone and adjacent to the Water Tower, in addition to mitigation measures requiring plan policies, HABS/HAER recordation, an historic district plan and design guidelines to protect the Central Shops Historic District, SOI Standards to protect the Water Tower, the Sacramento Valley Station, and the Alkali Flat West Historic District, would ensure that the contribution of the proposed projects to the regional loss or degradation of significant historic resources, so this would be a less-than-significant contribution to the cumulative impact.

Mitigation Measures

Mitigation Measure 4.4-9

Implement Mitigation Measures 4.4-2 and 4.4-3.

Impact Significance After Mitigation: With the implementation of **Mitigation Measures 4.4-2 and 4.4-3** listed above, this impact would be reduced to a **less-than-significant level**. Compliance with the SOI Standards, through undertaking HABS/HAER recordation, and filing it with the City's Preservation Director and Center for Sacramento History, and adopting a Historic District Plan per Mitigation Measure 4.4-2(b), RSPU Design Guidelines and policies, and the City Preservation Site Plan & Design Review procedures per Title 17 of the City Code, would lessen the project's contribution to cumulative impacts on historic built resources by protecting the integrity of the Central Shops Historic District, through review of proposed new projects within the district for compliance with the SOI Standards, the Historic District Plan and design guidelines.

Impact 4.4-10: The proposed projects 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 could damage or destroy such resources. This is considered a significant cumulative impact. The Proposed projects could contribute to this impact if paleontological resources are located beneath the RSP Area at depths that are disturbed by project construction. This would be a **significant cumulative impact**.

Mitigation Measures

Mitigation Measure 4.4-10

Implement Mitigation Measure 4.4-7.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 4.4-7 the project contribution toward the loss of paleontological resources would be reduced to a **less-than-significant level** by requiring implementation of accidental discovery procedures during construction would lessen anticipated cumulative impacts to paleontological resources.

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SECTION 4.5
Energy Demand and Conservation

This section addresses Appendix F of the CEQA Guidelines. Appendix F notes that an EIR requires an evaluation of a proposed project's potential energy implications and encourages measures to avoid or reduce the inefficient, wasteful, or unnecessary consumption of energy.

This section first describes the environmental and regulatory energy setting. The environmental setting covers the existing electricity and natural gas sources in the RSP Area, and transportation fuels, such as gasoline and diesel fuel. The regulatory setting describes federal, state, and local laws, regulations, and policies that govern energy use. The energy impact section then evaluates the significance of the proposed projects' use of gasoline, diesel fuel, natural gas, and electricity for construction and operation, including transportation purposes.

During the Notice of Preparation (NOP) review period, the Sacramento Municipal Utility District (SMUD) submitted a letter regarding energy services. The letter expresses SMUD's request that the following issues are addressed in the SEIR: overhead and or underground transmission, utility line routing, electrical load needs/requirements (energy center), energy efficiency, and climate change. Except for climate change, which is addressed in Section 4.7, all of the issues raised by SMUD are addressed in this section.

This section is based on project-specific construction and operational features, data provided in the City of Sacramento 2035 General Plan and the City of Sacramento 2035 General Plan Master Environmental Impact Report, as well as information from SMUD and Pacific Gas and Electric Company (PG&E).

Issues Addressed in the 2007 RSP EIR

The 2007 RSP EIR discussed the distribution systems for electricity and natural gas, the estimated energy consumption for the proposed project, Appendix F of the CEQA Guidelines, and energy consumption due to gasoline use from vehicle trips during construction and operation. Energy demand and conservation related to the proposed projects, including RSPU, the RSPU Land Use Variant, the proposed KP Medical Center, the proposed MLS Stadium, and the proposed Stormwater Outfall are addressed in this section.

4.5.1 Environmental Setting

The energy setting is described on pages 6.14-1 through 6.14-6 of the 2007 RSP Draft EIR. The environmental setting has changed since certification of the 2007 RSP EIR. Specifically, the

discussion of the California Energy Commission (CEC) Integrated Energy Policy Report has not been included because, since the certification of the 2007 RSP EIR, there is region specific energy demand and conservation data available in the City of Sacramento 2035 General Plan.

Electricity

SMUD is responsible for the generation, transmission, and distribution of electrical power to its 900 square mile service area, which includes the Specific Plan Area. SMUD's service area includes most of Sacramento County and a small portion of Placer County. SMUD is a publicly-owned utility governed by an elected board of seven directors that make policy decisions and appoint the general manager, the individual responsible for the District's operations. In 2011, SMUD served approximately 1.4 million residents with a total annual retail load of approximately 10.385 million megawatt-hours. SMUD generates 1,745 megawatts (MW) of power and buys 1,192 MW of power to meet the region's power demands. SMUD supplies power through a distribution grid that is a looped system, which provides for more reliable power.[1]

In 2014, SMUD obtained its electricity from the following sources: large hydroelectric (10%), natural gas (41%), biomass and waste (12%), geothermal (1%), small hydroelectric (4%), solar (3%), and wind (7%). Additionally, around 23% of SMUD's energy resources are from "unspecified sources of power", which means it was obtained through transactions and the specific generation source is not traceable. Approximately 27% of SMUD's energy portfolio is from eligible renewable resources, including biomass and waste (12%), geothermal (1%), small hydroelectric (4%), solar (3%), and wind (7%).[2]

Natural Gas

PG&E provides natural gas service to the Specific Plan Area. PG&E provides electricity and natural gas distribution, electricity generation, transportation and transmission, natural gas procurement, and storage. The utility company is bound by contract to update its systems to meet any additional demand. Services are provided within 48 counties in California with a total service area of approximately 70,000 square miles in northern and central California. The utility provides services with 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines. PG&E serves approximately 4.3 million natural gas distribution customers. It is anticipated that natural gas distribution lines in new development will be placed underground in accordance with CPUC rules.[3]

1 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 3, 2015.

2 Sacramento Municipal Utility District, 2014, Power Content Label. Available: https://www.smud.org/assets/documents/pdf/Power-Content-Label-full.pdf. Accessed November 17, 2015.

3 Pacific Gas & Electric, 2015. Company Profile. Available: http://www.pge.com/en/about/company/profile/index.page?. Accessed December 8, 2015.

Energy from Fuel Consumption by Construction and Operational Transportation

Vehicles operated for both construction and operational transportation result in the consumption of transportation fuels. The consumption of energy by way of transportation can be calculated using the type of construction equipment used and the period of time for construction and Vehicle Miles Travelled (VMT) for operational transportation fuels. As technology becomes more efficient for construction and passenger vehicles, the consumption of transportation fuels decreases overall. Additionally, the implementation of alternative modes of transportation, such as transit, bicycling, and walking, can contribute to the decrease of transportation fuels consumed.[4]

4.5.2 Regulatory Setting

The energy regulatory setting is described on pages 6.14-6 through 6.14-8 of the 2007 RSP Draft EIR. The regulatory setting has been updated since certification of the 2007 RSP EIR, and the following discussion is based on the 2007 RSP EIR setting.

Federal

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects. Licensing of hydroelectric facilities under the authority of FERC includes input from State and federal energy and power generation, environmental protection, fish and wildlife, and water quality agencies.[5]

National Highway Traffic Safety Administration (NHTSA) Standards

The National Highway Traffic Safety Administration (NHTSA) and the U.S. Environmental Protection Agency (EPA) are taking coordinated steps to enable the production of clean energy vehicles with improved fuel efficiency. NHTSA sets the Corporate Average Fuel Economy (CAFE) levels, which are rapidly increasing over the next several years in order to improve energy security and reduce fuel consumption. The first phase of the CAFE standards (for model year 2017 to 2021) is projected to require, on an average industry fleet-wide basis, a range from 40.3 to 41.0 mpg in model year 2021. The second phase of the CAFE program (for model years 2022 to 2025) is projected to require, on an average industry fleet-wide basis, a range from 48.7 to 49.7 mpg in model year 2025. The second phase of standards has not been finalized due to the statutory requirement that the NHTSA set average fuel economy standards not more than five model years at a time.[6]

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4 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 3, 2015. Section 6-6.

5 Federal Energy Regulatory Commission, 2015. About FERC. Available: http://www.ferc.gov/about/about.asp. Accessed December 15, 2015.

6 National Highway Traffic Safety Administration, 2016. Available: http://www.nhtsa.gov/fuel-economy. Accessed February 25, 2016.

U.S. Department of Transportation, U.S. Department of Energy, and Environmental Protection Agency on Transportation Energy

On the federal level, the U.S. Department of Transportation, U.S. Department of Energy, and U.S. Environmental Protection Agency (EPA) are three agencies with substantial influence over energy policies related to transportation fuels consumption. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure projects.

State

California Public Utilities Commission Requirements

The California Public Utilities Commissions (CPUC) is a State agency created by a constitutional amendment to regulate privately-owned utilities providing telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation services, and in-State moving companies. The CPUC is responsible for assuring that California utility customers have safe, reliable utility services at reasonable rates, while protecting utility customers from fraud. The CPUC regulates the planning and approval for the physical construction of electric generation, transmission, or distribution facilities; and local distribution pipelines of natural gas.[7]

California Energy Commission

The California Energy Commission (CEC) is California's primary energy policy and planning agency. Created by the California Legislature in 1974, the CEC has five major responsibilities: 1) forecasting future energy needs and keeping historical energy data; 2) licensing thermal power plants 50 MW or larger; 3) promoting energy efficiency through appliance and building standards; 4) developing energy technologies and supporting renewable energy; and 5) planning for and directing State response to energy emergencies. Under the requirements of the California Public Resources Code, the CEC in conjunction with the California Department of Conservation (DOC) Division of Oil, Gas, and Geothermal Resources is required to assess electricity and natural gas resources on an annual basis or as necessary.[8]

Title 20 and Title 24, California Code of Regulations

New buildings constructed in California must comply with the standards contained in Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards, of the California Code of Regulations (CCR). Part 11 of Title 24 is the California Green Building Standards Code (CALGreen) sets minimum and mandatory sustainability requirements, in order to reduce environmental impact through better planning, design and construction practices. CALGreen works along with the mandatory construction codes of Title 24 and is enforced at the local level.[9]

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7 California Public Utilities Commissions, 2016. *California Public Utilities Commission.* Available: http://www.cpuc.ca.gov/. Accessed February 5, 2016.

8 California Energy Commissions, 2016. "About the California Energy Commission." Available: http://www.energy.ca.gov/commission/. Accessed February 5, 2016.

9 California Department of Housing and Community Development, 2015. *2015 Report to the Legislature: Status of the California Green Building Standards Code.* Accessed December 18, 2015.

Title 20 contains standards ranging from power plant procedures and siting to energy efficiency standards for appliances to ensuring reliable energy sources are provided and diversified through energy efficiency and renewable energy resources. Title 24 (AB 970) contains energy efficiency standards for residential and nonresidential buildings based on a State mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.[10,11]

Any project-related construction would be required to comply with the Title 24 codes currently in place, including the CALGreen code. The existing 2013 standards became effective on July 1, 2014. New codes are adopted triennially and the 2016 standards will become effective July 1, 2017.[12]

Assembly Bill 1493 - Clean Car Standards (Pavley)

This bill was passed in 2002 and requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas (GHG) emissions, through mandating gradual reductions in global warming pollutants from cars and light trucks sold in California from 2009 through 2016. The average gram-per-mile reduction of GHG emissions from new California cars and light trucks is required to be about 30% in 2016, compared to 2004 model year vehicles. Passenger cars and light trucks sold within California are required to have a GHG reduction of 34% from model year 2016 through 2025. The bill requires that by 2025 there be an estimated reduction of GHG emissions from cars sold from 2008 through 2025 of approximately 51%.[13]

Warren-Alquist Energy Resources Conservation and Development Act

Initially passed in 1974 and amended since, the Warren-Alquist Energy Resources Conservation and Development Act (Warren-Alquist Act) created the California Energy Commission, the State's primary energy and planning agency. The seven responsibilities of the Commission are: forecasting future energy needs, promoting energy efficiency and conservation through setting standards, supporting energy related research, developing renewable energy resources, advancing alternative and renewable transportation fuels and technologies, certifying thermal power plants 50 megawatts or larger, and planning for and directing state response to energy emergencies. The State Energy Commission regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption. Additionally, the Warren-Alquist Act acknowledges the need for renewable energy resources and

10 California Energy Commission, 2015. Title 20 Public Utilities and Energy, 2015. Available: https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I237B3BF0D44E11DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default). Accessed December 15, 2015.

11 California Building Standards Commission, 2013. Title 24 California Building Standards Code, 2013. Available: http://www.bsc.ca.gov/Home/Current2013Codes.aspx, Accessed December 15, 2015.

12 California Building Standards Commission, 2015. California Building Standards Code. Available: http://www.bsc.ca.gov/. Accessed January 30, 2016.

13 Transportationpolicy.net, 2014. California: Light-duty: GHG. Accessed: http://transportpolicy.net/index.php?title=California:_Light-dugy:_GHG. Last modified February 2014. Accessed March 1, 2016.

encourages the Commission to explore renewable energy options that would be in line with environmental and public safety goals. (Warren-Alquist Energy Resources Conservation and Development Act Public Resources Code section 25000 *et seq*.).[14]

Local

City of Sacramento 2035 General Plan

The following goals and policies from the City of Sacramento 2035 General Plan are relevant to energy. It is important to note that the City's Climate Action Plan (CAP), originally adopted in 2012, has been integrated into the 2035 General Plan. The CAP policies outline strategies that can contribute to the reduction of greenhouse gas emissions as a result of energy generation and consumption, and how to adapt to expected climate change impacts.[15]

Goal U 6.1 **Adequate Level of Service. Provide for the energy needs of the city and decrease dependence on nonrenewable energy sources through energy conservation, efficiency, and renewable resource strategies.**

Policies

U 6.1.1 **Electricity and Natural Gas Services.** The City shall continue to work closely with local utility providers to ensure that adequate electricity and natural gas services are available for existing and newly developing areas.

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 6.1.6 **Renewable Energy.** The City shall encourage the installation and construction of renewable energy systems and facilities such as wind, solar, hydropower, geothermal, and biomass facilities.

U 6.1.15 **Energy Efficiency Appliances.** The City shall encourage builders to supply Energy STAR appliances and HVAC systems in all new residential developments, and shall encourage builders to install high-efficiency boilers where applicable, in all new non-residential developments.

As described in Impact 4.5-1, the proposed RSPU would address energy conservation through requiring the use of green building technology and renewable energy resources. Generally, the proposed RSPU would strive to promote environmental sustainability through the use of renewable energy resources. The proposed KP Medical Center and MLS Stadium would augment sustainable community practices by using green building technology, which includes the use of energy-efficient infrastructure and appliances. Additionally, all buildings developed pursuant to the proposed RSPU must meet the energy efficiency standards mandated by Title 24 (California Energy Efficiency Standards).

[14] California Energy Commission, 2015. Warren-Alquist Act, 2015. Available: http://www.energy.ca.gov/reports/Warren-Alquist_Act/index.html. Accessed December 15, 2015.

[15] City of Sacramento, 2015. *2012 Climate Action Plan: Executive Summary.* Available: http://portal.cityofsacramento.org/Community-Development/Resources/Online-Library/Sustainability. Accessed December 18, 2015.

4.5.3 Analysis, Impacts, and Mitigation

Significance Criteria

Appendix G of the CEQA Guidelines does not identify any potential significance criteria for the evaluation of impacts related to energy demand and conservation. Criterion 1, listed below, is the same as that used in the 2007 RSP EIR. Criterion 2 has been added to reflect more fully the intent of the Public Resources Code and CEQA Guidelines Appendix F.[16]

The proposed projects would result in a significant impact on energy demand and conservation if they 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; or

2. Result in the wasteful, inefficient, or unnecessary consumption of energy for project construction or operation, including transportation energy.

Methodology and Assumptions

The analysis in this section focuses on the nature and magnitude of the change in energy resources due to construction and operation of land uses to be developed under the RSPU.

Electricity

Electricity service within the RSP Area would be provided by SMUD. Power to the RSP Area, including the proposed KP Medical Center and proposed MLS Stadium sites, would be supplied by a series of underground 21 kilovolt (kV) distribution lines fed from the SMUD North City substation located north of 20th St and C streets. SMUD is currently in the process of replacing and expanding the capacity of Station A, currently located south of Block 42 at the corner of 6th/H streets, with a new Station A to be constructed on Block 42, near 6th/G streets. SMUD will also be replacing the North City substation with the Station E substation, located at 151 20th St., within the next three years. There are no existing 115kV transmission lines in the RSP Area. An underground 115 kV transmission loop connects the North City substation with Station A, Station B located at 19th and O streets, and Station D located at 8th and R streets. Station E will eventually replace the North City substation in this 115kV loop.

Key distribution lines that are planned to supply the RSP Area include a 21 kV distribution system infrastructure consisting of duct lines and manholes installed along 6th St, 7th St and Railyards Blvd. Existing feeders and new express feeders will be extended through this infrastructure. Existing 21kV feeders are routed on Richards Boulevard, North B St. and Bercut

[16] California Public Resources Code section 21100(b)(3) states that an EIR must include a detailed statement setting forth "[m]itigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." This same focus on avoiding "wasteful, inefficient, and unnecessary" energy use is reflected numerous times in CEQA Guidelines Appendix F.

Drive. Future Station E feeders are being planned on Richards Boulevard, North B St. and in the UPRR corridor.

Tables 4.5-1 and **4.5-2** estimate the amount of electricity that would be consumed by all of the components of the proposed RSPU and the Land Use Variant. These estimates have been calculated using CalEEMod 2013 2.2 model. In order to accurately compare the 2007 RSP electricity data to the proposed RSPU, the 2007 RSP project was input into CalEEMod 2013 2.2 model. The 2007 RSP electricity data is based on peak demand estimates from SMUD, however these estimates are not comparable to the data from CalEEMod.

TABLE 4.5-1.
RSPU OPERATIONAL ENERGY USE

Land Use	Proposed RPSU	Units	Electricity[1] Megawatt-hours/year	Natural Gas[1] Million Btu/year
Multi-family Residential	6,000	units	21,000	47,611
Parks	30	acres	0	0
Office	4,543	ksf	65,690	47,611
Museum	180	ksf	2,156	805
KP Medical Center	1,228	ksf	25,135	65,403
Hotel	1,100	rooms	15,844	50,519
MLS Stadium	25,000	ticketed attendees	6,141	12,219
Retail	905	ksf	10,800	4,045
Total			**147,037**	**228,213**

NOTE:

1. Electricity and natural gas consumption estimates generated using CalEEMod 2013.2.2 model. See Appendix C.1 for model outputs and additional details.

Source: ESA, 2016

TABLE 4.5-2.
RSPU LAND USE VARIANT OPERATIONAL ENERGY USE

Land Use	Amount	Units	Electricity[1] Megawatt-hours/year	Natural Gas[1] Million Btu/year
Multi-family Residential	7,000	units	24,764	55,348
Parks	30	acres	0	0
Office	5,709	ksf	82,895	59,830
Museum	180	ksf	2,156	805
Hotel	1,100	rooms	15,844	50,519
Retail	1,272	ksf	15,239	5,686
Total			**140,898**	**172,188**

NOTE:

1. Electricity and natural gas consumption estimates were generated using CalEEMod 2013.2.2 model. See Appendix C.1 for model outputs and additional details.

Source: ESA, 2016

Natural Gas

The downtown Sacramento area generally is served by a PG&E 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 in the vicinity 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.[17] 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.[18]

Tables 4.5-1 and 4.5-2 provide an estimate of the amount of natural gas that would be consumed by all of the components of the proposed RSPU, including the KP Medical Center, and MLS Stadium, as well as the RSPU Land Use Variant. These estimates were calculated using CalEEMod 2013 2.2 model. The natural gas demand information reported in the 2007 RSP EIR was calculated based on assumed square footage and acreages for the project and used estimates from other sources as multipliers to derive estimated natural gas demand. Because of the difference in methods of calculation, they are not comparable to the data generated by the CalEEMod model. In order to provide a direct comparison of the natural gas demand from the 2007 RSP to the natural gas demand for the proposed RSPU, the 2007 project energy demand estimated through use of the CalEEMod 2013 2.2 model, as shown in **Table 4.5-3**.

TABLE 4.5-3.
2007 RSP OPERATIONAL ENERGY USE

Land Use	Amount	Units	Electricity[1] Megawatt-hours/year	Natural Gas[1] Million Btu/year
Multi-family Residential	12,500	units	44,222	98,902
City Park	41.2	acres	0	0
Office	3,268	ksf	47,451	34,249
Museum	188	ksf	2,252	840
Hotel	1,100	rooms	15,844	50,519
Retail	1,573	ksf	18,246	6,808
Total			**128,015**	**191,318**

NOTE:

1. Electricity and natural gas consumption estimates were generated using CalEEMod 2013.2.2 model. See Appendix C.1 for model outputs and additional details.

Source: ESA, 2016

17 Nolte, 2011. Downtown Infrastructure Study. September 2011.

18 Nolte, 2011. Downtown Infrastructure Study. September 2011.

Transportation

Transportation fuel consumption for construction and operation are a key element of project energy consumption. For construction, this includes fuel use (diesel and/or gas) associated with construction equipment and vehicles. For operations, this includes fuel use associated with on-road vehicles. Construction- and operational-related fuel use was back-calculated based on greenhouse gas emissions estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. Fuel use from construction activities is further discussed under Construction, below. CalEEMod calculates annual energy (i.e., natural gas and electricity) for operational-related activities for the land uses specified. The approach used to estimate transportation fuel use was similar to the approach used for construction fuel use. The only difference was that the GHG emissions generated by CalEEMod were split into diesel and gasoline emissions using percentages of diesel and gasoline vehicle travel in Sacramento County. These percentages are heavily weighted towards gasoline vehicles.

Table 4.5-4 presents estimated annual fuel use for project operations, categorized by the proposed RSPU, the RSPU Land Use Variant, the KP Medical Center, and the MLS Stadium. These estimates have been calculated using CalEEMod 2013 2.2 model.

TABLE 4.5-4.
OPERATIONAL FUEL USE

	Diesel Fuel (gallons per year)	Gasoline (gallons per year)
RSPU	248,114	27,981,778
RSPU Land Use Variant	188,140	21,218,000
KP Medical Center	38,145	4,301,889
MLS Stadium	6,734	759,492

NOTE:

Assumes worst-case construction fuel use based on the CalEEMod 2013.2.2 model. See Appendix C.1 for model outputs and additional details.

Source: ESA, 2016

Construction

For construction, diesel and gasoline fuel use were estimated as follows. First, total GHG emissions estimated using CalEEMod were split into diesel- and gasoline-generated emissions. This split was based on the percentage of diesel and gasoline vehicles typically operated during construction projects. These percentages are heavily weighted towards diesel vehicles. Then, diesel and gasoline GHG emissions were converted to gallons using standard conversion factors.

Table 4.5-5 estimates the fuel use for construction, categorized by the proposed RSPU, the RSPU Land Use Variant, the KP Medical Center, and the MLS Stadium. These estimates have been calculated using CalEEMod 2013 2.2 model.

TABLE 4.5-5.
CONSTRUCTION FUEL USE

	Diesel Fuel (Gallons)	Gasoline (Gallons)
RSPU	23,570,857	1,413,221
RSPU Land Use Variant	17,873,291	1,067,127
KP Medical Center	808,576	48,479
MLS Stadium	64,581	3,872
Stormwater Outfall	1,123	67

NOTE:

Assumes worst-case construction fuel use based on the CalEEMod 2013.2.2 model. See Appendix **C.1** for model outputs and additional details.

Source: ESA, 2016

Impacts and Mitigation Measures

Impact 4.5-1: The proposed project would increase demand for energy, specifically electricity and natural gas, the construction of which could cause significant environmental effects.

Railyards Specific Plan Update

The 2007 RSP EIR found that impacts with respect to energy facilities would be less-than significant (see impacts 6.14-1 and 6.14-2, pages 6.14-12 through 6.14-15 of the 2007 RSP EIR). As calculated in CalEEMod and explained above, the 2007 RSP estimated that a total of 128,015 MWh/year of electricity and 191,318 million Btu/year of natural gas would be consumed by uses in the RSP Area. The proposed RSPU would alter the land use mix in the RSP Area, and would include the proposed KP Medical Center and MLS Stadium projects, which have different energy consumption rates than the 2007 RSP land uses.

Electricity

As noted previously, the RSPU would be served by a number of connections to the SMUD's 21 kV distribution network. Table 4.5-1, above, summarizes the anticipated demand from the project and estimates an electricity demand of 147,037 MWh/year. The proposed RSPU would result in a net increase in demand of approximately 19,022 MWh/year, from the 2007 RSP as shown in Table 4.5-3. This figure accounts for peak demands from the proposed RSPU in order to ensure that efficient supply that would be available during major events.

This project would require the installation of additional facilities on site, including additional pad mounted transformers, transformer vaults, network, and distribution manholes, and additional distribution lines throughout the proposed RSPU site. However, SMUD has reviewed the proposed project and confirmed it would be able to serve the anticipated demand load.[19] It is anticipated that the utility would be able to serve the proposed RSPU without additional requirements for offsite electricity supply or conveyance facilities. The physical environmental

[19] Shimizu, Gary, Principal Distribution System Engineer. Email communication April 11, 2016.

effects of adding electrical facilities within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. This impact is consistent with the 2007 RSP energy impact, and is considered **less than significant**.

Natural Gas

Natural gas, provided by PG&E, would be utilized for the proposed RSP for the primary uses of space heating and water heating. Table 4.5-1, above, summarizes the anticipated demand from the project and estimates a natural gas demand of 228,213 million Btu/year. The proposed RSPU would result in a net decrease in demand of approximately 36,895 million Btu/year, from the 2007 RSP as shown in Table 4.5-3. This figure accounts for peak demands from the proposed RSPU, in order to ensure that efficient supply that would be available during major events.

The proposed RSPU would not result in new requirements for major improvements or other new off-site infrastructure. Given the proposed RSPU components, the existing facilities would be sufficient to provide service to the project. Additional on-site facilities (distribution lines) may be constructed within the RSP Area. Construction of these facilities would be included within the scope of the project, and the effects of these improvements are accounted for in other sections of this SEIR. Therefore, potential effects on energy related facilities would be limited, and this impact is considered **less than significant**. This impact is equal to the 2007 RSP energy impact.

Operational Transportation

Operational transportation of the proposed project would require the use of fuels (primarily gasoline and diesel) for the operation of passenger vehicles associated with the proposed RSP Area. The estimated quantity of operational diesel fuel and gasoline used each year by uses provided for in the proposed RSPU is shown in Table 4.5-4. For the operation of the proposed RSPU, it is estimated that annually there would be approximately 248,114 gallons of diesel fuel and 27,981,778 gallons of gasoline consumed.

The proposed RPSU land use design, roadway system, and transit-oriented network were developed in accordance with smart growth principles. Mixed use developments, like the proposed RSPU, provide an opportunity for people to live, work, shop and find recreation activities in one community. This allows people to travel shorter distances between their origins and destinations. These shorter travel distances reduce vehicle trip lengths and make walking and bicycling more viable travel options. Furthermore, the addition of retail, office, and commercial uses to the proposed RSP Area would provide services and employment opportunities close to downtown Sacramento residents, who would otherwise have to travel longer distances for these services and jobs.

The increased use of fuel as a result of the proposed RSPU would not result in the requirement for additional facilities, and thus would not create new significant impacts not otherwise addressed in this SEIR. Therefore, the impact is equal to the 2007 RSP energy impact and is considered **less than significant**.

Construction

Construction of the proposed project would require the use of fuels (primarily gasoline and diesel) for operation of construction equipment (e.g., dozers, excavators, generators, and trenchers), construction vehicles (e.g., dump and delivery trucks), and construction worker vehicles. Direct energy use would also include the use of electricity required to power construction equipment (e.g., welding machines and electric power tools). However, the estimated quantity of diesel fuel and gasoline use is shown in Table 4.5-5. For the construction of the proposed RSPU, it is estimated there would be approximately 23,570,857 gallons of diesel fuel and 1,413,221 gallons of gasoline consumed.

Construction activities are temporary and would not result in a long term increase in demand for fuel, and would not be of sufficient magnitude to require new infrastructure to be constructed to supply construction activities. Therefore, the impact is equal to the 2007 RSP energy impact and is considered **less than significant**.

Railyards Specific Plan Update Land Use Variant

Electricity

The electricity demand for the RSPU Land Use Variant would be less to the demand from the proposed RSPU project, as a result of the replacement of the proposed KP Medical Center and MLS Stadium uses with mixed residential and non-residential uses. As shown in Tables 4.5-1 and 4.5-2, the energy demand of the RSPU Land Use Variant is calculated to be 140,898 MWh/year, which is 6,139 MWh/year lower than the proposed RSPU. Additionally, the proposed RSPU Land Use Variant would result in a net increase in demand of approximately 12,883 MWh/year, from the 2007 RSP as shown in Table 4.5-3.

Like the proposed RSPU, this project would require the installation of additional facilities on site, including additional pad mounted transformers, transformer vaults, network, and distribution manholes, and additional distribution lines throughout the proposed RSPU site. However, SMUD has reviewed the proposed project and confirmed it would be able to serve the anticipated demand load.[20] It is anticipated that the utility would be able to serve the proposed RSPU project without additional requirements for offsite electricity supply or conveyance facilities. The physical environmental effects of adding electrical facilities within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. This impact is equal to the 2007 RSP energy impact and is considered **less than significant**.

Natural Gas

The natural gas demand for the RSPU Land Use Variant would be less than the demand from the proposed RSPU. As shown in Tables 4.5-1 and 4.5-2, the natural gas demand for the RSPU Land Use Variant is calculated to be 172,188 Btu/year, which is 56,025 Btu/year lower than the proposed RSPU. Additionally, the proposed RSPU Land Use Variant would result in a net decrease in demand of approximately 19,130 million Btu/year compared to the 2007 RSP, as shown in Table 4.5-3.

[20] Shimizu, Gary, Principal Distribution System Engineer. Email communication April 11, 2016.

Given the proposed RSPU Land Use Variant components, the existing facilities would be sufficient to provide service to the project. Additional on-site facilities (distribution lines) may be constructed within the project site. Construction of these facilities would be included within the scope of the project. The potential effects on energy related facilities would be equal to the 2007 RSP energy impact and is considered **less than significant**.

Operational Transportation

As shown in Table 4.5-4, annual fuel consumption from operational transportation from the RSPU Land Use Variant would be 188,140 gallons of diesel fuel and 21,218,000 gallons of gasoline. Compared to the proposed RSPU, each year the RSPU Land Use Variant operational transportation would consume 59,974 gallons less diesel fuel and 6,763,778 gallons less gasoline. The reduction in fuel consumption from operational transportation is due to the elimination of the KP Medical Center and MLS Stadium uses, and development of a mix of non-residential and residential uses on those parcels, which demand less fuel consumption from operational transportation.

The increased use of fuel as a result of the proposed RSPU would not result in the requirement for additional facilities, and thus would not create new significant impacts not otherwise addressed in this SEIR. Therefore, potential effects of fuel consumption from operational transportation is considered **less than significant**. This impact is the same as the 2007 RSP energy impact.

Construction

As shown in Table 4.5-5, fuel consumption from construction, including construction transportation, from the RSPU Land Use Variant would be 17,873,291 gallons of diesel fuel and 1,067,127 gallons of gasoline. The RSPU Land Use Variant construction transportation would consume 5,697,566 gallons less of diesel fuel and 346,094 gallons less of gasoline. Therefore, potential effects on fuel consumption from construction transportation is considered **less than significant**, would be the same as the 2007 RSP energy impact.

KP Medical Center

Electricity

The construction phase of the KP Medical Center would require electricity for the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings. As shown in Table 4.5-1, above, operational electricity demand from the KP Medical Center would be approximately 25,135 megawatt-hours per year (Mwh/year). A component of the KP Medical Center would be a Central Utility Plant (CUP), which would have the capacity to provide energy to the KP Medical Center in the case of an energy shortage.

Kaiser Permanente would implement a multi-tiered approach to the research, development, implementation of and ongoing improvements in energy, such as, potentially, green roofs to reduce heat gain, thermal fluid heaters as a high-efficient water heating source, solar power/ photovoltaics, electric vehicle charging stations, and use of green power for construction. The estimated electrical demand does not take into consideration the effectiveness of the project's energy conservation features, which would likely result in a lower demand for electricity than this

estimate; however, because the KP Medical Center has not been fully designed, the efficacy of future energy conservation features cannot be quantified. To provide a conservative analysis, these project energy conservation features are not accounted for in the analysis.

The physical environmental effects of adding electrical facilities within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. Therefore, potential effects on energy related facilities are considered **less than significant**.

Natural Gas

As shown in Table 4.5-1, it is estimated that approximately 65,403 million Btu/year would be consumed by the KP Medical Center. The primary use of natural gas would be for space heating and water heating, including operation of boilers in the CUP. As noted above, it is not anticipated that the KP Medical Center would result in new requirements for major improvements or other new infrastructure off site. The physical environmental effects of adding natural gas infrastructure within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. Therefore, potential effects on natural gas infrastructure are considered **less than significant**.

Operational Transportation

Table 4.5-4 shows the annual operational fuel use for the proposed KP Medical Center. Annual operations of the KP Medical Center would result in the consumption of 38,145 gallons of diesel fuel and 4,301,889 gallons of gasoline.

As accounted for in CalEEMod and shown in Table 4.5-4, operational fuel consumption would be reduced due to the location of the proposed KP Medical Center, an area that would be accessible through alternative forms of transportation for both employees and patients. Therefore, the potential effect on energy fuel consumption from operational transportation is considered **less than significant**.

Construction Transportation

Table 4.5-5 shows the construction fuel use for the proposed KP Medical Center. For construction, the KP Medical Center would consume 808,576 gallons of diesel fuel and 48,479 gallons of gasoline.

Construction activities are temporary and would not result in a long term increase in demand for fuel. Therefore, the potential effect on energy fuel consumption from construction transportation is considered **less than significant**.

MLS Stadium

Electricity

The construction phase of the MLS Stadium would require electricity for the manufacturing and transportation of building materials, preparation of the site, and construction of the Stadium. As shown in Table 4.5-1, above, electricity demand from the MLS Stadium is approximately 6,141 Mwh/year.

The proposed MLS Stadium would be designed and constructed to achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) equivalent energy and environmental design to the extent feasible. The project would target an energy reduction goal of 15% better than the Title 24 requirements and use of up to 1% of on-site generated renewable energy. This would be accomplished through systems to optimize energy performance, including energy metering, demand response, maximizing the use of shade structures and wind resources, and potential use of solar panels for on-site energy. This estimation does not take into consideration the effectiveness of the project's energy conservation features, which would likely result in a lower demand for electricity than this estimate; however, since the energy conservation features provided by the MLS Stadium cannot be quantified and to provide for a conservative analysis, the project energy conservation features is not accounted for in the analysis.

The physical environmental effects of adding electrical facilities within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. Therefore, potential effects on energy related facilities would be considered **less than significant**.

Natural Gas

Table 4.5-1 estimates approximately 12,219 million Btu/year would be consumed by the proposed MLS Stadium, primarily for space heating and water heating. As noted above, it is not anticipated that the MLS Stadium would result in new requirements for major improvements or other new infrastructure off site. Therefore, potential effects on energy related facilities would be considered **less than significant**.

Operational Transportation

Tables 4.5-4 shows the annual operational fuel use for the proposed MLS Stadium. Annual operations of the MLS Stadium would result in the consumption of 6,734 gallons of diesel fuel and 759,492 gallons of gasoline.

As accounted for in CalEEMod and shown in Table 4.5-4, the MLS Stadium is located in an area that is accessible through alternative forms of transportation for both employees and spectators. Therefore, the potential effect on energy fuel consumption from operational transportation is considered **less than significant**.

Construction Transportation

Table 4.5-5 shows the construction fuel use for the proposed MLS Stadium. For construction, the MLS Stadium would consume 64,581 gallons of diesel fuel and 3,872 gallons of gasoline. Construction activities are temporary and would not result in a long term increase in demand for fuel. Therefore, the potential effect on energy fuel consumption from construction transportation is considered **less than significant**.

Stormwater Outfall

As described in the Project Description, the operation of the proposed Stormwater Outfall would regularly consume electricity, and in emergencies, natural gas. It is estimated that each year operations of the proposed Stormwater Outfall, including the associated pump station, would

consume approximately 253,735 kWh of electricity.[21] This amount of electricity and natural gas would not require any changes to the physical infrastructure. There would be a small amount of fuel consumed during construction, approximately 1,123 gallons of diesel fuel and 67 gallons of gasoline; these are included in the estimated total proposed RSPU construction fuel consumption. The physical environmental effects of adding energy facilities within the RSP Area are considered in the resource evaluations in this SEIR; no additional effects would be created. Therefore, this impact is considered to be **less than significant**.

Summary

Energy consumption, including electricity, natural gas, and fuel, for construction and operation of the proposed RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and Stormwater Outfall would be accomplished without the addition of energy infrastructure that could result in adverse environmental effects. In view of the above, impacts related to energy consumption would be **less than significant**.

The magnitude of this impact is the same as described in Impacts 6.14-1 and 6.14-2 in the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.5-2: The proposed projects could result in the wasteful, inefficient, or unnecessary use of energy.

Railyards Specific Plan Update

The 2007 RSP EIR found that impacts with respect to the project resulting in wasteful, inefficient, or unnecessary use of energy would be less-than significant (see impact 6.14-3 and, pages 6.14-15 through 6.14-16 of the 2007 RSP EIR). The 2007 RSP EIR discusses the building characteristics that contribute to energy efficiency and vehicle miles traveled (VMT) in assessing whether the 2007 RSP would result in a wasteful, inefficient, or unnecessary use of energy. Similar to the 2007 RSP, the proposed RSPU would incorporate energy efficient characteristics in buildings and infrastructure, as discussed further below.

Electricity and Natural Gas

As stated in the proposed RSPU objectives, the project strives to promote sustainability through the use of green building technology and renewable energy resources. Buildings and infrastructure constructed pursuant to the proposed RSPU would comply with Title 20 and 24 California Code of Regulations, including CALGreen, as explained above. In addition, the proposed RSPU calls for further reductions in overall electrical energy use, power demand and energy costs through the incorporation of additional energy efficiency measures as part of the

[21] Frisch Engineering, Inc., Load Calculation, April 14, 2016.

building design. Examples of energy conserving features called for in the proposed RSPU include integrated solar electric features, thermal energy storage systems, and advanced energy-saving architectural features in the buildings themselves. As examples and as described further below, two major uses that are anticipated to be developed pursuant to the proposed RSPU, the proposed KP Medical Center would be designed to LEED Silver or equivalent standards, and the proposed MLS Stadium would be designed to achieve LEED equivalent energy efficiency to the extent feasible.

The types of measures described above would be consistent with and would be reinforced through the City's Climate Action Plan policies that require energy efficiency. As is described in the City's Climate Action Plan Consistency Checklist which establishes the following energy performance measure or equivalent:

> For residential projects of 10 or more units, commercial projects greater than 25,000 square feet, or industrial projects greater than 100,000 square feet, would the project include on-site renewable energy systems (e.g., photovoltaic systems) that would generate at least a minimum of 15% of the project's total energy demand on-site?

As allowed by the City as an equivalent measure, in place of the overall 15% on-site renewable energy generation, the residential development would have 10% better energy efficiency and the commercial development would have 5% better energy efficiency than the Title 24 requirements.

Residences built to the 2016 Title 24 standards (that take effect January 1, 2017) would use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards.[22] California has developed a goal of zero net energy (ZNE) use in all new homes by 2020 and commercial buildings by 2030.[23] The ZNE goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need. Although the 2016 standards would not get the RSPU to ZNE, they would get close to this goal and make important steps toward changing residential building practices in California. The 2019 standards are expected to take the final step to achieve ZNE for newly constructed residential buildings throughout California. Since a portion of the RSPU would be built to the 2016 standards, and the majority of the RSPU would be built to the 2019 standards, the RSPU would be highly efficient in terms of energy use in residential structures.

As described above, the location, design, and mix of land uses provided for in the proposed RSPU, in combination with the policies of the proposed RSPU and the City's Climate Action Plan would avoid any wasteful or unnecessary use of energy. Therefore, this impact would be considered **less than significant**. The significance of this impact would be equal to the 2007 RSP impact.

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[22] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

[23] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

Operational and Construction Transportation

Based on Table 4.5-4, it is estimated that 110,118 gallons of diesel fuel and 12,418,889 gallons of gasoline would be consumed for the RSPU operational uses. Transportation energy would be used efficiently due to the location, density, and mix of planned uses in the RSP Area. The proposed RSPU land use design, roadway system, and mobility network were developed in accordance with smart growth principles. Mixed-use developments, such as the proposed RSPU, provide an opportunity for people to live, work, shop, and find recreation opportunities within one community. This allows people to travel shorter distances between their origins and destinations. These shorter travel distances reduce vehicle trip lengths and make walking and bicycling more viable travel options. As described in section 4.12, overall trip making would be approximately 32% less than if the comparable land uses were developed in more traditional single use, suburban settings that lack the transit options and ability to internalize trips. In addition, the regionally central location of the RSP Area means that trip lengths would be shorter than if the proposed land uses were developed elsewhere in the region. This reduction in trip making and trip lengths would have a commensurate reduction in transportation fuel consumption.

As explained above in Impact 4.5.1, construction of development and infrastructure pursuant to the proposed RSPU would require the use of fuels for operation of construction equipment, construction vehicles, and construction worker vehicles. Direct energy use would also include the use of electricity required to power construction equipment. As shown in Table 4.5-5, for the construction of the proposed RSPU, it is estimated there would be approximately 23,570,857 gallons of diesel fuel and 1,413,221 gallons of gasoline consumed. Notably, construction activities are temporary and would be spread over a period of two decades or more. Since the use would be temporary, it would not result in a long term increase in demand for fuel. Thus, construction and operation of the proposed RSPU would not result in a wasteful or unnecessary use of energy. Therefore, this impact would be considered **less than significant**. The impact of the proposed RSPU would be equal to that described for the 2007 RSP.

Railyards Specific Plan Update Land Use Variant

Electricity and Natural Gas

As described above for the proposed RSPU, the project has a stated objective to promote sustainability through the use of green building technology and renewable energy resources. The same objectives would exist for the RSPU Land Use Variant. Like for the proposed RSPU, the proposed RSPU Land Use Variant would comply with Title 20 and 24 California Code of Regulations, including CALGreen, as explained above. Like the proposed RSPU, the RSPU Land Use Variant would include a variety of additional energy conservation measures that could be included in the individual project design and/or operational features to decrease the amount of overall energy consumed by the project. Thus, the RSPU Land Use Variant would not result in a wasteful or unnecessary use of electricity or natural gas, this impact would be considered **less than significant**.

Operational and Construction Transportation

As shown in Table 4.5-4, annual fuel consumption from operational transportation from the RSPU Land Use Variant would be 188,140 gallons of diesel fuel and 21,218,000 gallons of gasoline. Compared to the proposed RSPU, the RSPU Land Use Variant operational transportation would consume each year 59,974 less gallons of diesel fuel and 6,733,778 less gallons of gasoline. The increase in fuel consumption from operational transportation is due to the development of a mix of non-residential and residential uses on the parcels that accommodate the proposed KP Medical Center and MLS Stadium under the proposed RSPU. The overall trip production of the mixed uses on those blocks would demand greater fuel consumption from operational transportation than the uses under the proposed RSPU. The difference is largely attributable to the fact that the MLS Stadium would be used only approximately 37 days per year, while mixed residential and retail uses under the Land Use Variant would generate trips all year long.

Despite the fact that the amount of fuel would increase, like the proposed RSPU, the RSPU Land Use Variant would include a land use mix, density, and mobility network developed in accordance with smart growth principles. This would provide residents, employees and visitors to the RSP Area multiple modes of travel and shorter distances between their origins and destinations, reducing vehicle trips and trip lengths, and making walking and bicycling more viable travel modes. As described in section 4.12, overall trip making would be approximately 32.5% less than if the comparable land uses were developed in more traditional single use, suburban settings that lack the transit options and ability to internalize trips. Like with the proposed RSPU, the regionally central location of the RSP Area means that trip lengths would be shorter than if the proposed land uses were developed elsewhere in the region. This reduction in trip making and trip lengths would have a commensurate reduction in transportation fuel consumption.

As explained above in Impact 4.5-1, construction of the proposed project would require the use of fuels for operation of construction equipment, construction vehicles, and construction worker vehicles. Direct energy use would also include the use of electricity required to power construction equipment. However, the estimated quantity of diesel fuel and gasoline use is shown in Table 4.5-5. For the construction of the proposed RSPU Land Use Variant, it is estimated there would be approximately 17,873,291 gallons of diesel fuel and 1,067,127 gallons of gasoline consumed. Compared to the proposed RSPU, the RSPU Land Use Variant construction transportation would consume 5,697,566 fewer gallons of diesel fuel and 346,094 fewer gallons of gasoline. Notably, construction activities are temporary and would not result in a long term increase in demand for fuel, and would not be of sufficient magnitude to require new infrastructure to be constructed to supply construction activities. Thus, the RSPU Land Use Variant would not result in a wasteful or unnecessary use of energy for construction and operational transportation, and this impact would be considered **less than significant**.

KP Medical Center

Electricity and Natural Gas

As explained in Chapter 2.0 Project Description, the KP Medical Center would be designed to include energy efficiency features as part of their multi-tiered approach to the research, development, and implementation of energy conservation strategies. The KP Medical Center would be designed to achieve LEED Silver certification or equivalent. Achieving this level of sustainability could include, but may not be limited to, such features as the use of high efficiency HVAC systems, cogeneration electricity production and head recovery, green roofs to reduce heat gain, and cool roofs for solar reflectivity and building cooling. The KP Medical Center would involve the construction and operation of a Central Utility Plant (CUP), an efficient supplier of hot water and steam for the entire medical campus. Other potential future green strategies may include solar power, electric vehicle parking, and the use of green power for construction. Additionally, the KP Medical Center would comply with CALGreen building code regulations. The construction phase of the KP Medical Center would require electricity for the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings.

As shown in Table 4.5-1, above, the KP Medical Center would generate a demand of approximately 25,135 Mwh/year of electricity, and approximately 65,403 million Btu/year of natural gas. The estimated energy demand does not account for the effectiveness of the project's energy conservation features, which would likely result in a lower demand for electricity than this estimate. However, since the KP Medical Center has not yet been designed, the efficacy of energy conservation features cannot be quantified and to provide for a conservative analysis, the project energy conservation features are not accounted for in the analysis. Nevertheless, the energy efficiency commitments that have been made by Kaiser would ensure that the proposed KP Medical Center would not result in a wasteful or unnecessary use of electrical or natural gas energy. This impact would be considered **less than significant**.

Operational and Construction Transportation

Tables 4.5-4 and 4.5-5 show the operational and construction fuel use, respectively, for the proposed KP Medical Center. For operations, the KP Medical Center would consume 38,145 gallons of diesel fuel and 4,301,889 gallons of gasoline on an annual basis. Construction of the KP Medical Center would consume 808,576 gallons of diesel fuel and 48,479 gallons of gasoline. For the reasons described above for the proposed RSPU, the KP Medical Center would not result in a wasteful or unnecessary use of energy for operational and construction transportation. Therefore, this impact would be considered **less than significant**.

MLS Stadium

Electricity and Natural Gas

As explained in Chapter 2.0 Project Description, the MLS Stadium has included energy efficiency features. The proposed MLS Stadium would achieve the US Green Building Council's LEED equivalent energy and environmental design to the extent feasible. The applicant has established a set of sustainability targets for the proposed MLS Stadium that would ensure its energy efficiency. These goals are presented in Chapter 2, Project Description, Table 2-12, and

include use of on-site generated renewable energy for up to one (1) percent of the electrical demand, recycling of at least 75% of construction waste, use of at least 10% regionally supplied building materials (reducing transportation fuel use), use of at least 10% recycled content in building materials (reducing manufacturing energy), and 25% better than CalGreen baseline water demand (reducing energy consumption for water conveyance). Additional strategies that are being investigated to achieve the targets include quality transit and alternative mode use, including bicycle facilities, green vehicles, systems to optimize energy performance, including energy metering, demand response, maximizing use of shade structures and wind resources on the site, use of LED and sensor lighting and potential use of solar panels for on-site energy generation.

Consistent with the City's Climate Action Plan, the proposed MLS Stadium also would achieve an energy reduction goal of 15% better than Title 24. Additionally, the project would comply with CALGreen building code regulations, as explain previously.

As shown in Table 4.5-1, above, the MLS Stadium would demand approximately 6,141 Mwh/year of electricity and approximately 12,219 million Btu/year of natural gas. These estimates do not account for the implementation of the above energy efficiency measures, and thus the estimates reflected in this document are conservative. Because the proposed MLS Stadium would achieve LEED equivalent energy efficiency, to the extent feasible, the project would not result in a wasteful or unnecessary use of energy. Therefore, this impact is considered **less than significant**.

Operational and Construction Transportation

Tables 4.5-4 and 4.5-5 show the operational and construction fuel use, respectively, for the proposed MLS Stadium. For operations, the MLS Stadium would consume 6,734 gallons of diesel fuel and 759,492 gallons of gasoline each year. For construction, the KP Medical Center would consume 64,581 gallons of diesel fuel and 3,872 gallons of gasoline.

Operational fuel consumption may be reduced due to the location of the proposed MLS Stadium, an area that would be accessible through alternative forms of transportation for both employees and spectators. Construction activities are temporary and would not result in a long term increase in demand for fuel. Thus, the proposed MLS Stadium would not result in a wasteful or unnecessary use of energy for operational and construction transportation. Therefore, this impact would be considered **less than significant**.

Stormwater Outfall

As described in the Project Description, the operation of the proposed Stormwater Outfall would consume electricity, and in emergencies, natural gas to fuel generators. Approximately 253,735 kWh of electricity would be consumed annually.[24] Because the proposed Stormwater Outfall and associated pump station would be designed to comply with Title 24 and would employ modern pump technology, it would minimize the available energy consumed by operation of the pump

[24] Frisch Engineering, Inc., Load Calculation, April 14, 2016.

station. Further, because the proposed RSPU includes a minimum of landscaped area that could result in runoff, the design would result in reduced levels of irrigation runoff that may require pumping through the Stormwater Outfall. For these reasons, the construction and operation of the proposed Stormwater Outfall would avoid the wasteful or inefficient consumption of energy, and the impact would be **less than significant**.

Summary

The proposed projects, including the proposed RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and Stormwater Outfall, would be designed and operated to minimize the use of electrical, natural gas, and transportation fuel energy. The projects would comply with State and local regulations that increase the efficiency of operations. The proposed KP Medical Center project would achieve LEED Silver certification or equivalent, and the proposed MLS Stadium would achieve LEED equivalent energy efficiency, to the extent feasible. For these reasons, the proposed projects would not result in the wasteful or inefficient use of energy. In view of the above, this impact is considered **less than significant**.

The magnitude of this impact is the same as described in Impacts 6.14-3 in the 2007 RSP EIR.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative impacts regarding the wasteful, inefficient, or unnecessary consumption of energy during construction (Impact 4.5-2) would be the same as the project-specific context. Energy consumption effects related to individual projects are localized and would not combine with similar effects in other locations.

Impact 4.5-3: The proposed project would contribute to cumulative increases in demand for energy.

Continued growth throughout SMUD's and PG&E's 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.[25] SMUD is

[25] Sacramento Municipal Utility District, 2013. The Challenge of Peak Demand. Available: https://www.smud.org/en/about-smud/company-information/challenge-of-peak-demand.htm. Accessed October 16, 2013.

currently actively planning to offset growth in peak demands by encouraging and deploying energy efficiency and conservation measures within its service area.[26] 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 proposed RSPU and vicinity, existing and planned infrastructure is anticipated to be sufficient to maintain service to the proposed project and other cumulative scenario projects. Therefore, cumulative scenario impact on natural gas supply would not be cumulatively considerable.[27]

Additionally, conservation policies encouraged by the City, including those set forth in the City's 2035 General Plan (electricity and natural gas services, energy consumption per capita, renewable energy, energy efficiency appliances) are expected to support increased energy conservation among development, including the proposed RSPU, 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**.

Mitigation Measure

None required.

[26] Sacramento Municipal Utility District, 2013. The Challenge of Peak Demand. Available: https://www.smud.org/en/about-smud/company-information/challenge-of-peak-demand.htm; Accessed October 16, 2013.

[27] Pacific Gas & Electric, 2016. Operating Data. Available: http://www.pge.com/pipeline/operations/cgt_pipeline_status.page#flows. Accessed March 25, 2016.

SECTION 4.6
Geology, Soils, and Seismicity

This section evaluates the potential for construction and operation of the proposed Railyards Specific Plan Update, KP Medical Center, MLS Stadium and Stormwater Outfall to result in adverse impacts associated with geologic and soil constraints, such as settlement and slope instability, seismic hazards, and the loss of mineral resources.

There were no public comments related to seismicity, soils, or geology received in response to the Notice of Preparation.

The analysis in this section is based on project-specific construction and operational features and investigations, geologic and geotechnical maps and reports related to the RSP Area and vicinity, data provided in the City of Sacramento 2035 General Plan and City of Sacramento 2035 General Plan Master Environmental Impact Report; and reports published by the United States Department of Agriculture Natural Resources Conservation Service (NRCS), United States Geological Survey (USGS), National Earthquake Hazards Reduction Program, California Geological Survey (CGS), and Association of Bay Area Governments (ABAG).

Issues Addressed in the 2007 RSP EIR

Section 6.4 of the 2007 RSP EIR, Seismicity, Soils, and Geology, addressed regional geology, site geology, soil types, stratigraphy, seismic conditions, liquefaction, settlement, and lateral spreading. Mineral resources were dismissed from further consideration on page 6-4 of the 2007 Draft EIR. Those same issues are still applicable to RSPU and other proposed projects in the RSP Area, and are discussed in this section.

4.6.1 Environmental Setting

The seismicity, soils, and geology setting is described on pages 6.4-1 through 6.4-9 of the 2007 RSP Draft EIR. The environmental setting related to geology, soils, and seismicity has not materially changed since certification of the 2007 RSP EIR, and the following discussion is based on the 2007 RSP EIR setting, updated as appropriate to reflect current conditions.

Regional Geology

The Sacramento area is in the Great Valley geomorphic province, a relatively flat alluvial plain composed of a deep sequence of sediments in a bedrock trough. The Great Valley is bounded on the west by the California Coast Ranges and on the east by the Sierra Nevada Mountains. Erosion

of the Coast Ranges and the Sierras has produced the sediments deposited in the Great Valley. Deposition in the Great Valley mainly was marine until the beginning of the Pliocene epoch (approximately 5.3 million years ago) when the Great Valley's seas were drained through the Carquinez Strait and were replaced by freshwater rivers and lakes. Today, the Great Valley is drained by the Sacramento River from the north and the San Joaquin River from the south. Geographically and topographically, the Valley has been shaped by the Sacramento River and its tributaries (including the American River). The Sacramento and San Joaquin Rivers meet approximately 35 miles south of Sacramento and discharge through the Sacramento – San Joaquin Delta into San Francisco Bay and the Pacific Ocean.

As discussed in the 2007 RSP EIR, the basement rock underlying the Great Valley, including the RSP Area, is a complex of metamorphosed Paleozoic (at least 245 million years old) and Mesozoic (at least 66 million years old) sediments, volcanics, and granites extending west from the Sierra Nevada Mountains. Overlying the basement rock is a sequence of siltstone, claystone, and sandstone about 60,000 feet thick and predominantly of marine origin. Overlying the sedimentary rock layer is approximately 3,000 feet of fluvial-deposited sediments eroded from the mountains to the north and east. In the City of Sacramento, the two uppermost sequences of these fluvial sediments are named the Victor and Laguna Formations.[1]

The Victor Formation forms the natural ground surface and consists of channel sands and gravels, and overbank deposits of silt and clay extending to as much as 100 feet below the ground surface. The Victor formation overlies the Laguna formation, which is up to 200 to 300 feet thick and consists of silt, clay, and sand with lenses (layers) of gravel.

Site Geology

Topography

The RSP Area is located on alluvial deposits of the Sacramento and American Rivers. Ground surface elevations in the RSP Area are between approximately 13 feet and 40 feet above mean sea level (+13 to +40 feet msl). Large portions of the RSP Area are relatively flat at about 25 to 30 feet msl. There are various temporary depressions and temporary soil stockpiles resulting from remedial action excavations. The interior plazas of the Central Shops area, located at the center of the RSP west of 7th Street, are primarily paved, with surrounding portions covered by remediated soils.

Surface and Subsurface Materials

Prior to human development, the dominant geomorphic feature at the RSP Area was China Lake (also known as Sutter Slough, Sutter Lake, and China Slough), which was filled in 1910. The RSP Area previously contained another lake (Willow Lake) on the north end of the property. The two lakes and associated marshland covered a portion of the RSP Area. Dredging and filling of

[1] California Geological Survey, 1966, *Geology of Northern California*, Bulletin 190, pp. 217 through 219.

the RSP Area continued until 1913 when the entire area was filled. Fill material consists of river sand, coarse gravel, cobbles and granite brought from Rocklin, California, as well as discarded railroad equipment and industrial waste. Near the surface and to a depth of 30 to 50 feet are deposits of silt and sand (commonly referred to as the upper sand unit), including fill placed over the area in the past 130 years. Underlying the upper sand unit is a layer of sandy gravel. The top of the gravel unit is between 60 and 80 feet below the ground surface.

Soil Types

The NRCS (formerly the Soil Conservation Service) remapped Sacramento County's soils most recently in 1993.[2] The soil behavior characteristics described by the NRCS include permeability, available water capacity, runoff, erosion, and shrink-swell potential.

- **Permeability -** the ability of a soil to transmit water or air. Permeability is considered in the design and construction of soil drainage systems, where the rate of water movement under saturated conditions affects behavior.

- **Available water capacity -** the quantity of water that the soil is capable of storing for use by plants.

- **Runoff -** the amount of water that runs off the surface of the land.

- **Erosion -** the susceptibility of a soil to water and/or wind erosion.

- **Shrink-swell potential -** the potential for volume change in a soil with a loss or gain in moisture. If the shrink-swell potential is rated moderate to high, damage to buildings, roads, and other structures can occur.

Soil characteristics affect suitability for accommodating uses such as shallow excavations, dwellings with basements, small buildings, roads and streets, and lawns and landscaping. Soil limitations can include slow or very slow permeability, limited ability to support a load, high shrink-swell potential, moderate depth to hardpan, low depth to rock, and frequent flooding. The level of limitation is classified as slight, moderate, or severe.

- **Slight** if soil properties and site features generally are favorable for the indicated use and limitations are minor and easily overcome.

- **Moderate** if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or reduce the limitations.

[2] U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Sacramento County California, Washington DC, April 1993, pp. 83, 84, & 109, Sheets 5 & 6.

- **Severe** if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are necessary.

The NRCS mapped two soil units in the RSP Area: Orthents-Urban Land Complex, 0 to 2 percent slopes; and Urban Land, described further below.[3]

- **Orthents-Urban Land Complex, 0 to 2 percent slopes** is a soil unit on low flood plains filled to raise the land surface and reduce the flood hazard. It underlies about 90 percent of the RSP Area. The unit is 50 percent Orthents and 35 percent Urban Land (see below) with the remaining 15 percent consisting of small areas of soil types not associated with fill (unspecified, discontinuous exposures of the underlying alluvial soils).

  Orthents soil is very deep, poorly to well-drained and altered from its original characteristics. It is fill material derived from nearby soil and sediments of mixed origin. The texture, color, and thickness of the layers of fill in this soil vary from one area to another. Permeability is moderately slow to moderately rapid, depending on the grain size and cementation of the material. Available water capacity varies from low to high, also dependent on grain size and cementation. Runoff is slow, and the hazard of water erosion is slight.

  Urban land consists of areas covered by impervious surfaces such as roads, driveways, sidewalks, buildings, and parking lots. Soil material characteristics under the impervious surfaces are similar to those of Orthents soil. Primary development limitations include depth to a seasonally high water table limiting shallow excavations (such as utility trenches and below-grade parking or storage levels) and the hazards associated with compression from loading. Other limitations include inadequate drainage for deep-rooted trees and shrubs. In summer, irrigation is needed to maintain landscaping.

- **Urban Land** represents the remaining 10 percent of the RSP Area. This unit consists of areas covered up to 90 percent by impervious surfaces. The soil material under these impervious surfaces may have been altered during construction, and generally are similar to nearby soil units. In this case, the characteristics probably are similar to those associated with the adjacent Orthents (see above).

Seismic Conditions

California is in the circum-Pacific earthquake zone, which is the result of the process of plate tectonics, and is the most seismically active area in the United States. The theory of plate tectonics describes the earth's crust as at least a dozen large and small rigid slabs (plates) of solid rock that move relative to each other atop the hotter, more mobile rock of the earth's mantle. The San Andreas Fault System is an elongated zone of fracturing about 40 miles wide at the junction

[3] U.S. Department of Agriculture, Natural Resources Conservation Service, 2015. Soil Map. Available: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed November 18, 2015.

of two such plates. The Pacific Plate, west of the zone, is moving north relative to the North American Plate, east of the zone. One of the results of this movement is the regional rock deformation that creates the general northwest-southeast trend of valleys and ridges in the Coast Ranges, as well as the shape of the Great Valley. Another result is the seismic activity that is common through California.

No known active faults occur in or adjacent to the City of Sacramento. During the past 150 years, there has been no documented movement on faults mapped in Sacramento County. Nonetheless, the region has experienced numerous instances of groundshaking originating from faults in the San Andreas Fault Zone, west of the County, and the Foothills Fault System, east of the County.[4]

The closest known potentially active fault mapped by the CGS is the Dunnigan Hills fault (possible Holocene activity, defined by the GGS as within the last 11,000 years and by the USGS as within the last 15,000 years), about 19 miles northwest of Sacramento (see **Figure 4.6-1**). The closest branches of the seismically active San Andreas Fault System (historic activity, which is within the last 200 years) are the Green Valley-Concord Faults (45 miles southwest). The main trace of the San Andreas Fault is approximately 80 miles to the southwest. Other major faults within 100 miles of the Sacramento are included in **Table 4.6-1**.

Peak Ground Acceleration

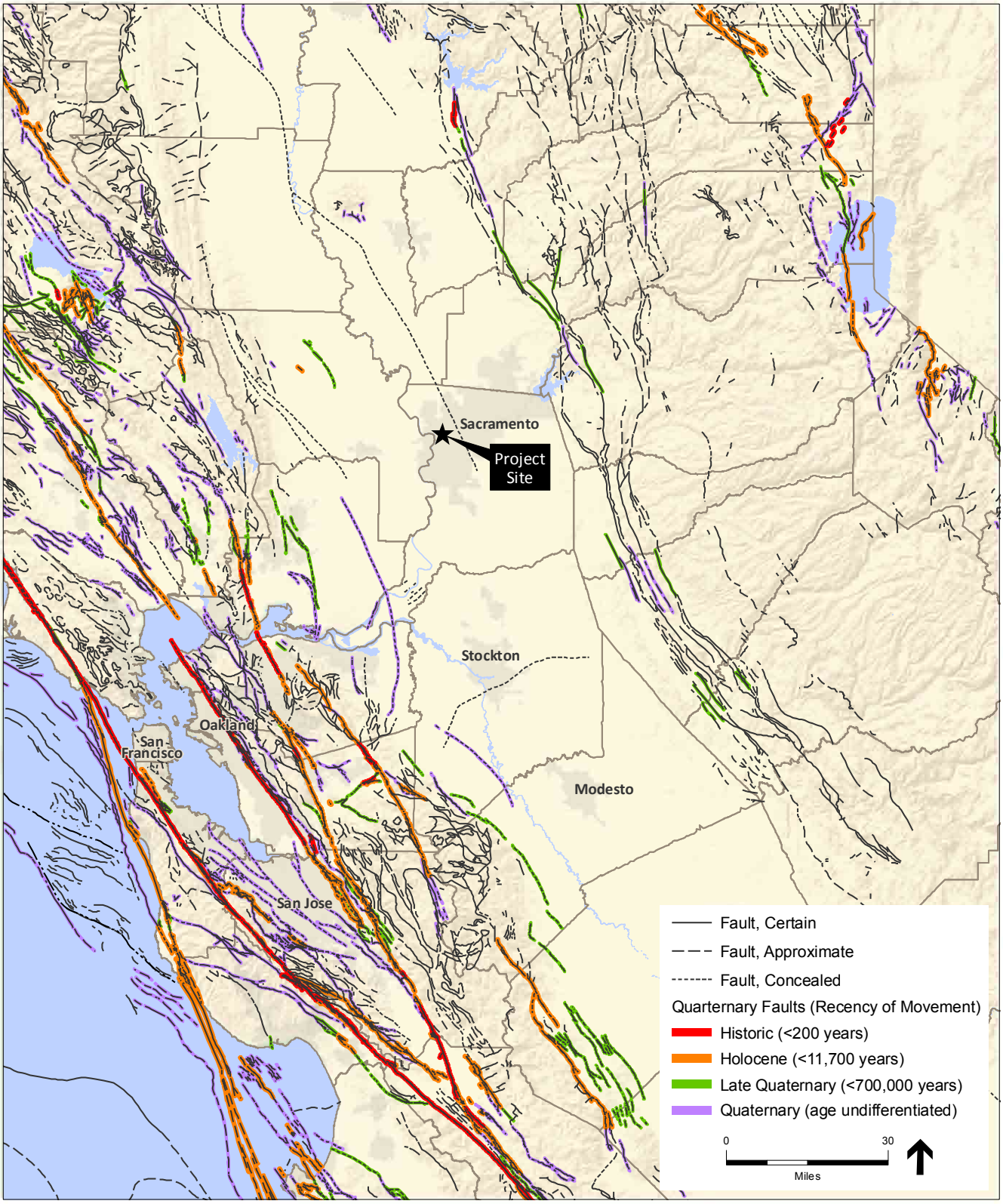
A common measure of ground motion at any particular location during an earthquake is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile acceleration, one "g" of acceleration is equivalent to the motion of a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum PGA value recorded during the Loma Prieta earthquake in the vicinity of the epicenter, near Santa Cruz, was 0.64 g. Unlike measures of magnitude, which provide a single measure of earthquake energy, PGA varies from place to place and is dependent on the distance from the epicenter and the character of the underlying geology (e.g., hard bedrock, soft sediments, or artificial fills). During the maximum predicted earthquake, the anticipated PGA within the RSP Area is 0.198g.[5]

Modified Mercalli Intensity Scale

The Modified Mercalli Intensity Scale assigns an intensity value based on the observed effects of groundshaking produced by an earthquake. Unlike measures of earthquake magnitude and PGA, the Modified Mercalli Intensity Scale is qualitative in nature in that it is based on actual observed effects rather than measured values. Similar to PGA, Modified Mercalli values for an earthquake at any one place can vary depending on the earthquake's magnitude, the distance from its

4 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015. Appendix C, p. 7-2.

5 California Department of Conservation, 2008. Ground Motion Interpolator. Available: http://www.quake.ca.gov/gmaps/PSHA/psha_interpolator.html. Accessed November 23, 2015.



SOURCE: ESRI, 2012; CGS, 2006; ESA, 2015

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Figure 4.6-1
Regional Faults

TABLE 4.6-1.
ACTIVE FAULTS WITHIN 100 MILES OF THE RSP AREA

Fault	Distance from Sacramento (miles)	Age[1]	Slip Rate (millimeters/year)[1]	Characteristic Earthquake (Moment Magnitude)[2]
West Valley Faults				
Dunnigan Hills	19	<15,000	Unknown	6.6
Foothill Fault System				
Bear Mountain	22	Unknown	Unknown	6.0
New Melones	40	Unknown	Unknown	6.0
San Andreas Fault System				
Vaca	28	<130,000	Unknown	6.1[2]
Greenville	43	<1,600,000	1.0 – 5.0	6.6
Concord	45	<150	1.0 – 5.0	6.2
Green Valley	42	<15,000	1.0 – 5.0	6.2
Healdsburg/Rogers Creek	56	<15,000	>5.0	7.1
Hayward	66	<150	>5.0	6.9 - 7.1
Calaveras	66	<15,000	>5.0	7.5
San Andreas	80	<150	>5.0	7.9

SOURCES:

1. U.S. Geological Survey, 2006. Quaternary fault and fold database for the United States, Available: http//earthquakes.usgs.gov/regional/qfaults. Accessed November 20, 2015.
2. Wesnouski, S.G., 1986, Earthquakes, Quaternary Faults, and Seismic Hazard in California, Journal of Geophysical Research, Vol. 91, No. B12, Table A1.
3. California Geological Survey, 2010. 2010 Fault Activity Map of California. Available: http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#. Accessed November 20, 2015.

epicenter, the focus of its energy, and the type of geologic material that underlies the location. The Modified Mercalli values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X can cause moderate to significant structural damage. Because the Modified Mercalli scale is a measure of groundshaking effects, intensity values can be correlated to a range of average PGA values, as shown in **Table 4.6-2**.

A characteristic earthquake[6] on the entire San Andreas Fault (Mw 7.9 - Moment Magnitude)[7] is predicted to be the largest that would be felt in the RSP Area. Because of the distance between the San Andreas Fault and the RSP Area, the felt intensity would be about MMI VII. A similar intensity would be caused by a characteristic earthquake on the Dunnigan Hills fault (M_w 6.6) because it is much closer to the RSP Area. The approximate relationships among earthquake

6 Characteristic earthquakes are repeat earthquakes that have the same faulting mechanism, magnitude, rupture length, location, and, in some cases, the same epicenter and direction of rupture propagation as earlier shocks.

7 A logarithmic scale used by modern seismologists to measure the total amount of energy released by an earthquake. The formula used for the Moment Magnitude (MW) scale incorporates parameters associated with the rock types at the seismic source and the area of the fault surface involved in the earthquake to provide a more accurate measure of energy release than the Richter Magnitude Scale.

TABLE 4.6-2.
MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Ground Acceleration[a]
I	Not felt. Marginal and long period effects of large earthquakes.	< 0.0017 g
II	Felt by persons at rest, on upper floors, or favorably placed.	0.0017–0.014 g
III	Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.	0.0017–0.014 g
IV	Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV, wooden walls and frame creak.	0.014–0.039g
V (Light)	Felt outdoors. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.	0.035–0.092 g
VI (Moderate)	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster, adobe buildings, and some poorly built unreinforced masonry buildings cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle).	0.092–0.18 g
VII (Strong)	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to some poorly built unreinforced masonry buildings. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments). Some cracks even in better built masonry buildings if not reinforced. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.	0.18–0.34 g
VIII (Very Strong)	Critical or extensive damage to some buildings, but well-designed buildings are largely undamaged. Steering of motor cars affected. Damage to unreinforced masonry buildings, including partial collapse. There is no damage to well-designed reinforced masonry buildings. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.	0.34–0.65 g
IX (Violent)	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.	0.65–1.24 g
X (Very Violent)	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.	> 1.24 g
XI (Very Violent)	Rails bent greatly. Underground pipelines completely out of service.	> 1.24 g
XII (Very Violent)	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.	> 1.24 g

NOTES:

[a] Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

SOURCES:

1. Wald et al., 1999. Relationships between Peak Ground Acceleration, Peak Ground Velocity, and Modified Mercalli Intensity in California. Earthquake Spectra 15(3), 557-564.
2. Association of Bay Area Governments, 2003. Adapted from *Table - Modified Mercalli Intensity Scale* (MMI), Available: http://www.abag.ca.gov/bayarea/eqmaps/doc/mmi_plain.html. Accessed February 24, 2014.

magnitude (Moment Magnitude Scale), intensity (Modified Mercalli Intensity Scale), and peak ground acceleration (percent of gravity) are shown in **Table 4.6-2**.

Liquefaction

Liquefaction is a term that describes the loss of soil strength that can be caused by seismic forces acting on water-saturated, granular soil, leading to a "quicksand" condition resulting in various types of ground failure. Estimating the potential for liquefaction takes into account soil types, soil density, and groundwater table, and the duration and intensity of groundshaking. Liquefaction is most likely to occur within 50 feet below the ground surface in saturated uniformly fine-grained poorly consolidated sediments. The RSP Area is underlain with natural levee and channel deposits (alluvium) containing silt and sand on which fill of a variety of materials has been placed. The water table fluctuates with the seasons corresponding mainly to the Sacramento River stage elevations and duration. Water table elevations can be as low as 2 feet and as high as 18 feet msl, or more depending on river conditions. Under certain conditions, some of the natural and artificial deposits could be subject to liquefaction during seismic events. The RSP Area is not located in a currently established State of California Seismic Hazard Zone for liquefaction.

Settlement

Seismic settlement is the compaction of soil materials caused by groundshaking or the extraction of underground fluids (water, oil, gas). Settlement can be caused by liquefaction or densification of silts and loose sands (such as those that underlie the RSP Area, especially in the vicinity of the historic China Lake and Willow Lake) as a result of seismic loading. Such settlement may range from a few inches to several feet, and be controlled in part by bedrock surfaces (which prevent settlement) and old lake, slough, swamp, or stream beds which settle readily. Static settlement can occur through increased loading of the surface or subsurface materials, such as that imposed by foundations for structures. Dewatering for excavation and foundation construction can cause settlement of the drying subsurface materials if the water formed part of the support for the surface soils. Landfill areas undergo settlement primarily through decomposition of organic landfill material that occurs over a long period of time without additional loads. In general, settlement of organic landfill is an order of magnitude greater than settlement of most natural soil.

Lateral Spreading

Lateral spreading is the horizontal movement of soil toward an open face such as a stream bank, the open side of a fill embankment, the side of a levee, or the wall of an excavation. It can be caused by seismic vibration, runoff or irrigation saturation, or by the removal of side-support such as occurs in deep excavations. Artificial fill areas that have not been properly engineered or that have steep, unstable banks, or unsupported walls are the most likely to be affected. Lateral spreading is likely to occur in areas of high groundwater.[8]

[8] City of Sacramento, 2005, General Plan Update Technical Background Report Chapter 7, Public Health and Safety, pp. 7.1-5 through 7.1-7.

Mineral Resources

Minerals are naturally occurring chemical elements or compounds, or groups of elements or compounds that were not formed by organisms. Naturally occurring concentrations of minerals in the earth's crust are known as mineral deposits. Mineral resources are mineral deposits from which the economic extraction of a commodity (such as gold or copper) is currently potentially feasible. In addition to metallic minerals, materials used for construction (e.g., sand and aggregate), industrial and chemical processes (e.g., salt), and fuel (e.g., crude oil) are considered mineral resources in California.

In accordance with California's Surface Mining and Reclamation Act of 1975 (SMARA), the state geologist, through the California Department of Conservation, California Geological Survey (CGS; formerly known as the California Division of Mines and Geology [CDMG]), is responsible for identifying and mapping the non-fuel mineral resources of the state. Economically significant mineral deposits are classified based on the known and inferred mineral resource potential of the land using the California Mineral Land Classification System, which includes the following four mineral resource zones (MRZs).

- MRZ 1. Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ 2. Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ 3. Areas containing mineral deposits, the significance of which cannot be evaluated.
- MRZ 4. Areas where available information is inadequate for assignment to any other zone.

Downtown Sacramento, including the RSP Area is classified as MRZ-1.[9] These sites are not underlain by significant mineral resources.

According to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), there are no producing, idle, or abandoned oil or gas wells within the RSP Area.[10] Furthermore, there are no aggregate quarries located within the RSU Area.[11]

4.6.2 Regulatory Setting

The 2007 RSP Draft EIR summarizes applicable regulations on pages 6.4-9 through 6.4-13. The following discussion updates the information provided in the 2007 RSP Draft EIR.

9 Dupras, D., 1999. Mineral Land Classification Map of PCC-Grade Aggregate Resources in Sacramento County, Plate 3.

10 California Division of Oil, Gas, and Geothermal Resources, 2016. Well Finder results for the Sacramento Area. Available: http://www.conservation.ca.gov/dog/Pages/Wellfinder.aspx, accessed February 8, 2016.

11 U.S. Geological Survey, 2016. Mineral Resources Data System, 2016. Mineral Resources On-Line Spatial Data. Available: http://mrdata.usgs.gov/general/map.html. Accessed February 8, 2016.

Federal

Earthquake Hazards Reduction Act

Established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, the purpose of the National Earthquake Hazards Reduction Program (NEHRP) is to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." The principle behind NEHRP is that earthquake-related losses can be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. There are four federal agencies that can contribute to earthquake mitigation efforts; they have been designated as NEHRP agencies and are as follows: the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Science Foundation, and the USGS.[12]

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration's Excavation and Trenching standard, Title 29 of the Code of Federal Regulations, Part 1926.650, covers requirements for excavation and trenching operations. The Occupational Safety and Health Administration requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

Alquist Priolo Earthquake Fault Zoning Act

The Alquist Priolo Earthquake Fault Zoning Act became law in California in 1972 to mitigate the hazard to structures for human occupancy of surface faulting. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy[13] across these traces. Cities and counties must regulate certain development projects that are proposed to occur within an Alquist-Priolo Zone, which typically includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. Surface fault rupture is not necessarily restricted within an Alquist-Priolo Zone. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for

[12] National Earthquake Hazards Reduction Program, 2009. *About Us: Background and History*. Last updated March 6, 2009. Available: http://www.nehrp.gov/about/history.htm; accessed November 13, 2015.

[13] Title 14 of the California Code of Regulations (CCR), §3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year.

ground surface rupture along any of the branches. There are no Alquist-Priolo Zones within the RSP Area.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Section 2690-2699.6) was adopted to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating ground failure caused by strong earthquakes, namely liquefaction and slope failure. The Seismic Hazards Mapping Act requires the State Geologist to delineate seismic hazard zones, also known as "zones of required investigation," where regional (that is, not site-specific) information suggests that the probability of a hazard requiring mitigation is adequate to warrant a site-specific investigation. The RSP Area is not located within a zone of required investigation.

The fact that a site lies outside a zone of required investigation does not necessarily mean that the site is free from seismic or other geologic hazards. Where a project—defined by the act as any structures for human occupancy or any subdivision of land that contemplates the eventual construction of structures for human occupancy—is within a zone of required investigation, lead agencies must apply minimum criteria for project approval. The most basic criteria for project approval are that the owner/developer adequately demonstrates seismic hazards at the site have been evaluated in a geotechnical investigation, that appropriate mitigation measures have been proposed, and that the lead agency has independently reviewed the adequacy of the hazard evaluation and proposed mitigation measures. Both the geotechnical report and the independent review must be performed by a certified engineering geologist or registered civil engineer. These criteria, along with seismic hazard evaluation and mitigation standards, are outlined in CGS Special Publication 117A, revised and re-adopted in September of 2008 by the State Mining and Geology Board.[14]

Essential Services Buildings Seismic Safety Act

Chapter 2 Section 16000 of the California Health and Safety Code (CHSC) is known as the Essential Services Buildings Seismic Safety Act of 1986. The intent of the Essential Services Buildings Seismic Safety Act is to ensure that essential services buildings, those buildings capable of providing essential services to the public after a disaster, are designed and constructed to minimize fire hazards and to resist, insofar as practical, the forces generated by earthquakes, gravity, and winds. It is also the intent that non-structural components vital to the operation of essential services buildings are also be able to resist, insofar as practical, the forces generated by earthquakes, gravity, fire and winds.

Pursuant to Section 16007 of the HCSC, "'[e]ssential services building' means any building, including buildings designed and constructed, for public agencies used, or designed to be used, or

[14] California Geological Survey, 2008. *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, Special Publication 117A, October 7, 2008.

any building a portion of which is used or designed to be used, as a fire station, police station, emergency operations center, California Highway Patrol office, sheriff's office, or emergency communication dispatch center." Based on this definition, the proposed fire station and police station to be located within the RSP Area would be considered essential service buildings pursuant to the Essential Services Buildings Seismic Safety Act.

1983 Alfred E. Alquist Hospital Seismic Safety Act (Alquist Act), Senate Bill 1953 (SB 1953) and OSHPD

All California acute care medical center properties fall under the jurisdiction of the Alquist Act, as amended in 1994 by SB 1953. The Alquist Act requires medical facilities to comply with seismic safety building standards as defined by the California Office of Statewide Health Planning and Development (OSHPD) within specific time frames. The Alquist Act would apply to the hospital building which would be part of the proposed KP Medical Center. OSHPD is a department of the California Health and Human Services Agency and is responsible for carrying out the provisions of the Alquist Act and serves as the building authority for acute care facilities in lieu of local jurisdictions. The Hospital Building Safety Board further advises the director of OSHPD on the administration of the Alquist Act and acts as a board of appeals for hospital seismic safety issues.[15]

The Alquist Act was adopted in part so that after a major earthquake or disaster, hospital facilities can continue to provide care to their current occupants as well as any new patients that might arrive after the event. During and after the 1994 Northridge earthquake, hospitals that were compliant with the Act sustained minimal structural damage and continued to function. Hospitals that were not compliant, sustained major damage and had to be abandoned.[16]

Nonstructural Performance Category (NPC) and Structural Performance Category (SPC) ratings are assigned to existing hospitals. In general, low ratings (e.g., SPC-1) mean hospital building systems are not prepared for a disaster, and high ratings (e.g., SPC-4) mean hospital building systems are prepared for a disaster. If the building is determined not to be in compliance with the Alquist Act based on the following NPC and SPC ratings, seismic retrofit regulations (Division III-R) must be applied to guide the building's retrofit, thus increasing the NPC and SPC rating of the building.[17] New construction that is designed and constructed to current seismic and building code standards, such as that for the proposed KP Medical Center hospital building, would be exempt from NPC and SPC ratings although in full compliance with the Alquist Act, because the building would be designed and constructed in compliance with all necessary standards.

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15 California Office of Statewide Health Planning and Development, 2016. Available: http://www.oshpd.ca.gov/Boards/HBSB/.

16 California Office of Statewide Health Planning and Development, 2014. Seismic Compliance Program Overview. Available: http://www.oshpd.ca.gov/fdd/seismic_compliance/SB1953/SB1953Overview.pdf. Accessed February 8, 2016.

17 Alquist Seismic Safety Act, amended by SB1953, and codified in the 2007 California Building Standards Administrative Code, Title 24, Part 1, Chapter 6.

California Building Code

The California Building Code (CBC), codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

Chapter 16 of the CBC covers structural design. The earthquake design requirements of the CBC take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, which are used to determine a seismic design category for a project. The seismic design category is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from seismic design category A (very small seismic vulnerability) to seismic design category E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the seismic design category.

Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), including excavation, grading, and fills (Section 1804). Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Appendix G of the *State CEQA Guidelines* states that expansive soil is to be characterized as defined in Table 18-1-B of the 1994 Uniform Building Code. However, that table is no longer used and the current CBC definition is as follows:

> **1803.5.3 Expansive Soil.** In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:
>
> 1. Plasticity index of 15 or greater, determined in accordance with ASTM D 4318
> 2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422
> 3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422
> 4. Expansion index greater than 20, determined in accordance with ASTM D 4829

Under OSHPD requirements, the construction of new hospitals must comply with the California Building Code, as amended for hospitals. Institutional Group I Occupancy, as defined in Chapter 3 of the California Building Code to include hospitals with non-ambulatory patients, includes, among others, the use of a building or structure, or a portion thereof, in which people are cared for or live in a supervised environment, having physical limitations because of health or age are harbored for medical treatment or other care or treatment, or in which people are detained for penal or correctional purposes, or in which the liberty of the occupants is restricted. Non-OSHPD structures (i.e., structures that do not house OSHPD-regulated hospital functions) are subject to the 2011 California Building Code and currently applicable building codes, State and federal accessibility requirements, and local regulations.

California Occupational Safety and Health Administration Regulations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the work place. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for ensuring worker safety in the workplace.

The OSHA Excavation and Trenching standard (29 CFR 1926.650), described above in Federal Regulations, covers requirements for excavation and trenching operations, which are among the most hazardous construction activities. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Cal/OSHA is the implementing agency for both state and federal OSHA standards.

California Excavation Notification Requirements

California Code of Regulations Section 4216 requires that construction contractors report a project that involves excavation 48-hours prior to breaking ground. This program allows owners of buried installations to identify and mark the location of its facilities before any nearby excavation projects commence. Adherence to this law by project contractors reduces the potential of inadvertent pipeline or utility damage or leaks.

Road Design Standards

To safeguard life and property, the State of California has established construction standards and design criteria for roadways. Construction standards and seismic design criteria are contained in such regulatory codes as Caltrans' *Seismic Design Criteria Version 1.4* (June 2006), Highway Design Manual, Sections 110.6, *Earthquake Consideration* (September 2014), or similar codes adopted by a city for roadway corridor protection. These criteria deal with pavement and subsurface utility design (flexible joints and couplings, overpass construction, etc.), slope stability (especially slumping, settling, and liquefaction in fills), alignment modification to reduce exposure to fault rupture or intense groundshaking, and ground failures such as liquefaction. Prior to construction, geotechnical studies are required to be undertaken; recommended seismic-

protection measures are required to be accommodated in the project design. The recommendations provide the required protection from the anticipated effects of seismic groundshaking or other soil and geotechnical conditions. Adherence to these standards of protection are mandatory and reduce the risk of injury or death from earthquakes or other geological or soil movement to the maximum extent technically practicable.

California Department of Conservation

The California Department of Conservation (CDC) is the primary agency charged with mineral resource protection in California. Several divisions within the CDC (the CGS, the Office of Mine Reclamation, the Division of Land Resource Protection, and the Division of Oil, Gas, and Geothermal Resources) are responsible for managing the development, utilization, and conservation of mineral resources, and the reclamation of mined lands.

Surface Mining and Reclamation Act of 1975

The SMARA (California Public Resources Code, Chapter 9, Division 2, Section 2710 et seq.) requires the State Mining and Geology Board (SMGB) to adopt state policies for the reclamation of mined lands and the conservation of mineral resources. These policies are found in Title 24 of the California Code of Regulations, Division 2, Chapter 8, Subchapter 1.

In accordance with SMARA, the State of California established the Mineral Land Classification System to help identify and protect mineral resources in areas that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. Protected mineral resources include construction materials, industrial and chemical mineral materials, metallic and rare minerals, and non-fluid mineral fuels.

Local

City of Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan are relevant to Seismicity, Soils, and Geology.

Goal EC 1.1 Hazards Risk Reduction. Protect lives and property from seismic and geologic hazards and adverse soil conditions.

Policies

EC 1.1.1 **Review Standards.** The City shall regularly review and enforce all seismic and geologic safety standards and require the use of best management practices (BMPs) in site design and building construction methods.

EC 1.1.2 **Geotechnical Investigation.** The City shall require geotechnical investigations to determine the potential for ground rupture, ground-shaking, and liquefaction due to seismic events, as well as expansive soils and subsidence problems on sites where these hazards are potentially present.

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.

As discussed below and in Impacts 4.6-1 through 4.6-6, development consistent with the proposed RSPU, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would be required to comply with City seismic and soils-related standards. In addition, the City requires that a project-specific geotechnical investigation be submitted prior to development. The hospital building within the proposed KP Medical Center would further be required to comply with the requirements of the California OSHPD. Subject to such oversight, the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would be consistent with the General Plan goals and policies. Further, all development within the DRV-owned portions of the RSP Area would be required to comply with the Soil and Groundwater Management Plan, as discussed in detail in Chapter 4.7, Hazards and Hazardous Materials.

Sacramento City Code

The City of Sacramento has adopted the updated CBC, with amendments, per Chapter 15.20 of the Municipal Code. This chapter mandates compliance with the CBC and all of its amendments adopted by the code. All new construction and modifications to existing structures within the city are subject to the requirements of the code.

The City of Sacramento has a grading ordinance (Chapter 15.88 of the Sacramento Municipal Code) that regulates grading on property within the City limits to safeguard life, limb, health, property, and the public welfare; to avoid pollution of watercourses with nutrients, sediments, or other materials generated or caused by surface water runoff; to comply with the City's national pollution discharge elimination system issued by the California regional water quality control board; and to ensure that the intended use of a graded site within the City limits is consistent with the 2035 General Plan, any adopted specific plans, and all applicable City ordinances and regulations. The grading ordinance is intended to control all aspects of grading operations within the City.

Department of Utilities

The City of Sacramento Department of Utilities (DOU) maintains polices, guidelines, and regulations regarding grading, erosion control, stormwater drainage design, inspection, and permitting. DOU is responsible for issuing and oversight of several types of development permits, including grading and building permits.[18]

Site-Specific Geotechnical Investigation

Prior to the commencement of any earthwork at a construction site in the RSP Area, a geotechnical investigation must be prepared for that site, as required by the CBC and City codes.

[18] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015.. Appendix C, p. 7-13.

The geotechnical investigation must include soil borings to collect samples and laboratory testing to determine the appropriate design parameters for use for structural fill, roadbed fill, and landscaping fill, along with the fill placement requirements. The various soils may be tested for corrosivity to allow for proper infrastructure and foundation design.

A grading permit must be approved prior to grading activities. An applicant must submit, for City review and approval, Improvement and/or Grading Plans, along with a site-specific erosion and sedimentation control plan.

4.6.3 Analysis, Impacts, and Mitigation

Significance Criteria

Appendix G of the CEQA Guidelines identifies potential significance criteria for the evaluation of impacts related to geology, soils, and seismicity. Those same criteria, with some minor modifications, are provided below. The criteria listed below, with the exception of Mineral Resources, are the same as those used in the 2007 RSP EIR. For the purposes of this SEIR, implementation of the proposed RSPU, KP Medical Center, MLS Stadium, or Stormwater Outfall would have a significant impact related to geology, soils, and seismicity if it would:

- Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground-shaking;
    - Seismic-related ground failure, including liquefaction and lateral spreading;
    - Seismically-induced landslides;
- Result in substantial soil erosion capable of causing significant property damage or the loss of useable topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslides, subsidence, soil failure or soil compaction;
- Be located on problematic soils such as those characterized as expansive, as defined in 24 CCR 1803.5.3 of the California Building Code (2013), or corrosive; or
- Be located on soils that are incapable of adequately supporting alternative methods of wastewater disposal where sewers are not available for the disposal of wastewater.

For the purposes of this SEIR, the proposed RSPU, KP Medical Center, MLS Stadium, or Stormwater Outfall would have a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state; or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Methodology and Assumptions

This section assesses the potential for the proposed RSPU, KP Medical Center, MLS Stadium and Stormwater Outfall to adversely change geologic and soil conditions or expose structures or people to unstable geologic conditions during project activities, using existing site conditions as a baseline for comparison. The potential for damage to proposed structures or increased risk of injury due to geologic hazards is analyzed using available data from site-specific investigations, and existing publications and maps completed by state and federal agencies, such as the USGS, and CGS. The severity and significance of geology and soils impacts are analyzed in the context of existing geologic and seismic hazard regulations and policies. The methods employed in this analysis are similar to those used in the 2007 RSP EIR.

Since certification of the 2007 RSP EIR, the California Supreme Court recently found that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents." In *California Building Industry Association v. Bay Area Air Quality Management District* (2015) __Cal.4th__, 2015 WL 9166120 (Case No. S213478), the Supreme Court explained that an agency is only required to analyze the potential impact of such hazards on future residents if the project would exacerbate those existing environmental hazards or conditions. Ordinary CEQA analysis is therefore concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents. Thus, with respect to geologic and seismic hazards, the City is not required to consider the effects of bringing a new population into an area where such hazards exist, because the project itself would not increase or otherwise affect the geologic conditions that create those risks. Nonetheless, in order to provide a complete picture of how the effects of the proposed RSPU compare to the effects that were disclosed in the 2007 RSP EIR, these impacts are addressed below (see specifically Impacts 4.6-1 and 4.6-4).

Issues Not Further Discussed in Impacts Analysis

Impact 6.4-1 of the 2007 RSP EIR found that the 2007 RSP would have no impact regarding the exposure of people of structures to rupture of a known earthquake fault as there are no faults that cross or trend towards the RSP Area. The full discussion of this topic can be found on page 6.4-14 of the 2007 RSP EIR. As discussed in Section 4.6.1 Environmental Setting, above, for the RSP Area the fault-location information is unchanged since certification of the 2007 RSP EIR;

therefore, the proposed RSPU would result in no impact regarding the exposure of people of structures to rupture of a known earthquake fault, and this issue is not further addressed.

Landslides generally are any type of ground movement that occurs primarily due to gravity acting on relatively weak soils and bedrock on an over-steepened slope. Slope instability is often initiated or accelerated from soil saturation and groundwater pressure, though can also be aggravated by grading activity, such as removal of toe support by excavation or addition of new loads, such as fill placement. Areas that are more prone to landslides include old landslides, the bases or tops of steep or filled slopes, and drainage hollows. Impact 6.4-5 of the 2007 RSP EIR found that the 2007 RSP would have no impact regarding the exposure of people of or structures to landslides due to the level topography. The full discussion of this topic can be located on page 6.4-17 of the 2007 RSP EIR. As discussed in Section 4.6.1 Environmental Setting, the topographic conditions remain unchanged as the RSP Area is nearly flat while the banks of the Sacramento River are relatively steep. The RSPU would result in no impact regarding the exposure of people of structures to landslides, and this issue is not addressed further. The potential to expose people or structures to unstable soil conditions, including slope stability, is addressed in Impact 4.6-4.

The RSP Area is within an area that has been identified as Mineral Resource Zone 1, where available geologic information indicates there is little or no likelihood for presence of significant mineral resources. The RSP Area is within the urbanized area of the City of Sacramento, and unlikely to be available in the long-term for mineral extraction. Thus the implementation of the RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would not adversely affect mineral resources. Therefore this issue is not addressed further.

Impacts and Mitigation Measures

Impact 4.6-1: The proposed projects could expose people and structures to seismic hazards, such as groundshaking and liquefaction.

The 2007 RSP EIR discussed seismic hazards, such as groundshaking and liquefaction, under Impacts 6.4-2 and 6.4-3 on pages 6.4-14 through 6.4-16. These effects are addressed together in this Draft SEIR because they both stem from seismic activity.

Impact 6.4-2 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact related to the exposure of people or structures to damage resulting from strong seismic groundshaking. This determination was based on the recognition that development pursuant to the 2007 RSP would be required to adhere to the provisions of the then-current CBC (Chapters 16, and 18) and various design standards.

Impact 6.4-3 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact regarding the exposure of people or structures to seismic-related ground failure, including liquefaction. It was determined that the RSP Area contains soil that is prone to liquefaction, but that compliance with the then-current CBC, General Plan, City Municipal Code, State laws, and

various design standards would ensure the maximum practicable protection available from soil failures.

Railyards Specific Plan Update

As discussed under Methods, above, the California Supreme Court has recently held that CEQA does not require an EIR consider impacts of the existing environment on the future project, including structures, residents, or employees. Impacts 6.4-2 and 6.4-3 of the 2007 RSP EIR address these types of impacts, where the project would bring a new population into an area that has existing seismic-related hazards. Although not required by CEQA, those impacts are addressed here to demonstrate how the effects of the RSPU would compare to the 2007 RSP.

As discussed in the 2007 RSP EIR, the RSP Area could be subject to seismic hazards such as, groundshaking and liquefaction, caused by major seismic events outside of the RSP Area. The highest intensity of groundshaking experienced in the RSP Area (MMI VI to VII) would be caused by a Mw 7.9 earthquake on the San Andreas Fault or a Mw 6.6 earthquake on the Dunnigan Hills fault, which is the closest fault to the RSP Area. 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).[19]

Portions of the city, including the RSP Area, 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. In Sacramento, commercial, institutional, and large residential buildings and all associated infrastructure are required to reduce the exposure to potentially damaging seismic vibrations through seismic resistant design, in conformance with Chapter 16, Structural Design Requirements of the CBC. Further, the adherence to the site-specific soil and foundation seismic design requirements in Chapters 16 and 18 of the CBC and the grading requirements in Chapters 18 of the CBC, as required by City and state law, ensures the maximum practicable protection available from soil failures under static or dynamic conditions for structures and their associated infrastructure, trenches, temporary slopes, and foundations.

Similarly, as described on page 6.4-15 of the 2007 RSP EIR, the design of roads and bridges (vehicular and pedestrian overcrossings) would be required to comply with Caltrans design criteria, City Department of Transportation design standards, and/or other accepted non-building structure standards to reduce the primary and secondary risks associated with seismically-induced groundshaking.

[19] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015.. p. 4.5-4.

Based on an existing regulatory framework that addresses earthquake safety issues and requires adherence to the requirements of the CBC and design standards, seismically-induced groundshaking and liquefaction would not be a substantial hazard in the RSP Area. In view of the above, the RSPU would have a **less-than-significant** impact regarding exposure people or structures to seismic hazards, such as groundshaking and liquefaction. This impact would be similar to Impacts 6.4-2 and 6.4-3 of the 2007 EIR.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would be subject to the same seismic hazards, such as groundshaking and liquefaction, as those caused by major seismic events described for the RSPU. As such, the discussion above would be applicable to the RSPU Land Use Variant and the effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in **less–than-significant** impact.

KP Medical Center

The proposed KP Medical Center would be subject to the same seismic hazards, such as groundshaking and liquefaction, as those described above for the proposed RSPU. The KP Medical Center would be required to comply with Chapter 16, Structural Design Requirements of the CBC. Further, adherence to the site-specific soil and foundation seismic design requirements in Chapters 16 and 18 of the CBC and the grading requirements in Chapters 18 of the CBC, as required by City and state law, would ensure the maximum practicable protection available from soil failures under static or dynamic conditions for structures and their associated infrastructure, trenches, temporary slopes, and foundations.

Ground-shaking hazards would also be mitigated as necessary through the application of current industry standard geotechnical practices and seismic structural design according to the requirements found in the most recent version of the CBC. In accordance with the State Health and Safety Code, OSHPD is required to review the structural systems and related details of the construction or renovation of medical buildings with acute care facilities, as well as the recommendations of any site-specific geotechnical investigations prepared for those buildings, to ensure compliance with the Seismic Safety Act and the CBC.

In addition to reviewing the proposed structural plans, OSHPD is responsible for overseeing construction of the proposed hospital building to ensure that construction complies with the approved plans. For all proposed non-acute care facilities such as parking structures, the project sponsor would be required to adhere to the CBC and any specific or locally more stringent requirements.

Based on an existing regulatory framework that addresses earthquake safety issues and requires adherence to the requirements of the CBC, the Alquist Act, and various design standards, seismically-induced groundshaking and liquefaction would not be a substantial hazard at the KP

Medical Center. The KP Medical Center would have a **less-than-significant** impact related to exposure people or structures to seismic hazards, such as groundshaking and liquefaction.

MLS Stadium

The proposed MLS Stadium would be subject to the same seismic hazards, such as groundshaking and liquefaction, as those described for the proposed RSPU. The proposed MLS Stadium would be required to comply with the same regulations and standards as discussed above for the entirety of the RSPU. Based on an existing regulatory framework that addresses earthquake safety issues and requires adherence to the requirements of the CBC and design standards, seismically-induced groundshaking and liquefaction would not be a substantial hazard at the proposed MLS Stadium. The proposed MLS Stadium would have a **less-than-significant** impact regarding exposure people or structures to seismic hazards, such as groundshaking and liquefaction.

Stormwater Outfall

The proposed Stormwater Outfall would be subject to the same geotechnical conditions and seismic hazards as described above for the proposed RSPU. The Stormwater Outfall would be contained within armored, FEMA certified levee. The final choice for design, site preparation requirements and construction materials for the Stormwater Outfall would be informed by soil and/or geotechnical engineering reports to be prepared prior to final designs. As described above in the setting, the CBC requires that a geotechnical report be prepared. Likely feasible design measures that would be used to address seismic hazards and liquefaction, depending on the results of site-specific geotechnical studies, might include removal and replacement of liquefiable soils, use of deep foundations, and/or soil compaction and mixing. Further, the proposed Stormwater Outfall would also be required to comply with any and all requirements of an Encroachment Permit issued by the Central Valley Flood Protection Board (CVFPB), ensuring that its construction and operation would not increase the risk of failure of the Sacramento River levee on which the Outfall would be constructed.

Based on an existing regulatory framework that addresses earthquake safety issues and requires adherence to the requirements of the CBC and various design standards including Encroachment Permit conditions, seismically-induced groundshaking and liquefaction would not be a substantial hazard at the Stormwater Outfall site. In view of the above, the Stormwater Outfall would have a **less-than-significant** impact regarding exposure people or structures to seismic hazards.

Summary

Compliance with existing regulatory framework that addresses earthquake safety issues and adherence with CBC and design standards and permit conditions, seismically induced groundshaking and liquefaction would not be a substantial hazard for development pursuant to the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall. In view of the above, impacts related to exposure of people or structures to seismic hazards, such as groundshaking and liquefaction, would be **less than significant**.

The magnitude of this impact is the same as described in Impacts 6.4-2 and 6.4-3 in the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.6-2: The proposed projects could result in damage to the historic Central Shops.

Impact 6.4-4 of the 2007 RSP EIR found that the 2007 RSP could result in damage to the historic Central Shops, but that with implementation of mitigation, the impact could be reduced to a less-than-significant level. The full discussion of this topic is located on pages 6.4-16 and 6.4-17 of the 2007 RSP EIR.

Railyards Specific Plan Update

Similar to the 2007 RSP EIR, the proposed RSPU would require excavation and trenching around the existing historic buildings to install utility lines, roadways, or hardscaping. These excavations would be vertical and would be in unconsolidated sediments or artificial fill. If not undertaken with appropriate preventative measures, slumping of material in the excavation walls and/or trenches could endanger workers and undercut ground support for the foundations of the historic structures.

Installation of utilities or other subsurface construction could require temporary dewatering due to shallow groundwater depth. Even temporary dewatering could cause settlement, which could crack the foundations, walls, or floor slabs of the existing historic buildings and other structures.

Construction of new buildings on parcels adjacent or near to the existing historic structures, such as on Blocks 22 and 23 within the Central Shops District, or the nearby Blocks 8 through 11 and 15 located between the Central Shops and Camille Lane, could result in temporary instability in the soil near the existing historic buildings, which could affect the existing buildings as described above. Also, the weight of new buildings could potentially result in settlement that could affect soils around and under the existing historic buildings. As with dewatering, settlement could adversely affect the integrity of the existing buildings, and when the existing buildings are occupied, could present a physical hazard to occupants. This is considered a **potentially significant** impact.

For a discussion of potential construction vibration effects on the historic Central Shops, please also see Impact 4.10-1of the Draft SEIR.

Railyards Specific Plan Update Land Use Variant

Under the RSPU Land Use Variant, the potential for construction activities to result in damage to the historic Central Shops buildings is the same as discussed above for the proposed RSPU. As a

result, the potential risk of damage to the historic buildings is considered a **potentially significant** impact.

KP Medical Center

The KP Medical Center would be located approximately 700 feet from the closet building in the historic Central Shops. While the construction of the KP Medical Center would require some subsurface activity in order to auger piles and install subsurface utilities and infrastructure, soils near the Central Shops would not be substantially affected due to distance. Similarly, it is very unlikely that there would be any settlement effects of temporary construction dewatering at that distance from the proposed KP Medical Center site. Therefore, the impact on the Central Shops would be **less than significant** for the KP Medical Center.

MLS Stadium

The proposed MLS Stadium would be located approximately 2,000 feet from the closest building in the Central Shops. At this distance, subsurface activity, such as pile driving and installation of subsurface utilities and infrastructure, should not affect the stability of soils near the Central Shops. Similarly, it is very unlikely that there would be any settlement effects of temporary construction dewatering at that distance from the proposed Stadium site. Therefore, the impact on the Central Shops would be **less than significant** for the MLS Stadium.

Stormwater Outfall

The proposed Stormwater Outfall would be located over 1,000 feet from the Central Shops. As a result there would be no potential effects of subsurface activity and short-term riverside dewatering that may be required for the Stormwater Outfall. For these reasons, **no impact** would occur.

Summary

Buildings proposed to be constructed near or adjacent to the existing historic Central Shops buildings pursuant to the RSPU and the RSPU Land Use Variant could result in temporary instability in the soil surrounding the existing historic buildings. As a result, the potential risk of damage to the historic buildings is considered a potentially significant impact. This impact would be the same as Impact 6.4-4 of the 2007 RSP EIR. The proposed KP Medical Center and MLS Stadium would require subsurface construction activities, but are located far enough from the Central Shops that effects on soils stability would be less than significant. The Stormwater Outfall would not result in damage to the historic Central Shops due to distance from the shops and the nature of outfall construction.

Mitigation Measure

Mitigation Measure 4.6-2 described below is similar to Mitigation Measure 6.4-4, page 6.4-17 of the 2007 RSP EIR. The measure has been revised to add specific requirements for preventing damage to the Central Shops. This measure would be required of construction in proximity to the

Central Shops (between Camille Avenue and the Central Shops and within the Central Shops district). No mitigation is required for the KP Medical Center, the MLS Stadium or the Stormwater Outfall.

Mitigation Measure 4.6-2 (RSPU)

a) To the extent feasible, the historic buildings shall be stabilized and reinforced prior to trenching or other construction activities within 50 feet of the buildings.

b) A pre-excavation settlement-damage survey shall be prepared that shall include, at a minimum, visual inspection of existing vulnerable structures for cracks and other settlement defects, and establishment of horizontal and vertical control points on the buildings. A monitoring program of surveying horizontal and vertical control points on structures and shoring shall be followed to determine the effects of dewatering, excavation, and construction on the particular building site. If it is determined by the engineer that the existing buildings could be subject to damage, work shall cease until appropriate remedies to prevent damage are identified.

c) 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.

Impact Significance After Mitigation: Mitigation Measure 4.6-2 would ensure all appropriate measures are taken to minimize damage to the historic Central Shops as a result of construction related activities adjacent to the historic Central Shops. With the implementation of Mitigation Measure 4.6-2, this impact would be reduced to a **less-than-significant** level.

Impact 4.6-3: The proposed projects could cause erosion or the loss of topsoil during construction or operation.

Impact 6.4-6 of the 2007 RSP EIR found that the 2007 RSP impacts related to erosion or the loss of topsoil would be less than significant, because erosion or the loss of topsoil would be managed through Storm Water Pollution Prevention Plans (SWPPPs), stormwater BMPs, and an Erosion

and Sediment Transport Control Plan. The 2007 RSP EIR discussed this topic on pages 6.4-17 and 6.4-18.

Railyards Specific Plan Update

Although the RSP Area is relatively flat, like the 2007 RSP the proposed RSPU would require excavation and grading that has the potential to result in top soil loss and soil erosion by exposing bare and loosened soil to wind and rain. As with the 2007 RSP, the proposed RSPU would disturb more than one acre of ground surface, and, therefore, would be required to comply with Construction General Permit requirements. These requirements include the development of a SWPPP that includes erosion control BMPs designed to prevent erosion from occurring on project sites. BMPs include such steps as maintaining existing vegetation, applying soil stabilizers, and covering of soil stockpiles. Compliance with the City of Sacramento's Grading Ordinance, Chapter 15.88 of the Sacramento Municipal Code, requires that prior to the commencement of grading an Erosion and Sediment Control Plan be prepared for each project within the City. An erosion control professional, landscape architect, or civil engineer specializing in erosion control must prepare the Erosion and Sediment Control Plan and during the installation of erosion and sediment control measures be on the project site to supervise implementation of the installation and maintenance of such facilities throughout the site clearing, grading and construction periods.[20]

In addition, 2035 General Plan policy EC 1.1.2 requires that projects within the City prepare a geotechnical investigation to determine site-specific seismic and soil characteristics and recommend appropriate mitigation measures to mitigate any potential impacts. Further, 2035 General Plan policy ER 1.1.7 requires that necessary erosion control measures are used during site development activities for all projects in the City.[21] As with the 2007 RSP addressed in Impact 4.6-6 of the 2007 RSP EIR, compliance with all State and City requirements would reduce impacts of the proposed RSPU related to substantial soil erosion and loss of topsoil to a **less-than-significant** level.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant would grade and disturb the same area as the proposed RSPU, so potential to result in the loss of topsoil and erosion would be equal to those of the RSPU. The discussion above would be applicable to the RSPU Land Use Variant. The impact would be **less than significant,** the same as with disclosed under Impact 4.6-6 of the 2007 RSP EIR.

[20] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015.. p. 4.5-6.

[21] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015.. p. 4.5-6.

KP Medical Center

As with other development under the proposed RSPU, the proposed KP Medical Center has the potential to result in the loss of topsoil and cause erosion. Since the proposed KP Medical Center would disturb more than one acre of ground surface and would account for approximately 18 acres of the larger RSPU, it would be required to comply with Construction General Permit requirements. Also like other development pursuant to the proposed RSPU, the proposed KP Medical Center would be required to comply with City of Sacramento's Grading Ordinance and 2035 General Plan policies EC 1.1.2 and ER 1.1.7, discussed above. Thus, like the 2007 RSP and the proposed RSPU, the proposed KP Medical Center's compliance with State, and City requirements would reduce impacts related to substantial loss of topsoil and soil erosion to a level that would be **less than significant**.

MLS Stadium

Like other development pursuant to the proposed RSPU, the proposed MLS Stadium would have the potential to result in the loss of topsoil and cause erosion. The proposed MLS Stadium construction would disturbance of a site of approximately 13.5 acres, more than the one acre of ground surface, and would be part of the larger RSPU, so construction comply with Construction General Permit requirements. Like other development in the Railyards, the proposed MLS Stadium would also be required to comply with City of Sacramento's Grading Ordinance and General Plan policies EC 1.1.2 and ER 1.1.7, discussed above. Thus, like the 2007 RSP and the proposed RSPU, compliance of the proposed MLS Stadium with State, and City requirements would reduce impacts related to substantial loss of topsoil and soil erosion to a level that would be **less than significant**.

Stormwater Outfall

The proposed Stormwater Outfall would be located on the Sacramento River riverbank. If grading occurred during the rainy season or during high water flows in the Sacramento River, such construction activity would have the potential to result in the substantial erosion. The Stormwater Outfall would be design to confirm with the Department of Water Resources Urban Levee Design Criteria to limit erosion and or loss of soil. Due to the extent of soil disturbance required for the Stormwater Outfall coverage under the Construction General Permit would be required. Development and implementation of a SWPPP would be required to obtain coverage under this permit. Typical construction BMPs include scheduling or limiting activities to certain times of the year; installing sediment barriers such as silt fences and fiber rolls along the perimeter of the construction area; methods to control the tracking of soil by construction vehicles; and developing and implementing a spill prevention and cleanup plan. The proposed Stormwater Outfall would also be required to comply with the provisions of the CVFPB's Encroachment Permit, as well as the City of Sacramento's Grading Ordinance and General Plan policies EC 1.1.2 and ER 1.1.7, discussed above. Compliance with State and City requirements would reduce impacts related to substantial soil erosion and loss of topsoil to be **less than significant**.

Summary

Compliance with State and City requirements would reduce impacts related to substantial soil erosion and loss of topsoil to be **less than significant** for the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall projects. This impact would be similar to Impact 6.4-6 of the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.6-4: The proposed projects could expose people or structures to unstable soil conditions, including expansive soils and subsidence.

The 2007 RSP EIR discusses unstable soil conditions, such as expansive soils and subsidence under Impacts 6.4-7 and 6.4-8 on pages 6.4-18 through 6.4-22. These impacts are addressed together in this EIR, because they both stem from soil conditions.

Impact 6.4-7 of the 2007 RSP EIR found that the 2007 RSP impacts related to on- or off-site lateral spreading, subsidence, settlement, or collapse as the result of being located on a unstable geologic and soil units to be less than significant. This determination was based on the 2007 RSP adherence to the then-current State laws and City building code. The 2007 RSP EIR discusses this topic on pages 6.4-18 through 6.4-21 of the 2007 RSP EIR. Impact 6.4-8 of the 2007 RSP EIR found that the 2007 RSP would have a less than significant impact regarding the exposure of people of structures to expansive soil as the 2007 RSP would implement the measures outlined in the then-current City's Building Code. The 2007 RSP EIR discusses this topic on page 6.4-21.

Railyards Specific Plan Update

As discussed under Methods, above, the California Supreme Court has recently held that CEQA does not require an EIR consider impacts of the existing environment on the future project, including structures, residents, or employees. Impacts 6.4-7 and 6.4-8 of the 2007 RSP EIR address these types of impacts, where the project would bring a new population into an area that has existing seismic-related hazards. Although not required by CEQA, those impacts are addressed here to demonstrate how the effects of the RSPU would compare to the 2007 RSP.

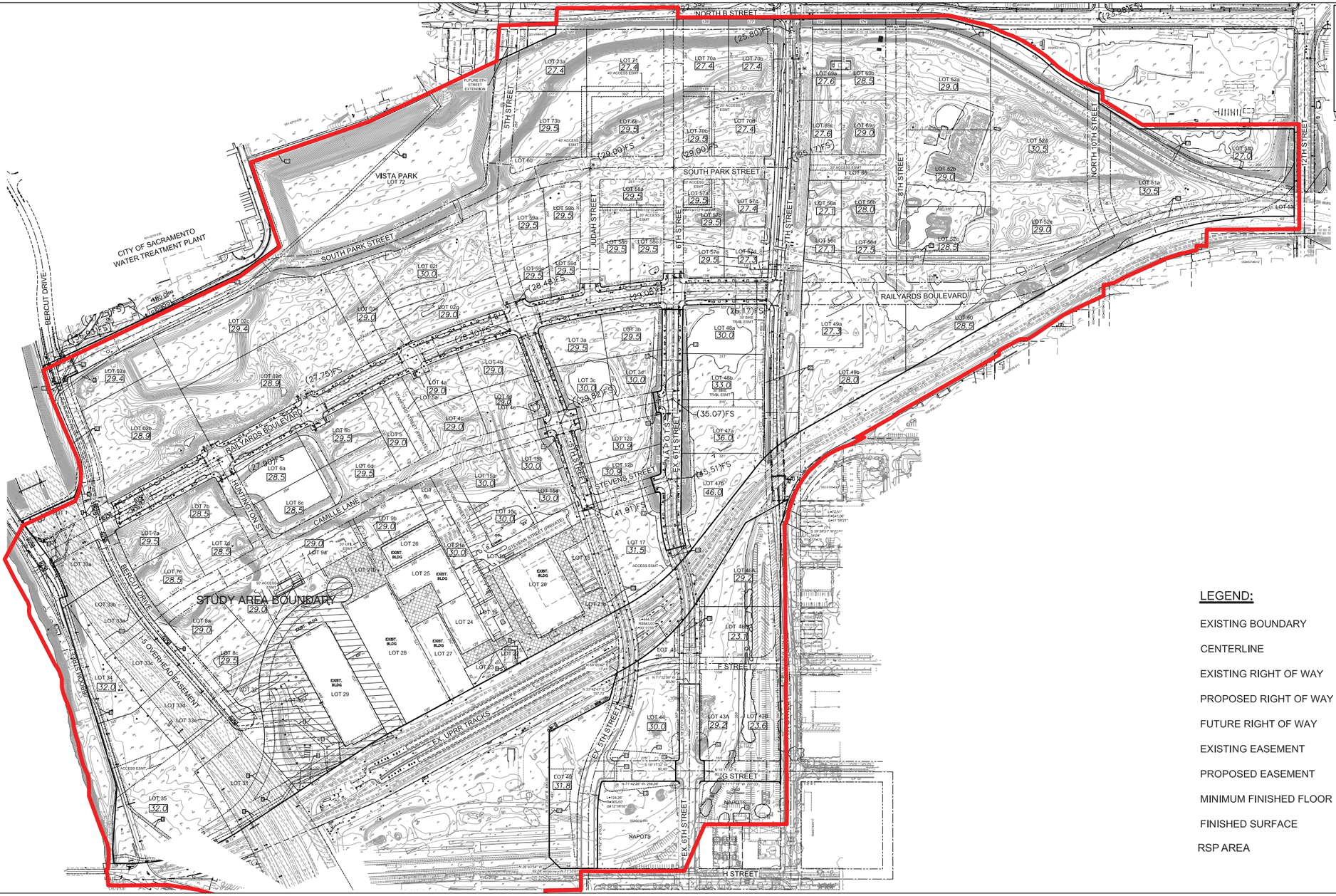
Like the 2007 RSP, the proposed RSPU would require cut and fill on-site to create the final topography to make the site suitable for development. Some on-site soils would be used for fill, but only those soils that meet the applicable Department of Toxic Substances Control thresholds and comply with the Railyards Projects Soil and Ground Water Management Plan. It is anticipated that an additional 750,000 cubic years of clean fill would be imported from various sources, including the Regional San's Sacramento Regional Wastewater Treatment Plant. The proposed grading plan is shown in **Figure 4.6-2**.

Because cuts would be made and soils from the site could be re-used elsewhere on-site as fill, it would be necessary to ensure that materials used for foundation support are geotechnically adequate. Using unsuitable materials (e.g., fill that has not been compacted properly or includes inappropriate materials such as organic materials) would have the potential to create heaving, subsidence, or collapse problems leading to excavation wall failure, building or bridge settlement, and/or utility line and pavement disruption. As discussed on page 6.4-10 of the 2007 RSP EIR, the risk of soils collapse and settlement would be highest in areas of the filled China Lake and Willow Lake lakebeds. Lateral spreading could occur along the Sacramento and American River levees. Lateral spreading and collapse could occur in unsupported walls of pits excavated in the existing fill or loose alluvium.

To eliminate any adverse effects of weak materials in the cut-and-fill locations, the buildings and structures would need to be constructed on foundations that do not depend on weak soils for support. As required by the CBC and City Code, a geotechnical investigation would be required for all projects within the RSP Area. The geotechnical investigation would include recommendations to ensure soil stability and structure safety. The recommendations may include methods such as removing the existing fill and replacing it with select fill (non-expansive, non-organic, appropriately sized mix of materials); covering the existing fill with select fill; extending the foundations below the existing fill using cast-in-place piers, driven piles, or similar deep-foundation design.

It is relatively common to re-engineer weak soils specifically for stability prior to use. This can be done for the support of surface parking areas and light structures. An acceptable degree of soil stability can be achieved for expansive material by the required incorporation of soil treatment programs (e.g., replacement, grouting, compaction, drainage control) in the grading and construction plans to address site-specific soil conditions. As part of the geotechnical investigation, a site-specific evaluation of soil conditions is required by the City and must contain recommendations for ground preparation and earthwork specific to the site, and incorporated into the construction design.

Subsidence or settlement could also occur over smaller areas near construction dewatering activities. Because of the shallow water table, dewatering would be necessary during many excavation and foundation support construction activities within the RSP Area. 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, the dewatering system and excavation-wall support would need to be designed in a manner 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.



SOURCE: Baker-Williams Engineering Group, April 2016

Figure 4.6-2
Preliminary Grading Plan

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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, and 33. Adherence to the City's codes and policies would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. Thus, like the 2007 RSP, the proposed RSPU would have a **less-than-significant** impact regarding exposure of people or property to the hazards of unstable geologic units or soils. This impact would be similar to Impacts 6.4-7 and 6.4-8 of the 2007 RSP EIR.

Railyards Specific Plan Update Land Use Variant

The potential of the RSPU Land Use Variant to expose people or structures to unstable soil conditions, including expansive soils and subsidence, would be the same as described for the proposed RSPU. The discussion above would be applicable to the RSPU Land Use Variant, and the effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant** impact.

KP Medical Center

The proposed KP Medical Center site includes geologic and soils conditions similar to those described above for the entirety of the RSP Area. The site is north of, and not overlying, the locations of the historic China Lake and Willow Lake, so the risk of collapse or settlement would be less severe than for those areas located over these historic lakes.

As described in the Project Description, the shallow footings for most structures at the proposed KP Medical Center would be supported on prepared pads. Some excavation would be required to support the new slab on grade.

The project foundations for larger structures, such as the hospital building, would be supported by the use of driven piles, or other similar foundation support systems. Some limited construction period dewatering may be required during excavation for deeper driven pile caps, grade beams, and underground vaults.

As discussed above, depending on the depth and length of the dewatering activities, subsidence or settlement could occur near dewatering activities. The City may require the contractor to install monitor wells around the KP Medical Center hospital building site to gain water depth data both prior to and during the hospital construction dewatering. Such information could be used to determine subsidence parameters which in turn would dictate to the dewater subcontractor how low the immediate water table at the hospital site can be dropped. The development of such subsidence parameters would limit the potential subsidence or settlement as a result of dewatering.

The proposed KP Medical Center would be required to comply with the CBC, City's codes and policies which would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. In addition, the California OSHPD would require that the design of the hospital building comply with the Alquist Act as modified by SB 1953. Construction dewatering activities would be regulated pursuant to City codes to avoid settlement and resultant damage to adjacent or nearby structures, such as the historic Central Shops buildings or the City's Sacramento River Water Treatment Plant, to the north. As a result of compliance with the existing codes and requirements, this impact would be **less than significant** for the KP Medical Center.

MLS Stadium

The proposed MLS Stadium site includes geologic, seismic, and soils conditions as described above for the entirety of the RSP Area. The site is northeast of, and not overlying, the locations of the historic China Lake and Willow Lake, so the risks associated with unstable soils would be less severe.

As is described in the Project Description, there would be grading and fill activities to raise the finished ground surface elevation of the proposed MLS Stadium. The Stadium structure would be supported by foundations and footings sitting on pre-drilled, driven piles. The construction of the foundation system could require temporary dewatering of the pile caissons.

The proposed MLS Stadium would be required to comply with the CBC, City's codes and policies which would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations.

As discussed above, depending on the depth and length of the dewatering activities, subsidence or settlement could occur near dewatering activities. The City may require the Stadium contractor to install monitor wells to determine subsidence parameters which in turn would dictate to the dewater subcontractor how low the immediate MLS Stadium water table can be dropped. The development of these subsidence parameters would limit the potential subsidence or settlement as a result of dewatering.

Adherence to the CBC, City's codes and policies would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. Thus, the MLS Stadium would have a **less-than-significant** impact regarding exposing people or property to the hazards of unstable geologic units or soils.

Stormwater Outfall

The proposed Stormwater Outfall potential to expose people or structures to unstable soil conditions, including expansive soils and subsidence would be unique at the Railyards due to the planned construction of the outfall structure on a steep section of Sacramento River riverbank. Unstable soil conditions, during construction or following construction during the operational

period, could result in slumping or other earth movement around the outfall structure, especially during high water events on the Sacramento River.

In additional to the compliance with the State and local requirements discussed for the RSPU, the design and construction of the Stormwater Outfall would be required to comply with regulations under the purview of the CVFPB, including acquisition of an encroachment permit pursuant to Title 23 of the California Code of Regulations. The CVFPB would only approach an encroachment permit based on a design that it determines would avoid any potential for slumping or other slope instability during construction or operation of the outfall.

Compliance with the requirements of the CVFPB Encroachment Permit, the CBC, and the City's codes and policies would render this impact **less than significant**.

Summary

Compliance with CBC, City's codes and policies would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. In view of the above, the RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would have a **less-than-significant** impact regarding exposure people or structures to unstable soil conditions, including expansive soils and subsidence. This impact would be similar to Impacts 6.4-7 and 6.4-8 of the 2007 RSP EIR.

Mitigation Measure

None required.

Cumulative Impacts

As discussed on page 6.4-22 of the 2007 RSP EIR, the geographic context for the analysis of impacts resulting from geological hazards is site-specific rather than cumulative in nature, because each development site has unique geological and soils characteristics that would be subject to site development and construction standards imposed by the State and the City of Sacramento, as described in the above impacts. These standards are applied to all construction projects within the City where geological or soils conditions could pose a risk to buildings or public safety. Therefore the following cumulative analysis focuses on the increased number of people who would be exposed to such risks and the potential for increased erosion in the Sacramento River Watershed.

Impact 4.6-5: The proposed projects could contribute to cumulative increases in the number of people exposed to seismic and geologic risks.

Impact 6.4-9 of the 2007 RSP EIR found that the 2007 RSP would have a less than significant impacts relating to the exposure of people to seismic and geologic risk. This topic can be located on page 6.4-22 of the 2007 RSP EIR.

As discussed under Methods, above, the California Supreme Court has recently held that CEQA does not require that impacts of the existing environment on the project, including future project structures, residents, or employees, be evaluated. Impact 6.4-9 of the 2007 RSP EIR addressed these types of impacts, wherein the project would bring a population of residents and employees into an area that has potential seismic-related hazards. Although not required by CEQA, those impacts are addressed here to provide a comparison of the cumulative effects with the proposed RSPU, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, to the cumulative impacts disclosed in the 2007 RSP EIR.

Similar to the analysis presented in the 2007 RSP EIR, the proposed RSPU, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would be exposed to potential geologic hazards related to soil and subsurface conditions at individual building sites, and to groundshaking from earthquakes along known and unknown faults in the Coast Ranges and the Sierra Nevada.

Although these effects vary in intensity and are common throughout California, their effects would be site-specific. As previously discussed, buildings and facilities for human occupancy in Sacramento are required to be sited and designed in accordance with appropriate geotechnical and seismic guidelines and recommendations consistent with the CBC, the Sacramento Building Code, and the Alquist Act for hospitals. As a result of adherence to relevant plans, codes, and regulations with respect to project design and construction that require the prescribed levels of safety for the geotechnical and soils conditions at the site, the RSPU, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would not make considerable contributions to cumulative impacts, as defined in the CEQA Guidelines, §15065(a)(3). Consequently, project-related cumulative impacts regarding geologic hazards would be **less than significant**.

Mitigation Measure

None required.

Impact 4.6-6: The proposed projects could contribute to cumulative increases in erosion within the Sacramento watershed.

The cumulative context for water quality related to soil erosion 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 alteration of topographic features can lead to increased erosion by creating unstable rock or soil surfaces, by changing the permeability or runoff characteristics of the soil, or by modifying

or creating new pathways for drainage. 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 such soil erosion processes if not properly mitigated. The proposed RSPU would cause the modification of site conditions to accommodate development and to provide a stable and safe environment. During the construction phase, this modification could expose soil to erosion by wind or water.

To reduce the potential for cumulative erosion impacts, all projects in the watershed are required to be developed in conformance with the provisions of applicable federal, state, county, and/or city laws and ordinances. Compliance with the City of Sacramento's Grading Ordinance, Chapter 15.88 of the Sacramento Municipal Code, requires that prior to the commencement of grading an Erosion and Sediment Control Plan be prepared for each project within the City. An erosion control professional, landscape architect, or civil engineer specializing in erosion control must prepare the Erosion and Sediment Control Plan and during the installation of erosion and sediment control measures be on the project site to supervise implementation of the installation and maintenance of such facilities throughout the site clearing, grading and construction periods.[22]

In addition, 2035 General Plan policy EC 1.1.2 requires that projects within the City prepare a geotechnical investigation to determine site-specific seismic and soil characteristics and recommend appropriate mitigation measures to mitigate any potential impacts. Further, 2035 General Plan policy ER 1.1.7 requires that necessary erosion control measures are used during site development activities for all projects in the City.[23] The individual contribution of the RSPU to cumulative erosion impacts in the watershed would not be considerable, because the RSPU would also be subject to State and City regulations as described in Impact 4.6-3. Consequently, project-related cumulative impacts regarding erosion and loss of topsoil would be **less than significant**.

Mitigation Measure

None required.

[22] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015. p. 4.5-6.

[23] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Certified March 3, 2015. p. 4.5-6.

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SECTION 4.7
Global Climate Change

This section assesses the potential greenhouse gas (GHG) emissions and climate change effects of construction and operation of the proposed projects 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 2035 General Plan*,[1] the *City of Sacramento 2035General Plan 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 included a letter from the SMAQMD requesting a climate change impact analysis, including construction and operational GHG emissions for the proposed projects, 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 projects and GHG emissions. These issues and concerns are addressed in this section and in the energy section of this SEIR (see Section 4.5).

Issues Addressed in the 2007 RSP EIR

Section 4.4.1 of the 2007 RSP Final EIR (4.4 Air Quality) addressed global warming and GHG emissions in Responses to Comments 14-5, 18-14, 25-19, and 26-44. The discussion included an environmental setting, a regulatory setting, thresholds of significance, impacts, and mitigation measures. The significance was based on the consistency of the project's emissions with AB 32 and on mitigation measures such as those that had been recommended by the California Climate Action team. The 2007 RSP EIR analysis concluded that "because the project would represent the type of growth that will help the State achieve consistency with AB 32, and because the project would incorporate all feasible GHG reduction measures, project impacts to GHG emissions would be considered less than significant and the project's contribution to cumulative GHG emissions would be considered less than considerable."

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1 City of Sacramento, 2015. *City of Sacramento 2035 General Plan.* Adopted March 3, 2015.

2 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Repor*t (SCH No. 2012122006). Certified March 3, 2015.

3 Sacramento Metropolitan Air Quality Management District, 2016. *Guide to Air Quality Assessment*. Adopted December 2009 and last updated March 2016.

4 City of Sacramento, 2015. *Climate Action Plan Consistency Review Checklist*. June 19, 2015.

This analysis evaluates the RSPU, the RSPU Land Use Variant, the KP Medical Center, MLS Stadium, and Stormwater Outfall for consistency with AB 32. However, the approach for the evaluation is different than that included in the 2007 RSP EIR. Since the 2007 RSP was prepared, the City of Sacramento has prepared a Climate Action Plan (CAP) that is designed to be consistent with the requirements of AB 32. In 2015, the CAP was incorporated into the City of Sacramento's 2035 General Plan and the City has developed a consistency review checklist that is used to establish the consistency of a proposed project with relevant policies of the CAP. Projects that meet the requirements of the City's CAP consistency review checklist are considered consistent with the City's CAP and with the emission reduction requirements mandated by AB 32.

4.7.1 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 GHG 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, 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-

5 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. 9.

6 Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

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 as 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 (as a result of sea level rise), 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, 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.

[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.

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 will 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 "a large fraction of both terrestrial and freshwater species faces increased extinction risk under projected climate change during and beyond the 21st century, especially as climate change interacts with other stressors, such as habitat modifications, over exploitation, and invasive species."[9] Shifts in existing biomes could make ecosystems vulnerable to encroachment by invasive species. Forest dieback poses risks for carbon storage, biodiversity, wood production, water quality, and economic activity. 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. Continued emission of GHGs will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems.[10]

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 effects 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 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.[11]

8 U.S. Environmental Protection Agency, 2008. *Climate Change – Ecosystems and Biodiversity.* Available: www.epa.gov/climatechange/effects/eco.html. Accessed June 19, 2012.

9 Intergovernmental Panel on Climate Change, 2014. Climate Change 2013: Impacts, Adaptation, and Vulnerability, Summary for Policymakers. Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. pp. 14-15.

10 Intergovernmental Panel on Climate Change, 2014. *Climate Change 2014, Synthesis Report Summary for Policymakers, Fifth Assessment Report.*

11 U.S. Environmental Protection Agency, 2008. *Climate Change – Health and Environmental Effects.* Available: www.epa.gov/climatechange/effects/health.html#climate. Accessed June 19, 2012.

Greenhouse Gas Emissions Estimates

Global Emissions

Worldwide emissions of GHGs in 2013 were approximately 35.3 billion metric tons of CO_2e per year.[12] This includes both ongoing emissions from industrial and agricultural sources, but excludes emissions from land use changes.

U.S. Emissions

In 2014, the United States emitted about 69 million metric tons of CO_2e. Of the four major emission sectors — residential, commercial, industrial, and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 33 percent); these emissions are generated from direct fossil fuel combustion.[13]

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 459.3 million metric tons of CO_2e in 2013. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2013, accounting for 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector (23 percent), and the electric power sector (including both in-state and out-of-state sources) (20 percent).[14]

City of Sacramento Emissions

Based on the 2011 GHG inventory for the City of Sacramento, the transportation sector represents the largest source of GHG emissions, accounting for 52.2 percent of the City's annual emissions of 3.85 million metric tons of CO_2e. Electricity and natural gas combustion for the operation, heating, and cooling of commercial, industrial, and residential buildings accounted for another 38.2 percent of annual CO_2e emissions. The other CO_2e emission sectors included in the inventory (with percent contributions reported in parentheses) were waste (8.2 percent), wastewater treatment (0.5 percent), water consumption (0.3 percent) and industrial specific sources (0.5 percent).[15]

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12 PBL Netherlands Environmental Assessment Agency, 2015. Trends in Global CO2 Emissions, 2014 Report.

13 U.S. Environmental Protection Agency, 2016. Draft *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014;* Executive Summary, Table ES-2. February 2016.

14 California Air Resources Board, 2015. *California Greenhouse Gas Inventory 2015 Edition of the GHG Emission Inventory Release (June 2015).* Available: www.arb.ca.gov/cc/inventory/data/data.htm.

15 City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report*. Adopted March 3, 2015.

4.7.2 Regulatory Setting

Federal

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has 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:[16]

- ***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 applies to most entities that emit 25,000 metric tons of CO_2e or more per year. Since 2010, facility owners must 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.

State

In California, the legal framework for GHG emission reduction has come about through an incremental set of Governors' Executive Orders, legislation, and regulations put in place since 2002. The major components of California's climate change initiative are reviewed below.

[16] U.S. Environmental Protection Agency. 2016. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Available: www3.epa.gov/climatechange/endangerment/.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB1493, also known as the "Pavley" regulations (named for the bill's author, State Senator Fran Pavley), 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, in 2004 the CARB approved amendments to the California Code of Regulations (CCR), 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 regulations 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.

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, 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 proposed projects, 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.

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 set 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 CARB on August 24, 2011[17]) 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.

[17] California Air Resources Board, 2008. *Climate Change Scoping Plan.* Adopted December 11, 2008, re-approved by CARB August 24, 2011. pp. ES-1 and 17.

In May 2014, CARB published its First Update to the Scoping Plan.[18] This update builds upon the initial Scoping Plan with new strategies and recommendations. The update defines ARB's climate change priorities over the next five years and sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012.

CARB is currently updating its Scoping Plan to reflect the 2030 target required by Executive Order B-30-15 and the 2050 target required by AB 32.

Cap-and-Trade Program

The Scoping Plan identifies cap-and-trade as a key strategy for helping California reduce its GHG emissions.[19] A cap-and-trade program sets the total amount of GHG emissions 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.[20]

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.

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18 California Air Resources Board, 2012. *First Update to the Climate Change Scoping Plan.* Adopted May 28, 2014.

19 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.

20 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.

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) 2016 *Metropolitan Transportation Plan/Sustainable Communities Strategy* was adopted on February 18, 2016. SACOG's *Strategy* calls for meeting and exceeding the CARB GHG reduction goals from passenger vehicles and light-duty trucks of 7.6% by 2020 and 15.6% by 2035, where 2005 is the baseline year for comparison.[21]

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 and was most recently updated as the 2013 California Green Building Standards Code (effective January 1, 2014).[22]

Executive Order B-16-12

In 2012, Governor Brown issued Executive Order B-16-12, ordering "that California's state vehicle fleet increase the number of zero-emission vehicles through the normal course of fleet

[21] Sacramento Area Council of Governments, 2016. 2016 *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted February 18, 2016. p. 173.

[22] California Building Standards Commission, 2013. California 2013 Green Building Standards Code, CalGreen California Code of Regulations, Title 24, Part 11. Effective Date: January 1, 2014.

replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020. The executive order also requires that California target for 2050 a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels.

Executive Order B-30-15

In 2015, Governor Brown issued Executive Order B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 to reduce GHG emissions 80 percent under 1990 levels by 2050.

California Environmental Quality Act (CEQA) and Senate Bill 97

Under CEQA, lead agencies are required to disclose the reasonably foreseeable adverse physical 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 GHG 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.[23]

Local

City of Sacramento Climate Action Plan and City of Sacramento 2035 General Plan

The City of Sacramento CAP includes several initiatives to reach its 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. These goals must be achieved with the addition of new residents living in the city and additional people working in the city. As compared to 2005, by 2020 Sacramento expects an additional 116,400 people, 58,500 housing units, and 80,200 employees. On a per capita basis (including new residents), Sacramento will need to reduce its emissions to about 6.2 metric tons of CO2e per person by 2020. This represents a 31 percent reduction from 2005 per capita emission levels (8.9 metric tons CO2e per person).

[23] State CEQA Guidelines section 15126.4(a).

The CAP outlines seven strategies to meet Sacramento's GHG reduction goals.[24] Those strategies include:

- Strategy 1: Sustainable Land Use – This strategy focuses on using land efficiently, while preserving the character of existing neighborhoods, by providing for complete neighborhoods that incorporate natural resources and green infrastructure.
- Strategy 2: Mobility and Connectivity – This strategy involves creating a multi-modal transportation network that increases the use of sustainable modes of transportation (walking, biking, and transit) and reduces dependence on automobiles.
- Strategy 3: Energy Efficiency and Renewable Energy – The third strategy increases the energy efficiency of existing and new buildings and maximizes the use and generation of renewable energy.
- Strategy 4: Water Reduction and Recycling – This strategy reduces the production, consumption, and disposal of waste materials, while encouraging reuse, recycling, and composting.
- Strategy 5: Water Conservation and Wastewater Reduction – This strategy encourages water conservation and management and wastewater treatment practices the reduce energy demand.
- Strategy 6: Climate Change Adaptation – This strategy plans for climate change risks and is designed to create resilient communities, economies, and environments.
- Strategy 7: Community Involvement and Empowerment – This strategy enlists the ideas and energy of residents and businesses to help achieve the City's climate action objectives.

For each of the seven strategies listed above, the CAP includes measures and actions that the City will use to reduce GHG emissions and adapt to climate change. Measures organize the specific programs, policies, and actions that the City will carry out to achieve its climate action strategies. Within each measure are the detailed actions that the City will take to implement the measures.

In 2015, the City adopted its 2035 General Plan. The strategies, measures, and actions that formed the backbone of the City's CAP were incorporated into the 2035 General Plan. Appendix B of the 2035 General Plan identifies the location of each CAP measure within the 2035 General Plan.[25]

[24] City of Sacramento, 2012. *Sacramento Climate Action Plan*. Adopted February 14, 2012. pp. i-xiv.

[25] City of Sacramento, 2015. General Plan Climate Action Plan Policies and Programs, Appendix B pp. 1-78.

To determine a project's consistency with the CAP, the City developed a Climate Action Plan Consistency Checklist.[26] This checklist provides a streamlined review process for proposed development projects subject to environmental review under CEQA.

4.7.3 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 CAP 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 projects would result in the following:

- Conflict with the City's Climate Action Plan.

Methodology and Assumptions

As discussed above, the City has developed a CAP Consistency Review Checklist. This checklist is designed to streamline the GHG emissions review process for new development projects subject to CEQA.

Table 4.7-1 presents the checklist. The first checklist question focuses on a project's consistency with the general plan and sustainable land use aspects of the CAP. Questions 2, 3, and 4 evaluate a project's consistency with the CAP's mobility requirements, while questions 5 and 6 focus on evaluating whether a project is consistent with the energy efficiency and renewable energy portions of the CAP. Projects that achieve each item on the City's CAP Consistency Review Checklist would be consistent with the City's CAP, and therefore would not result in significant GHG emissions or climate change impacts.

[26] City of Sacramento, 2013. *Climate Action Plan Consistency Review Checklist*. June 19, 2015. pp. 1-20.

TABLE 4.7-1.
CITY OF SACRAMENTO CAP CONSISTENCY REVIEW CHECKLIST

	City of Sacramento Consistency Review Checklist Questions
1.	Is the proposed project substantially consistent with the land use and urban form designation, allowable floor area ratio (FAR) and/or density standards in the City's 2035 General Plan?
2.	Would the project incorporate traffic calming measures ?
3.	Would the project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan?
4.	Would the project incorporate bicycle facilities consistent with the City's Bikeway Master Plan and meet or exceed minimum standards for bicycle facilities in the Zone Code and CALGreen?
5.	Would the project include on-site renewable energy systems (e.g., solar photovoltaic, solar water heating, etc.) that would generate at least 15% of the project's total energy demand?
6.	Would the project comply with minimum CALGreen Tier 1 water efficiency standards?

Source: City of Sacramento, 2015.

Except for the Stormwater Outfall, each of the proposed projects is evaluated for CAP consistency by evaluating the project against each checklist question. The Stormwater Outfall is not a land use development that can be evaluated using the checklist questions. The Outfall represents a piece of critical infrastructure that would allow land use development in the RSP Area and is evaluated in that context.

Impacts and Mitigation Measures

Impact 4.7-1: Implementation of the proposed projects could conflict with the City of Sacramento's Climate Action Plan.

Railyards Specific Plan Update

As shown in Table 4.7-1 above, the City's CAP consistency review checklist includes six criteria against which a project must be evaluated. Projects that are determined consistent with each of the six criteria are considered consistent with Sacramento's CAP and would not have a significant GHG impact. The following discussion evaluates the RSPU's consistency with each of the six checklist questions.

1. *Is the proposed RSPU project substantially consistent with the land use and urban form designation, allowable floor area ratio (FAR) and/or density standards in the City's 2035 General Plan?*

Under the proposed RSPU the majority of the RSP Area would be designated Central Business District, in which residential densities are anticipated to range from 61 to 450 units per acre and non-residential or mixed-use floor to area ratios (FARs) range from 3.0 to15.0. The future KP Medical Center site would be designated Urban Center High, with residential densities ranging from 24 to 250 units per acre and non-residential FARs required to range from 0.5 to 8.0. The eastern end of the RSP Area (east of 10th Street) would be designated Employment Center Low

Rise, with a maximum FAR of 1.0. Other parts of the RSP Area would be designated Parks and Recreation and Public/Quasi-Public.

As proposed, the RSPU would include the following zoning requirements:

C-3 SPD: residential densities from 61 to 450 units per acre, and non-residential development with an FAR between 3.0 and 15.0.

In addition to the residential and non-residential uses to be developed in the C-3 SPD area, and which would be consistent with the residential and non-residential land use and urban form designation, the proposed MLS Stadium would be located in the C-3 SPD land use. It would include 395,700 square feet (sf) of uses on 14.7 acres. It would have a FAR of 0.62, which is below the 2035 General Plan's designated FAR range of 3.0 to 15.0 for the Central Business District designation. However, consistent with 2035 General Plan policy LU 1.1.11, the City may permit development below the minimum FAR where the use "by its nature normally conducts a substantial amount of its operations outdoors." Since a vast majority of the proposed MLS Stadium would accommodate outdoor seating, playing field, and public plazas and other gathering areas, it would be consistent with the land use and urban form designation of the 2035 General Plan.

R-5 SPD: 61-450 units per acre, non-residential on ground floors

The R-5 SPD land use designation is consistent with the density standards and FAR ratio ranges allowed by the proposed Central Business District designation in the 2035 General Plan.

H SPD: 24 to 250 units per acre, minimum FAR of 0.5 up to maximum of 8.0.

The H SPD land use designation is for the proposed KP Medical Center, which would consist of 510,000 sfof medical offices and 718,003 sf of hospital facilities on 18 acres. This would result in a FAR ratio of 1.62, which is consistent with the 0.5 to 8.0 FAR range allowed by the proposed Urban Center High designation in the 2035 General Plan (FAR range of 0.5-8.0). The KP Medical Center is consistent with the City's overall goals for land use and urban form because it would encourage high density development in the downtown area. The high level of density would encourage land uses that enable the City to achieve the goals established in the CAP.

C-1 SPD: up to a FAR of 1.0

The C-1 SPD land use designation would provide for concessions or other small-scale businesses allowed by the under the proposed Parks and Recreation designation in the 2035 General Plan.

C-2 SPD, up to 60 units per acre, up to FAR of 2.0

The C-2 SPD land use designation is within residential density standard (24-250 units per acre) and the FAR range (0.5 to 8.0) allowed by the proposed RSPU's Employment Center Low Rise designation in the 2035 General Plan.

As discussed above, the RSPU would be consistent with the City's 2035 General Plan density and FAR requirements for the Central Business District.

2. Would the RSPU project incorporate traffic calming measures (Applicable CAP Action: 2.1.1)?

The RSPU would be located in the Central Business District, and the transportation network would directly connect to the city's downtown grid. The proposed RSPU circulation system would include such features as neighborhood signs, warning signs, stop signs, striping, bicycle lanes (including buffered bicycle lanes on 6th Street), bot dots with reflective markers, enhanced sidewalks and crosswalks, curb extensions (bulb-outs), on street parking, planters with street trees, and other features that would calm traffic and enhance non-automotive modes of travel. These features would be consistent with the traffic calming actions called for in the Climate Action Plan.

3. Would the RSPU project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan (Applicable CAP Action: 2.2.1)?

The proposed RSPU would include pedestrian access via sidewalks on all surface streets. These would connect to greater downtown Sacramento via pedestrian routes through the RSP Area. Like the 2007 RSP, pedestrian features of the proposed RSPU would include narrow street widths, street trees, and broad sidewalks. Key refinements to the approved pedestrian system would include enhancement of the sidewalks and crosswalks on 7th Street and other streets accessing the proposed MLS Stadium site, as well as elimination of an approximately 300-foot long pedestrian and bike tunnel parallel to 7th Street under the UPRR rail line. These RSPU features would be consistent with the City's Pedestrian Master Plan because they meet that Plan's goals of:

- developing a cohesive pedestrian network of sidewalks and street crossings that make walking a realistic way to get around,
- providing a continuous pedestrian network that connects through blocks and sites, and connects buildings to each other, to the street, and to transit facilities, and
- providing crossings that are convenient and comfortable for pedestrians to use.[27]

The focus of the transit systems described in the 2007 RSP (see RSP DEIR pages 3-33 to 3-43) is the creation of the City's planned expanded Sacramento Valley Station (then referred to as the Sacramento Intermodal Transportation Facility). The 2007 RSP EIR described that the future SVS would include both the existing 57,000 sf historic Depot, as well as a 127,511 sf new intermodal facility. The proposed RSPU would make no changes to the Depot District that would alter the City's plans for such expansion as funds become available.

[27] City of Sacramento, Making Sacramento the Walking Capitol, Pedestrian Master Plan. September 2006.

The 2007 RSP EIR notes that the RSP would provide for a new RT Green Line LRT station to be built at 7th/South Park streets. The current plan is largely unchanged, with the station to be provided on the both sides of 7th Street between Railyards Boulevard and South Park Street. Pedestrian access to the Green Line LRT would be encouraged by the proposed RSPU's network of streets with wide sidewalks, narrow street widths, and street trees.

For the reasons described above, the RSPU's pedestrian facilities and connections would be consistent with the City's Pedestrian Master Plan.

4. Would the RSPU project incorporate bicycle facilities consistent with the City's Bikeway Master Plan and meet or exceed minimum standards for bicycle facilities in the Zone Code and CALGreen (Applicable CAP Action: 2.3.1)?

The City's Bicycle Master Plan has been in effect for 20 years.[28] A 2016 Bicycle Master Plan is anticipated to include updates to update the Plan to be consistent with Streets and Highways Code standards in order to qualify for grant funding.[29]

The proposed RSPU bicycle network would include a network made up of Class I trails, Class II lanes, Class III routes, and Class IV protected lanes. Key changes from the 2007 RSP include:

- Addition of Class IV protected bike lanes (north and southbound) on 6th Street between Camille Lane and G Street;
- Addition of a Class IV protected bike lane on F Street between 7th and 5th streets;
- Addition of Class I bicycle trail on the west side of 7th Street from North B Street to Camille Lane;
- Elimination of the bike/pedestrian tunnel parallel to 7th Street, which would remove bike travel on 7th Street between F Street and Railyards Blvd.;
- Addition of Class III bike routes on Stanford Street between Camille Lane and Railyards Boulevard., and on Judah Street between Railyards Boulevard and South Park Street;
- Addition of a Class II bike lane on 8th Street between Railyards Boulevard and North B Street;
- Elimination of bicycle traffic from the now exclusive pedestrian tunnel between the historic Depot and the Central Shops (via the Steve Cohn Passageway);

[28] City of Sacramento and Sacramento County, 1995 and 1993. The 2010 Sacramento City/County Bikeway Master Plan. Adopted by Sacramento County on November 23, 1993 and City of Sacramento on April 11, 1995.

[29] City of Sacramento, 2016. Bicycle Master Plan Update. Available: http://www.cityofsacramento.org/Public-Works/Transportation/Programs-and-Services/Bikeway-Program/Bicycle-Master-Plan.

- Addition of a Class I bike trail between Camille Lane and the Central Shops, connecting to the Riverfront District; and
- Addition of a Class I bike trail from the southern end of Bercut Drive connecting to the Class III bike route on 2nd Street in Old Sacramento.

The proposed RSPU would include short-term and long-term bicycle parking as required pursuant to the City of Sacramento Planning and Development Code.

For the reasons described above, the RSPU would include bicycle lanes and bicycle parking that would be consistent with the City's Bicycle Master Plan, and that would meet the standards for bicycle facilities in the Planning and Development Code and CALGreen (Applicable CAP Action: 2.3.1).

5. Would the RSPU project include on-site renewable energy systems (e.g., solar photovoltaic, solar water heating, etc.) that would generate at least 15% of the project's total energy demand (CAP Actions 3.4.1 and 3.4.2)?

The RSPU would not generate 15% of its energy demand on-site. In lieu of installing PV systems that would generate 15% of the project's total energy, the project must exceed the Title 24 standards, such as building to CalGreen Tier 1 energy standards. To do this, residential projects would be required to exceed the 2013 Title 24 energy efficiency by a minimum of 10% and commercial projects would be required to exceed 2013 Title 24 energy efficiency by a minimum of 5%.

Residences built to the 2016 Title 24 standards (that take effect January 1, 2017) would use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards.[30] California has developed a goal of zero net energy (ZNE) use in all new homes by 2020 and commercial buildings by 2030.[31] The ZNE goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need. Although the 2016 standards would not get the RSPU to ZNE, they would get close to this goal and make important steps toward changing residential building practices in California. The 2019 standards are expected to take the final step to achieve ZNE for newly constructed residential buildings throughout California. Since a portion of the RSPU would be built to the 2016 standards, and the majority of the RSPU would be built to the 2019 standards, the RSPU would easily meet and likely exceed the Sacramento CAP's energy efficiency standards.

[30] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

[31] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

6. Would the RSPU project comply with minimum CALGreen Tier 1 water efficiency standards (CAP Action: 5.1.1)?

The proposed RSPU acknowledges the importance of water conservation in both residential and non-residential development and landscaping. It would include a commitment to a series of water conserving landscape requirements that involve the use of drought-resistant landscaping and water-conserving irrigation methods to reduce water waste. The proposed RSPU would include a commitment to achieve, at a minimum, the CALGreen Tier 1 water efficiency standards. Consequently, the RSPU would be consistent with this CAP energy efficiency and renewable energy requirement.

The RSPU would be consistent with all six applicable CAP consistency questions described above. This impact would be considered **less than significant** because the project would be consistent with each of the applicable criteria.

Railyards Specific Plan Update Land Use Variant

1. Is the RSPU Land Use Variant project substantially consistent with the land use and urban form designation, allowable floor area ratio (FAR) and/or density standards in the City's 2035 General Plan?

The General Plan designations for the Land Use Variant would be identical to those in the proposed RSPU. Rather than including development of the proposed KP Medical Center and the proposed MLS Stadium, under the Land Use Variant the H SPD Zone and the Block 52 in the C-3 SPD zone would be developed with a mix of residential and non-residential uses consistent with those zones. Because those zones are consistent with the relevant 2035 General Plan designation (Urban Center High and Central Business District, respectively), development under the Land Use Variant would be consistent with the relevant 2035 General Plan land use designation.

Because the Land Use Variant would be consistent with the City's 2035 General Plan density and FAR requirements it would meet the requirements of criterion 1.

2. Would the RSPU Land Use Variant project incorporate traffic calming measures (Applicable CAP Action: 2.1.1)?

The Land Use Variant would be located in the Central Business District, and the transportation network would connect directly to the city's downtown grid. The Land Use Variant would include similar types of traffic calming measures as the proposed RSPU including signage, striping, and other features that would limit and slow traffic. These features would be consistent with the traffic calming actions called for in the Climate Action Plan.

3. Would the RSPU Land Use Variant project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan (Applicable CAP Action: 2.2.1)?

The Land Use Variant would also include the same pedestrian facilities as provided for in the proposed RSPU, with the exception that some of the expanded sidewalks and crosswalks required to accommodate the proposed MLS Stadium pedestrian flows would not be constructed. Nevertheless, sidewalks widths would largely be 16 feet or more except where already constructed or constrained by physical limitations of the location in the RSP Area. These pedestrian access facilities would be consistent with the City's Pedestrian Master Plan.

4. *Would the RSPU Land Use Variant project incorporate bicycle facilities consistent with the City's Bikeway Master Plan and meet or exceed minimum standards for bicycle facilities in the Zone Code and CALGreen (Applicable CAP Action: 2.3.1)?*

The Land Use Variant would include short-term and long-term bicycle parking as required pursuant to the City of Sacramento Planning and Development Code. Although specific designs have not yet been completed, it is anticipated that secure long-term bicycle parking spaces and lockers would be included in the proposed parking garages. Short-term bicycle racks would be provided proximate to entrances and exits from the commercial and retail buildings.

The proposed RSPU bicycle network would be the same as described above for the proposed RSPU. Consequently, the Land Use Variant would meet the meet the minimum standards for bicycle facilities in the Zone Code and CALGreen (Applicable CAP Action: 2.3.1).

5. *Would the RSPU Land Use Variant project include on-site renewable energy systems (e.g., solar photovoltaic, solar water heating, etc.) that would generate at least 15% of the project's total energy demand (CAP Actions 3.4.1 and 3.4.2)?*

Like the proposed RSPU, the Land Use Variant would not generate 15% of its energy demand on-site. In lieu of installing PV systems that would generate 15% of the project's total energy, projects must exceed the Title 24 standards, such as building to CalGreen Tier 1 energy standards. To do this, residential projects shall exceed the 2013 Title 24 energy efficiency by a minimum of 10% and commercial projects shall exceed 2013 Title 24 energy efficiency by a minimum of 5%. Residences built to the 2016 standards (that take effect January 1, 2017) will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards.[32] California has developed a goal of zero net energy (ZNE) use in all new homes by 2020 and commercial buildings by 2030. The ZNE goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need. Although the 2016 standards would not get the Land Use Variant to ZNE, they do get close to this goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve ZNE for newly constructed residential buildings throughout California. Since a portion of the Land Use Variant would be built to the 2016 standards, and the majority of the

[32] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

Land Use Variant would be built to the 2019 standards, the Project would meet the energy efficiency standards of the CAP.

6. Would the RSPU Land Use Variant project comply with minimum CALGreen Tier 1 water efficiency standards (CAP Action: 5.1.1)?

Like the proposed RSPU, the RSPU Land Use Variant would include a commitment to a series of water conserving landscape requirements that involve the use of drought-resistant landscaping and water-conserving irrigation methods to reduce water waste. It would also include a commitment to achieve, at a minimum, the CalGreen Tier 1 water efficiency standards. Consequently, the RSPU Land Use Variant would be consistent with this CAP energy efficiency and renewable energy requirement.

The RSPU Land Use Variant would be consistent with all six applicable CAP consistency questions described above. This is a **less-than-significant** impact because the project would be consistent with each of the applicable criteria.

KP Medical Center

1. Is the KP Medical Center project substantially consistent with the land use and urban form designation, allowable floor area ratio (FAR) and/or density standards in the City's 2035 General Plan?

The proposed KP Medical Center would be a land use consistent with the Urban Center High designation in the City's 2035 General Plan. The proposed KP Medical Center, which would consist of 510,000 sf of medical office uses and 718,003 sf of hospital facilities on 17.8 acres, would result in an FAR ratio of 1.62, within the 0.5 to 8.0 FAR range allowed by the proposed Urban Center High designation in the 2035 General Plan. The KP Medical Center would be consistent with the City's overall goals for land use and urban form because it would encourage high density development in the downtown area. The high level of density would encourage land uses that enable the City to achieve the goals established in the CAP.

Therefore, the KP Medical Center is consistent with allowable floor area ratios and urban form in the City's 2035 General Plan, and therefore is consistent with the criterion 1 in the CAP Consistency Review Checklist.

2. Would the KP Medical Center project incorporate traffic calming measures (Applicable CAP Action: 2.1.1)?

The KP Medical Center would be located in the middle area of the RSP Area within the Central Business District, and the transportation network around the KP Medical Center would connect directly to the city's downtown grid. The KP Medical Center would include similar types of traffic calming measures as the proposed RSPU including signage, striping, and other features that would limit and slow traffic. These features would be consistent with the traffic calming actions called for in the Climate Action Plan.

3. Would the KP Medical Center project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan (Applicable CAP Action: 2.2.1)?

The KP Medical Center would include pedestrian access via sidewalks on all surface streets. These would connect to greater downtown Sacramento and a new Sacramento RT Green Line light rail station, to be located on 7th Street between Railyards Boulevard and South Park Street, via pedestrian routes through the RSP Area. These pedestrian access facilities would be consistent with the City's Pedestrian Master Plan.

4. Would the KP Medical Center project incorporate bicycle facilities consistent with the City's Bikeway Master Plan and meet or exceed minimum standards for bicycle facilities in the Zone Code and CALGreen (Applicable CAP Action: 2.3.1)?

The proposed KP Medical Center would include short-term and long-term bicycle parking as required pursuant to the City of Sacramento Planning and Development Code. Although specific designs have not yet been completed, it is anticipated that secure long-term bicycle parking spaces and lockers would be included in the proposed parking garages. Short-term bicycle racks would be provided proximate to entrances and exits from the proposed hospital, hospital support building, and medical office buildings. Further, if feasible, based on project design and space utilization, the proposed KP Medical Center may make provisions for a Bikeshare docking station, if such a program is initiated by the City/SMAQMD.

In addition, a Class 1 bike trail and Class 2 bike lanes would facilitate bike access to the KP Medical Center from the east, west, and south.

Consequently, the KP Medical Center would be consistent with the City Bicycle Master Plan, and would meet the meet the minimum standards for bicycle facilities in the Planning and Development Code and CALGreen (Applicable CAP Action: 2.3.1).

5. Would the KP Medical Center project include on-site renewable energy systems (e.g., solar photovoltaic, solar water heating, etc.) that would generate at least 15% of the project's total energy demand (CAP Actions 3.4.1 and 3.4.2)?

As part of its commitment to green building and sustainability, the applicant would pursue LEED Gold certification or equivalent for the buildings that it develops on the project site. To attain this goal, Kaiser anticipates implementing many of its current green strategies in the KP Medical Center. For example, some of the strategies that are being considered include:

- PVC-free materials (such as resilient flooring, carpet and roofs),
- Low or VOC-free paints,
- CFC-free refrigerants,

- Innovative construction waste diversion programs to keep harmful materials out of landfills,
- Formaldehyde-free casework,
- Use of recycled building materials,
- High efficiency HVAC systems,
- Cogeneration electricity production and heat recovery,
- Permeable paving to reduce stormwater runoff in parking areas,
- Green roofs to reduce heat gain and reduce storm water runoff,
- Thermal fluid heaters as a high-efficient water heating source,
- Cool roofs for solar reflectivity and building cooling,
- Turf-free and indigenous native planting for low irrigation demand,
- Water conservation efforts to reduce potable and process water use,
- Enhanced commissioning,
- Access to daylight,
- Non-smoking campus, and
- Interior and exterior areas of respite and open space.

Kaiser's potential future green strategies at the KP Medical Center site may include use of:

- Solar power/photovoltaics,
- Electric vehicle charging stations,
- Transportation demand management,
- Fuel-cell technology,
- Displacement ventilation,
- Toxin-free furniture,
- Green cement, and
- Use of green power for construction.

As shown in the above list, the KP Medical Center has stated that they "may" install an on-site PV energy system. However, it is not certain that a PV system would be installed. In addition, it would be unlikely that the PV system would be large enough to meet 15% of the KP Medical Center's energy demand. However, the project will exceed the 2013 Title 24 energy efficiency by a minimum of 15%, which exceeds the 10% minimum. This is typical of LEED Silver buildings. This improvement in energy efficiency would exceed the minimum 10% requirement for

commercial buildings that needs to be achieved in lieu of installing a renewable energy system. Thus, the KP Medical Center would meet the meet the minimum standards onsite renewable energy generation (Applicable CAP Actions 3.4.1 and 3.4.2).

6. *Would the KP Medical Center project comply with minimum CALGreen Tier 1 water efficiency standards (CAP Action: 5.1.1)?*

The KP Medical Center's LEED Sustainability Targets include water reduction targets, including compliance with CalGreen Tier 1 Baseline levels. Consequently, the KP Medical Center would be consistent with this CAP energy efficiency and renewable energy requirement.

The KP Medical Center project would be consistent with all six of the applicable CAP consistency criteria described above. This is a **less than significant** impact because the project would be consistent with each of the applicable criteria.

MLS Stadium

1. *Is the MLS Stadium project substantially consistent with the land use and urban form designation, allowable floor area ratio (FAR) and/or density standards in the City's 2035 General Plan?*

The proposed MLS stadium would be located in the C-3 SPD land use. It would include 395,700 sf of uses on 14.7 acres. It would have an FAR of 0.62, which is below the 2035 General Plan's designated FAR range of 3.0 to 15.0 for the Central Business District designation. However, consistent with 2035 General Plan policy LU 1.1.11, the City may permit development below the minimum FAR where the use "by its nature normally conducts a substantial amount of its operations outdoors." Since a vast majority of the proposed MLS Stadium would accommodate outdoor seating, playing field, and public plazas and other gathering areas, it would be consistent with the land use and urban form designation of the 2035 General Plan.

Pursuant to 2035 General Plan policy LU 1.1.11, the MLS Stadium project would be consistent with the C-3 SPD designation and therefore would be consistent with the criterion 1 in the CAP Consistency Review Checklist.

2. *Would the MLS Stadium project incorporate traffic calming measures (Applicable CAP Action: 2.1.1)?*

The proposed MLS Stadium would be located in the eastern area of the RSP Area within the Central Business District, and the transportation network around the MLS Stadium would connect directly to the city's downtown grid. The MLS Stadium would include similar types of traffic calming measures as the proposed RSPU including signage, striping, on-street passenger drop-off areas, and other features that would limit and slow traffic. These features would be consistent with the traffic calming actions called for in the Climate Action Plan.

3. Would the MLS Stadium project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan (Applicable CAP Action: 2.2.1)?

An integral element of the proposed MLS Stadium would be several open plazas intended to provide seamless flow in and out of the facility, pedestrian circulation around the Stadium, and pedestrian connectivity to 8th Street and 10th Street, and Railyards Boulevard. An Event Transportation Management Plan has been prepared (see Appendix J.2) that articulates a range of transportation control strategies, including provision of an on-site Transportation Management Center (TMC) in the Stadium (could occur in the Stadium Security Office), designation of a Traffic Control Officer (TCO) supervisor who would staff the TMC and manage event day traffic controls, and the location of TCO's who would direct vehicular, transit and pedestrian traffic under various event scenarios. The transportation control strategies would also address transit boarding at the nearby planned 7th/South Park Street light rail station. The proposed MLS Stadium's pedestrian facilities and connections to public transportation would be consistent with the City's Pedestrian Master Plan.

4. Would the MLS Stadium project incorporate bicycle facilities consistent with the City's Bikeway Master Plan and meet or exceed minimum standards for bicycle facilities in the Zone Code and CALGreen (Applicable CAP Action: 2.3.1)?

The proposed MLS Stadium 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). Approximately 24 long-term employee secured bike parking spaces would be provided within the loading dock area or service yard located at the south end of the stadium. Short-term patron bicycle parking spaces would be provided at the field level entry plaza west, north, and south of the Stadium.

For events with sufficient demand, the project would provide for valet bicycle parking. The provision of valet bicycle parking would be flexible depending on the size of the event and the popularity, over time, of bicycling to events. Bicycle valet parking would be accommodated directly adjacent to site, or an alternate location. It may start with a small valet space at one location. For larger events and depending on weather, likely three bike valet locations would be set up for events serving bike traffic arriving at the site from the southwest, west and northwest.

If feasible, based on project design and space utilization, the proposed Stadium 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 proposed Stadium near 8th Street and South Park Street, or at another location around the Stadium. A Bikeshare docking station near the proposed Stadium could be coordinated with the anticipated Bikeshare station at the Sacramento Valley Station.

For the reasons described above, the proposed MLS Stadium would meet the meet or exceed minimum standards for bicycle facilities in the Planning and Development Code and CALGreen (Applicable CAP Action: 2.3.1).

5. *Would the MLS Stadium project include on-site renewable energy systems (e.g., solar photovoltaic, solar water heating, etc.) that would generate at least 15% of the project's total energy demand (CAP Actions 3.4.1 and 3.4.2)?*

The proposed MLS Stadium would not include on-site renewable energy systems. However, in lieu of installing PV systems that would generate 15% of the project's total energy demand, the project would exceed the 2013 Title 24 energy efficiency by a minimum of 15%, which exceeds the 10% minimum. This reduction will be mandated by the 2016 Title 24 energy efficiency standards, which will take effect on January 1, 2017. The 2016 Title 24 standards will require that buildings be substantially more energy efficient than required by the 2013 Title 24 standards.[33] This improvement in energy efficiency would exceed the minimum 10% requirement that must be achieved in lieu of installing a renewable energy system.

6. *Would the MLS Stadium project comply with minimum CALGreen Tier 1 water efficiency standards (CAP Action: 5.1.1)?*

The MLS Stadium's Sustainability Targets include water reduction targets that are 25% better than the CALGreen Tier 1 Baseline level. Consequently, the MLS Stadium would exceed the CALGreen Tier 1 water efficiency and conservation standards.

The MLS Stadium would be consistent with all six CAP consistency criteria described above. This is a **less-than-significant** impact because the project would be consistent with each of the applicable criteria.

Stormwater Outfall

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 to comply with AB 32. The City has created a checklist to assist in demonstrating the consistency of proposed land use development projects with the CAP. The Stormwater Outfall is a piece of infrastructure necessary to implement the proposed Stormwater Master Plan and to allow development of the RSP Area, and not a development project per se. The proposed Stormwater Outfall would include seven pumps and one sump pump that would be electrically powered. The pump station also would include an emergency diesel-powered backup generator that would provide electricity in the event of an electrical outage. This backup generator would only operate during outages and no more than two hours per month for testing. An air quality permit would be required for the backup generator and would limit the hours per year of operation.

[33] California Energy Commission, 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

The CAP Consistency Review Checklist does not apply to the Stormwater Outfall because the Outfall is not a development project. However, the electricity used to supply the pumps would be supplied by SMUD. As an electric utility, SMUD is required to generate a portion of its electricity with renewable sources of energy. By 2020, SMUD must generate 33 percent of its electricity using renewable resources. In 2014, SMUD generated 27 percent of its electricity using renewable energy.[34] Consequently, the proposed Stormwater Outfall's indirect generation of GHGs through its electricity consumption would be based on the percentage of renewable resources included in SMUD's energy portfolio. In addition, the use of diesel fuel would occur for only periodic testing and during emergency electrical outages. Finally, the proposed Stormwater Outfall represents a critical piece of infrastructure that would allow development of the RSP Area and would not be inconsistent with the City's CAP. For these reasons, the proposed Stormwater Outfall would have a **less-than-significant** impact on climate change.

Summary

As described above, each of the applicable projects, including the proposed RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium would be consistent with and conform to all of the applicable criteria to establish consistency with the City's CAP. As established in CEQA Guidelines section 15183.5(b), because the City has determined that these projects would be consistent with the City's CAP, the projects' contribution to cumulative GHG emissions and related global climate change is less than considerable, and the impact is considered **less than significant**. As further described above, the proposed Stormwater Outfall is not a project to which the City's CAP Consistency Checklist applies, however because of the limited energy use required for operation of the project, and the fact that the energy would come from SMUD which current produces 27 percent of its energy from renewable sources and will expand that portfolio to 33 percent by 2020, the contribution of the proposed Stormwater Outfall is also considered less-than-considerable, and the impact would be considered **less than significant**.

Mitigation Measure

None required.

[34] Sacramento Municipal Utility District, 2014. Power Content Label. Available: www.smud.org/assets/documents/pdf/Power-Content-Label-full.pdf. Accessed November 17, 2015.

SECTION 4.8
Hazards and Hazardous Materials

This section addresses the potential exposure as a result of encountering existing contaminated soils and groundwater and using, storing and transporting hazardous materials, if encountered, during construction and operation of the proposed project.

The City received comments on the NOP related to hazards and hazardous substances, which are addressed in this section to the extent they pertain to potential project impacts (see Appendix B). NOP comment letters received relevant to this section include a letter from the Department of Toxic Substances Control (DTSC), requesting that the Tri-Party Memorandum of Understanding be discussed in the Subsequent Environmental Impact Report. The DTSC comments also provide an update on the status of the remediation and anticipate that the hazards and hazardous substances section consider remediation issues. These issues are addressed within this section.

The analysis in this section is based on project-specific construction and operational features, data provided in the City of Sacramento 2035 General Plan and City of Sacramento 2035 General Plan Master EIR, various phase I and phase II Environmental Site Assessments conducted in the area, remedial investigation/feasibility studies, remedial action plans, remedial implementation plans, closure reports, land use covenants (LUCs), certification documentation, and results of a search of government databases that identify known listed contaminated sites.

Issues Addressed in the 2007 RSP EIR

The 2007 Railyards Specific Plan (RSP) EIR discussed the following topics: construction and occupancy occurring on a property known to contain contaminated soil; the potential for remediation activities to expose people to adverse health effects associated with hazardous substances; interference with remediation efforts; exposure to asbestos, lead-based paint, or other hazardous substances; the increased use of hazardous substances; and the transport of hazardous substances. These issues are still applicable and discussed in this section.

Since the certification of the 2007 RSP EIR, most of the soil remediation within the RSP has been completed by Union Pacific Railroad (UPRR) and certified by DTSC. DTSC certification means that the remediation has been satisfactorily completed. However, certification does not mean that soils have been cleaned up to a level that allows for unrestricted use. Therefore, certification requires a LUC which places certain requirements and restrictions on development to protect human health and the environment.

Due to a change in ownership since 2007, the TriParty Memorandum of Understanding (MOU) is no longer an applicable structure for tracking and implementing LUCs. As a substitute for the MOU, a new Memorandum of Agreement (MOA) between DTSC and the owner, Downtown Railyard Venture, LLC (DRV), has been entered into, which provides for the management of all required reporting in accordance with DTSC approved LUC recorded against the certified areas of the property. The change in ownership and the MOA are discussed further under the Remediation Responsibilities.

4.8.1 Environmental Setting

The environmental setting is described on pages 6.5-1 through 6.5-15 of the 2007 RSP Draft EIR. The environmental setting has changed as a result of ongoing remediation, completion of certain efforts and development activities since certification of the 2007 RSP EIR. The following discussion updates and replaces the 2007 RSP EIR setting.

Soil and Groundwater Contamination

The 244-acre RSP Area served as the Central Pacific Railroad and later Southern Pacific Railroad principal locomotive and maintenance rebuilding facility, among other functions, since 1863. Many different industrial operations occurred at the RSP Area over its history. Primary operations at the site included assembly and building of locomotives and railroad cars and repairing or refurbishing of the cars and locomotives. Activities associated with these operations included steel fabrication, brick production, boiler-making, copper and tinsmithing, blacksmithing, machine work, carpentry, metal plating, upholstering, washing, welding and cutting, paint removal and application and sand blasting. At one time, the RSP Area also produced rails, steam engine and ferry parts and cable cars. Many of these activities are associated with lead and other heavy metal waste. Many different industrial processes were also associated with specific buildings on the site, and some processes were performed in numerous structures over time. Additional operations could have existed that were not recorded or did not occur in one location long enough to warrant mention by historians. These factors contribute to difficulties in obtaining accurate chemical use, storage, and disposal information. Many types of chemicals were used for railyards operations. Fuels, caustic solutions, paints, solvents, and metal alloys appear to constitute the majority of chemicals used at the site. Over the history of the site, numerous underground storage tanks (USTs) were installed (and later removed) to store chemicals associated with operations.[1] Additional information regarding site history can be found in Section 4.4, Cultural Resources.

Industrial activities are no longer performed on the site; however, these historic activities involved on-site disposals, spills, and other releases of hazardous chemical products and items containing hazardous substances that resulted in soil and groundwater contamination. The site is

[1] Richards Amendment/Railyards Redevelopment Plan Draft EIR, Section 5.5 Hazards and Hazardous Materials.

included on the state Hazardous Waste and Substances List ("Cortese List") compiled pursuant to Government Code 65962.5 and referenced at Public Resources Code 21092.6.[2]

Soil within the RSP Area contained metals (primarily lead), petroleum hydrocarbons, volatile organic compounds, and asbestos. The metals, petroleum hydrocarbons, and volatile organic compounds ultimately led to degradation of shallow groundwater underlying the site. Additional information on the types and extent of contamination is summarized below.

In accordance with DTSC regulations, the remediation process for the study areas defined in the RSP Area consists of the following components:

- Remedial Investigation Report, which summarizes the nature and extent of contamination at the site followed by a Risk Assessment that determines the extent or risk exposure to human health and the environment, if any;
- Feasibility Study, which establishes remedial goals and objectives, evaluates the feasibility of various remedial technologies, and selects the most feasible remedial alternative;
- Final Remedial Action Plan,[3] that describes in detail the selected remedial alternative and also requires the development of a LUC that identifies environmental requirements on future development to protect human health and the environment;
- Remedial Design Implementation Plan, which provides detailed technical plans and engineering designs for implementation of the Remedial Action Plan.
- Closure Report, which documents implementation of the Remedial Action Plan; and
- Certification, which provides written approval from DTSC that the Remedial Action Plan, including the recordation of the LUC, has been successfully implemented.
- Five-Year Review that evaluates the effectiveness of the remediation to protect human health and the environment and may include recommendations for improvement.

A key element of the soil and groundwater remedial investigation reports is to provide the data requirements for completion of a Baseline Risk Assessment and development of the Remedial Action Objectives for selected land use options. However, consistent with applicable regulations and standards, the remedial investigation reports do not provide recommendations for future land use but, rather, provide the data for development of remedial action objectives with the objective of conforming human-health and ecological-health cleanup objectives to the selected land use.

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2 Department of Toxic Substances Control, 2015. Hazardous Waste and Substances Site List. Available: http://www.calepa.ca.gov/SiteCleanup/CorteseList/.Accessed December 2, 2015.

3 The requirement of a LUC is project-specific and based on the proposed remedy. For other Remedial Action Plans where remediation is proposed to result in unrestricted land use, a LUC may not be required.

The primary objective of a Baseline Risk Assessment is to characterize the potential for chemicals that may result in adverse health effects in potentially-exposed human populations and ecological species as the RSP Area site currently exists. That is, it evaluates the actual and potential risks in the absence of any remediation or mitigation measures. In addition, as mandated by DTSC guidance, the Risk Assessment also evaluates the potential risks to future residential populations at the project site. This provides an upper-bound estimate of potential health risks using the most health-protective scenario. Each Baseline Risk Assessment prepared for the RSP Area remediation included four steps: hazard identification or data evaluation of contaminants of concern; exposure assessment; toxicity assessment; and risk characterization.

The process outlined above has been completed for a majority of the RSP Area and has been subject to a separate CEQA review process conducted by DTSC as part of the Remedial Action Plans approval process, and by the City in its review of earlier development plans for the area. Appendix H.1 (Site Investigation and Remediation Bibliography) includes a bibliography of the technical reports that have been prepared to document the results of the site investigations and work plans for site remediation. Each of the site investigation and remediation reports listed in the bibliography in Appendix H.1 have been reviewed by DTSC and the Central Valley Regional Water Quality Control Board (Regional Water Board), to the extend needed, to ensure compliance with cumulative RSP Area approval and applicable laws and regulations pertaining to the remediation of hazardous substances contamination. The results of these studies are summarized in this section.

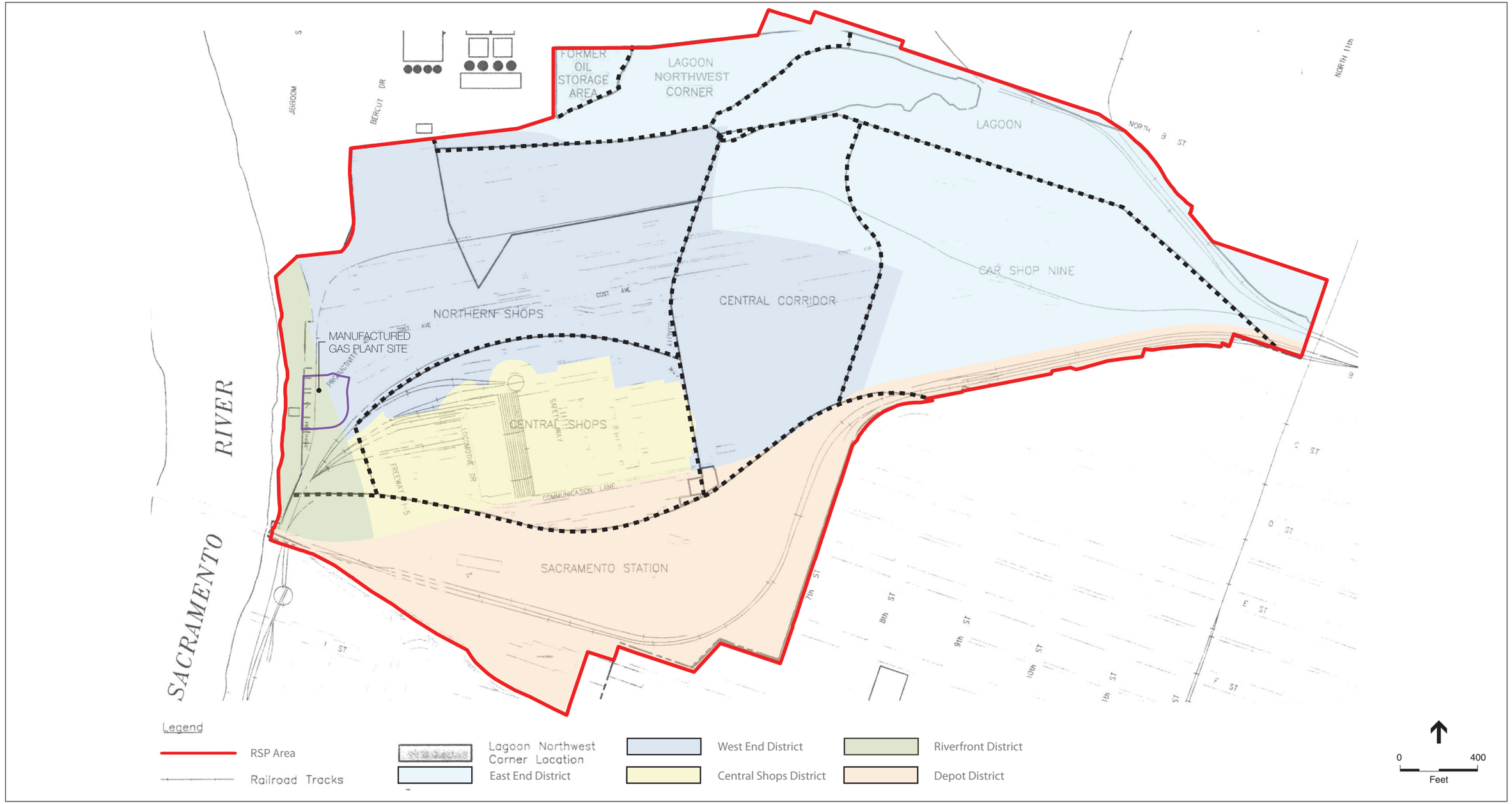
For purposes of the site investigations, DTSC approved separating the RSP Area into six different soil study areas: Lagoon Study Area, Car Shop Nine Study Area, Northern Shops Study Area, Central Shops Study Area, Central Corridor Study Area, and Sacramento Station Study Area (Sacramento Station). The boundaries of these study areas are illustrated in **Figure 4.8-1**. The groundwater investigation consists of the Lagoon Groundwater Study Area, Manufactured Gas Plant Study Area, and the South Plume Groundwater Study Area. The boundaries of these study areas are illustrated in **Figure 4.8-2**. The boundaries of each study area were determined based on soil or groundwater impact, history of use, project phasing, and encountered features. In addition to these study areas, four other areas (the Sand Piles site, Battery Shop Yard, Pond and Ditch/Former API Separator, and Drum Storage Area) were identified as hazardous waste units under the Resource Conservation and Recovery Act (RCRA).[4]

Constituents of Concern

The constituents of concern (COCs) present in RSP Area soil fall into five categories:

- Asbestos,
- Metals,

[4] Sand Piles site, Battery Shop Yard, Pond and Ditch/Former API Separator, and Drum Storage Area RCRA units have been closed and included in the current certification process.



SOURCE: Report of Waste Discharge – Lagoon Study Area Northwest: Sacramento Rail Yard by Environmental Resources Management from Nov. 2004.

Figure 4.8-1

Railyards Soil Investigation and Cleanup Areas and Planning District Boundaries

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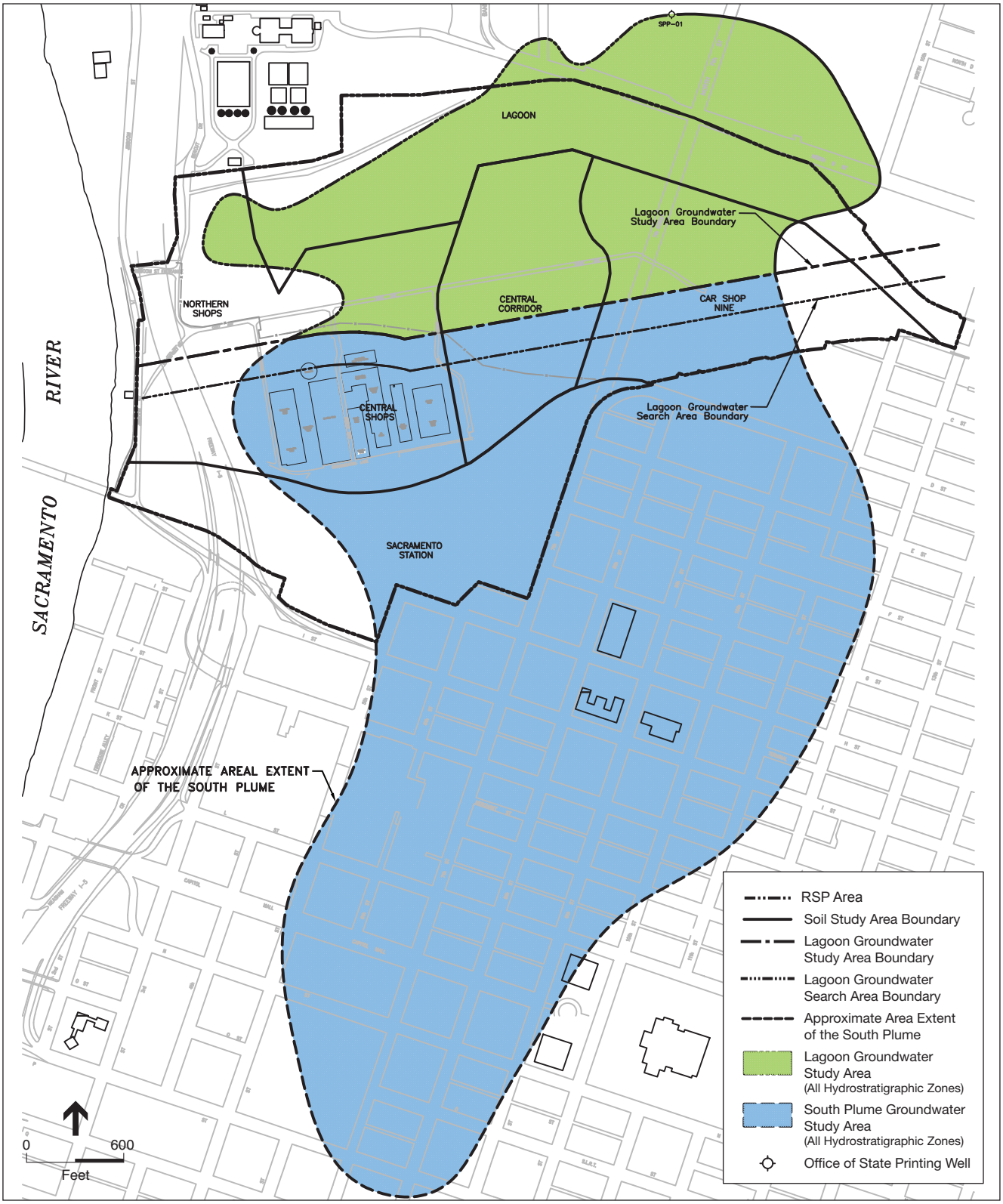

SOURCE: ERM 2014

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Figure 4.8-2
Groundwater Plumes

- Volatile Organic Compounds (VOCs),
- Total Petroleum Hydrocarbons (TPH), and
- Semivolatile Organic Compounds (SVOCs).

Although there is some overlap among these categories, typically each category possesses characteristics that influence where the chemicals are likely to be found given their mobility in the environment.

The following discussion describes the sources and distribution of these types of chemicals within the RSP Area. Remedial investigations have been completed for all of the RSP Area's soil study areas. These investigations have demonstrated that lead (and to a lesser degree other heavy metals) was fairly pervasive throughout the site, while chemicals within the other categories were present at various degrees of elevated levels only in localized areas.

Asbestos

Many of the historic buildings and structures within the RSP Area were constructed with materials and coating that contained asbestos to various degrees. Construction, demolition, and renovation activities had the potential to disturb asbestos and generate emissions of asbestos fibers. The only existing buildings associated with Railyards operations are the Central Shops. Hazardous waste abatement for these buildings, except the Erecting Shop and the Boiler Shop, has been completed and approved.

Asbestos is regulated as a hazardous air pollutant under the Clean Air Act and is also regulated as a potential worker safety hazard under the authority of the Occupational Safety and Health Administration (OSHA).

Metals

Many of the historic Railyards activities on the site, such as foundry work, blacksmithing, battery reconditioning, and parts fabrication, involved the extensive use of metals. Locomotive and railroad car maintenance applied lead-based paint and used sandblasting to remove weathered paint. Lead was also used in journal boxes and soldering.

Heavy metals, primarily lead, were found on much of the site in the surface soils. Within these soils, lead presence was generally restricted to approximately the top four feet. Other metals found on the site at various degrees of elevated concentrations were much more localized, but nearly always accompanied by lead. These metals included copper, zinc, nickel, antimony, and mercury. Heavy metals soil remediation for a majority of the RSP Area has been completed.

Volatile Organic Compounds

VOCs comprise the solvents, degreasers, paint thinners, and strippers formerly used in the RSP Area in various operations. Unlike metals, VOCs are highly mobile and volatile. They can be found in surface soils at significantly lower concentrations because they volatize into the atmosphere. Although these compounds volatize rapidly when spilled, they also move quickly

through soils into the groundwater. Since most of these compounds are at least somewhat soluble in water, groundwater contamination frequently occurs. Over time, many VOCs are biodegraded into other compounds by naturally occurring microorganisms in the soil and groundwater or other processes. Because of their mobility, VOCs readily migrate through the soil column and into groundwater. The movement of contaminated groundwater can contaminate clean soil.

Soil remediation for VOCs has been substantially completed. Remaining elevated levels of VOCs on the RSP Area are found primarily in soils located in the Manufactured Gas Plant Study Area, as well as the Central Shops/South Plume and Lagoon groundwater plumes.

Total Petroleum Hydrocarbons

THPs in soil and groundwater at the RSP Area consisted of petroleum products such as diesel, fuel oil, and lubricating oils and other chemical compounds that originate from crude oil. The presence of these compounds in soil and groundwater was due primarily to leaks or spills into the ground from storage tanks, pipelines, locomotive maintenance, and/or discharges with wastewater to the Pond and Ditch or Lagoon areas. Soils containing TPH contamination have been removed from most locations. Remaining levels of above remedial goals are found primarily within the Manufactured Gas Plant Study Area and in the groundwater near the western portion of the Central Shops.

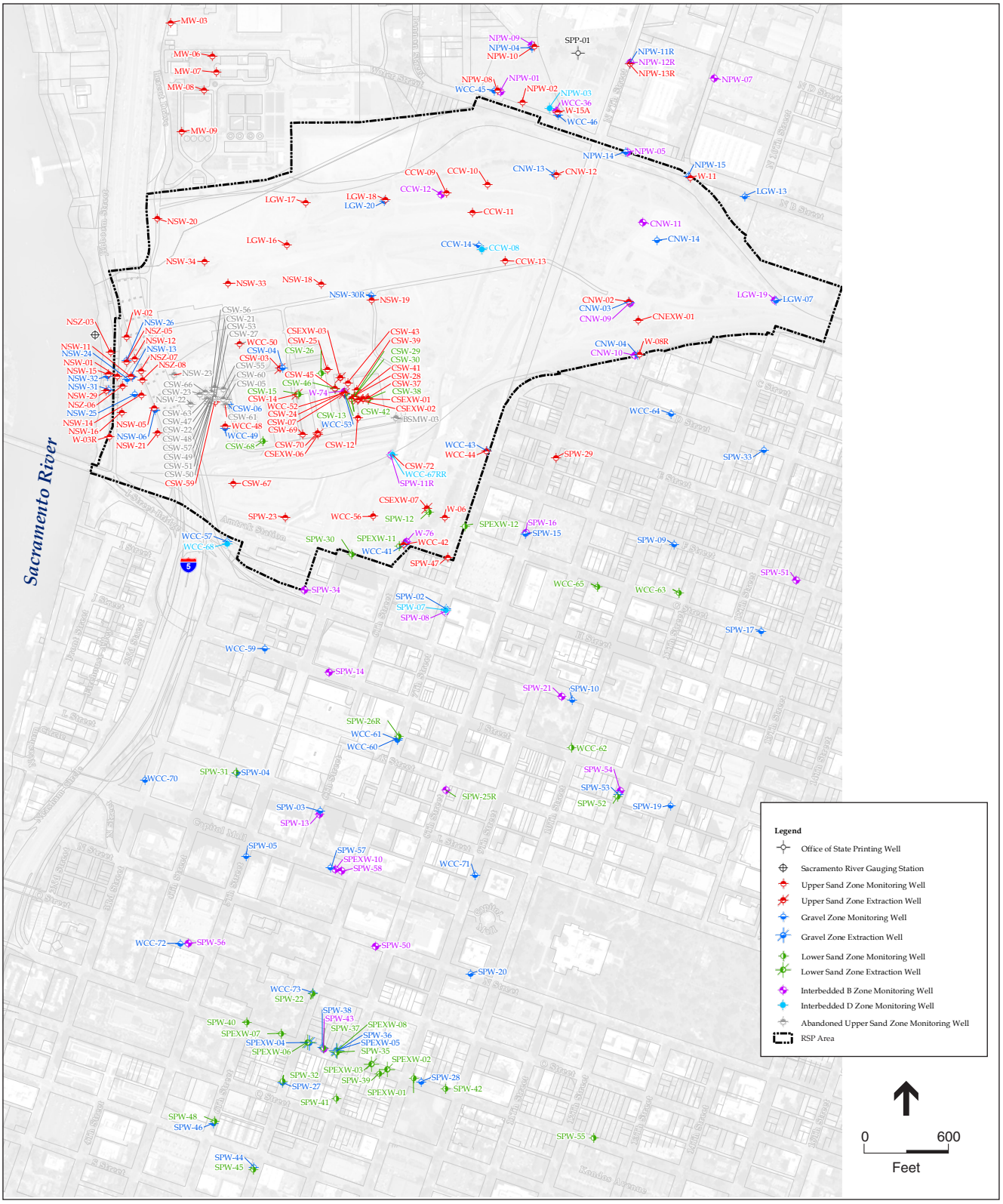
Semivolatile Organic Compounds

Most SVOCs are only slightly volatile under normal conditions and are strongly adsorbed to soils, meaning they tend to adhere to the surface of soil particles, rather than entering into its deeper structure. Thus, they are relatively immobile in the environment and stay close to the point where they were initially discharged. Some SVOCs, such as phenols and naphthalenes, are more volatile than others, are not as strongly adsorbed, and are somewhat soluble in water, and thus are more mobile in the environment.

Although SVOCs of both the more and less volatile types were found at the RSP Area to some extent, contamination by SVOCs generally was not widespread and occurred in only a few limited areas. The SVOCs most commonly detected at elevated levels at the site were polynuclear aromatic hydrocarbons (PAHs), which were ordinarily formed as incomplete products of combustion of organic materials such as coal or oil. Phenols have also been detected in the groundwater beneath the Central Shops.

Groundwater

Groundwater quality at the RSP Area site, and areas outside the site where contaminant plumes have been detected, is routinely monitored for contaminants of concern. The results are reported to DTSC and the Regional Water Board in accordance with a Regional Water Board-adopted "Monitoring and Reporting Program Order No. R5-2008-0821." **Figure 4.8-3** shows the locations of groundwater monitoring wells within the RSP Area. Monitoring wells are also located in downtown Sacramento and north of the site. Groundwater samples are collected from four waterbearing zones beneath the site and in the downtown area: sand zone (upper and lower),



SOURCE: ERM-West, Inc., 2015. 2015 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report, Former SPTCo Sacramento Railyards, February 26, 2016.

Figure 4.8-3

Monitoring and Extraction Well Location Map

gravel zone, the interbedded B zone, and interbedded D zone. VOCs, SVOCs, total petroleum hydrocarbons (TPH), and metals have all been detected at various levels in groundwater.[5] Contaminated groundwater is being actively pumped and treated both onsite.

Remediation Responsibilities

The responsibilities for remediation of the RSP Area have changed several times as ownership of the site has changed. The past and current responsibilities are described below.

Enforceable Agreement

UPRR (formerly Southern Pacific Transportation Company) and DTSC entered into an Enforceable Agreement in 1988 regarding the investigation and remediation of hazardous substances at the Railyards. The purpose of the Enforceable Agreement is to ensure that releases or threatened releases of hazardous substances from the RSP Area are adequately investigated and that appropriate remedial actions are taken. The Enforceable Agreement specifies the documentation that must be produced and submitted to DTSC for review and approval for each study area as part of the remediation process described earlier.

Memorandum of Understanding

As part of the agreements leading to the approval of the December 2007 RSP EIR, an MOU between S. Thomas Enterprises of Sacramento, LLC (STES), DTSC, and the City of Sacramento was executed defining responsibilities of the three parties relevant to remediation and development obligations, including land use restrictions. The roles defined in the MOU were reflected in the mitigation measures identified in the 2007 RSP EIR. STES was the owner, master developer, and the Project Coordinator responsible for all Railyards remediation on behalf of UPRR. In 2010, IA Sacramento Holdings, LLC foreclosed on the property and assumed the position of a secured lender, and did not assume responsibilities for remediation, the role of Project Coordinator or master developer. In the following year, UPRR resumed responsibility as the Project Coordinator and the Responsible Party for all remediation under the 1988 Enforceable Agreement.

In 2015 IA Sacramento Holdings, LLC and DRV entered into a settlement agreement with UPRR that defines remediation responsibilities and roles. Under the agreement, UPRR retained its position as the Responsible Party under the 1988 Enforceable Agreement for historic contamination and for all Regulatory Orders, among other responsibilities. The sale of the Railyards to DRV in September 2015 made DRV owner and master developer.

Given the significant changes of responsibilities resulting from the recent change in ownership, the 2007 MOU is no longer applicable. A new MOA between DTSC and DRV was established to define roles and responsibilities (discussed below).

[5] ERM-West, Inc., 2016. 2016 Semiannual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report, Former SPTCo Sacramento Railyards, February 26, 2016.

2015 Land Use Covenant

As part of the certification process, and pursuant to Civil Code section 1471, DTSC determined that a LUC was necessary to protect present or future human health or safety or the environment as a result of hazardous materials, as defined in Health and Safety Code section 25260, DTSC also concluded that the Property (Assessor's Parcel Numbers 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058), as remediated and when used in compliance with the Environmental Restrictions of the 2015 LUC, would not present an unacceptable risk to present and future human health or safety or the environment.[6] The 2015 LUC also provides a roadmap to development by assuring that the approved land uses conform with the certified areas. See Section 4.8-2 Regulatory Setting for additional discussion on the 2015 LUC and Figure 4.8-4 for the portions of the RSP Area covered by the 2015 LUC.

Memorandum of Agreement

The 2015 LUC requires that DRV and DTSC enter into a MOA. The provisions of the MOA, which was executed in 2016, provide, among other provisions, (1) establishment of a process for owners to pay the DTSC's costs, and monitoring, inspecting and reporting in compliance with the Covenant on behalf of owners and occupants; (2) preparation of a soil and groundwater management plan approved by the DTSC; (3) provision of available information by the DTSC relating to vapor mitigation areas; and (4) obtaining of DTSC's determination of a proposed use of a parcel as being consistent with any restrictions provided in applicable LUCs. Ongoing remediation activities are not included within the MOA because UPRR, as the Responsible Party, is responsible for remediation under the 1988 Enforceable Agreement and Regulatory Orders as provided in the settlement agreement entered into by UPRR and DRV.

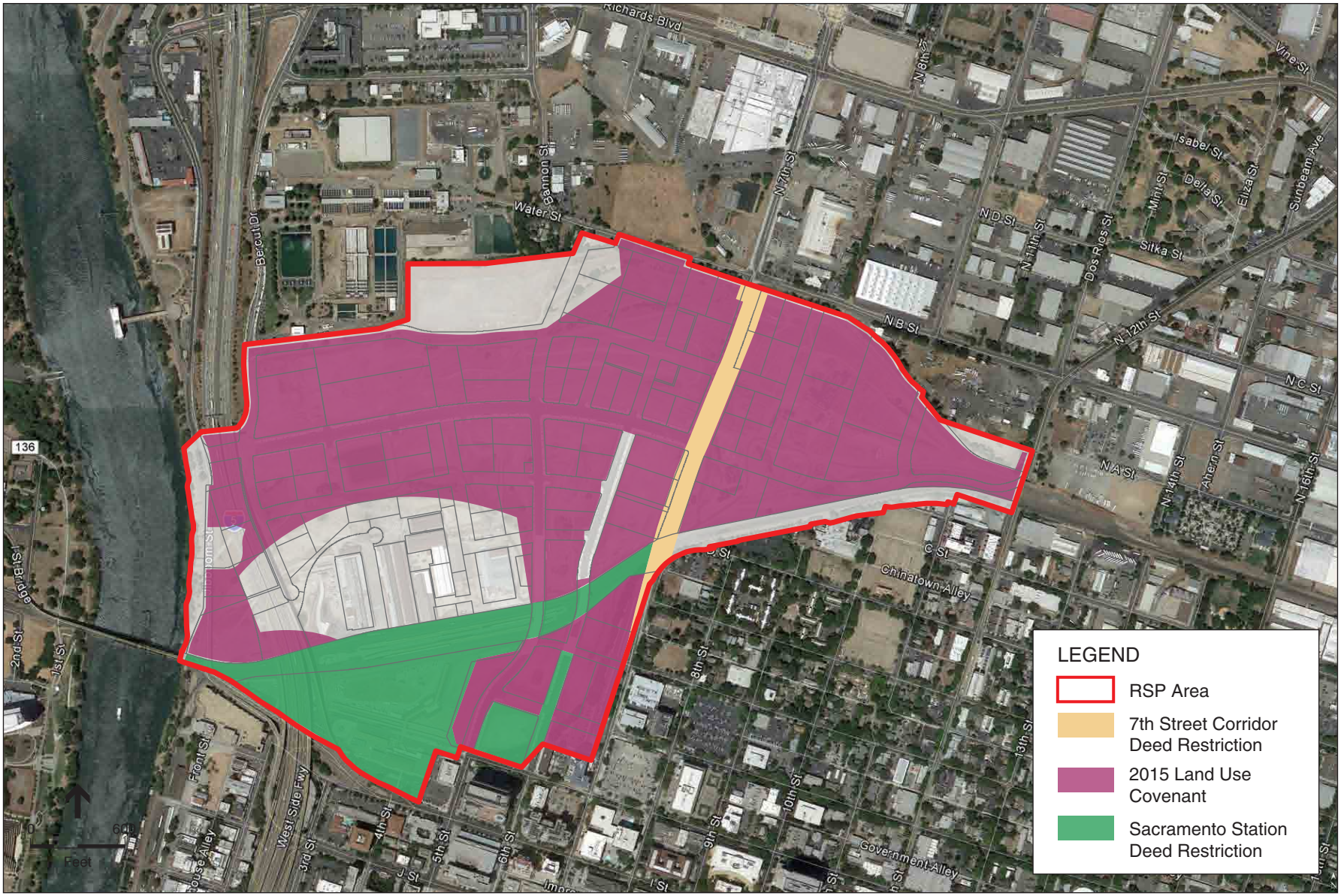
The 2015 LUC applies only to those parcels that have been remediated and certified (see **Figure 4.8-4**). These restrictions are discussed in more detail under Regulatory Setting.

Status of Remediation

Since the 2007 RSP EIR was completed, soils remediation and certification has been completed for the majority of the RSP Area. The status of each of the remediation areas is discussed below. In some cases, an area had both soil and groundwater contamination, and each is described (e.g., for the Manufactured Gas Plant).

The first Five-Year Review was completed in June 2015 for the Sacramento Station, Lagoon, Car Shop Nine, Central Corridor, and Northern Shops Soil Study Areas. The purpose of the First Five-Year Review is to evaluate the implementation and performance of the DTSC-approved remedies to determine whether the remedy as implemented is protective of human health and the environment for current and anticipated future uses. The first Five-Year Review also identifies issues found during the review process and makes recommendations to address them. DTSC

6 Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.



SOURCE: ESA 2016

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Figure 4.8-4

Deed Restriction and Land Use Covenants with the RSP Area

approved the Five-Year Review, concluding the remedy is currently protective and will remain protective in the future, as development and reuse occurs, because remedy construction is complete, access is restricted where necessary by engineering controls, and LUCs will be recorded or updated. Soils in the Property were remediated to cleanup levels that, along with adherence to the restrictions in the LUCs, are protective of all populations for planned uses.[7]

Car Shop Nine, Central Corridor, Lagoon, and Northern Shops

As discussed on pages 6.5-10 and 6.5-11 of the 2007 RSP Draft EIR, soils within the Lagoon Study Area and Central Corridor, Car Shop Nine, and Northern Shops contained heavy metals (primarily lead), TPH, VOC, SVOC, and asbestos. In portions of the RSP Area, one or more of these COCs were present at concentrations that posed a potential threat to human health and the environment and required remediation.

Remediation of site soils in the Lagoon, Central Corridor, Car Shop Nine, and Northern Shops study areas began in 2000 in accordance with the DTSC-approved Remedial Action Plans for the site and was certified completed in November 2015 for Car Shop Nine, Central Corridor, Lagoon, and Northern Shops Study Areas.[8] Remediation activities included well abandonment, soil excavation and stockpiling, sampling, soil treatment, backfill activities and off-site disposal. With the exception of remediation activities for the Northwest Corner, located within the Lagoon Study Area, including Vista Park, no further soil remediation is planned for these study areas until access is available to small and limited inaccessible areas.[9] Car Shop Nine, Central Corridor, Lagoon, and Northern Shops Study Areas are subject to soil certification by DTSC and the 2015 LUC. The 2015 LUC does not prohibit any use, including residential development, as long as the provisions of the LUC preventing exposure to soil and soil vapors are implemented.[10] The 2015 LUC does not include the Central Shops for soil or groundwater, since remediation has not yet been certified.

Northwest Corner (Lagoon Study Area)

The Lagoon Study Area occupies approximately 51 acres within the northern and eastern portions of the RSP Area and has been subdivided into the Lagoon Proper and the Lagoon Northwest Corner. The primary contaminants of concern included benzopyrene, lead, antimony, nickel, extractable hydrocarbons and asbestos containing material (ACM). These contaminates had been determined by DTSC and Regional Water Board to not exceed the concentration levels which pose a threat to groundwater. In 2003 the Lagoon Study Area Remedial Action Plan was amended

7 ERM, 2015 (June). First Five-Year Review Report, Former SPTCo Sacramento Railyard, Sacramento, California. Prepared for Union Pacific Railroad Company, p. 10-1.

8 Department of Toxic Substances Control, 2015. Certification of Remedial Action, The Railyards, Sacramento California, November 20, 2015.

9 ERM-West, Inc., 2014. 2012-2013 Soil Remediation Summary Report, Car Shop Nine, Central Corridor, Lagoon, and Northern Shops Study Areas, Former Southern Pacific Transportation Company, Sacramento California, July 2014.

10 Department of Toxic Substances Control, 2015. Certification of Remedial Action, The Railyards, Sacramento California, November 20, 2015

to include grading and capping approximately 10 acres (Lagoon Northwest Corner) beneath an engineered protective cover designed to meeting California Code of Regulations Title 27 requirements to the extent feasible.[11]

As currently approved by DTSC, the Northwest Corner would ultimately contain up to 230,000 cubic yards of inert soil below an engineered cap and fill. Currently, the Northwest Corner contains approximately 225,000 cubic yards of inert soil.[12] A specific soil placement hierarchy was determined based on results of contaminant testing that determined whether concentrations of contaminates were suitable for placement under the engineered cap. The placement process ensured protection of human health, the environment, and groundwater beneath the Northwest Corner. The specific soil placement hierarchy was determined using four categories: (1) soil with contamination below remedial goals and asbestos-containing material present in soils; (2) soil contamination below remedial goals and below groundwater protection goals; (3) soils with concentrations of constituents above remedial goals and groundwater protection goals; and (4) soils with soluble concentrations of metals above the soluble metals criteria. One of the main goals of the soil hierarchy is to ensure the soils that could contact groundwater (i.e., the lowest foundation layer) only have constituents that are insoluble such as asbestos or metals above the remedial goals.

Sims Metal Site (Lagoon Study Area)

A portion of the Sims Metal site is located in the eastern most portion of the RSP Area. Although part of the Lagoon Study Area, the portion of the Sims Metal site located within the RSP Area is not covered under the 2015 LUC. As discussed below, the Sims Metal site is undergoing a separate remediation process with DTSC. Recycling operations have occurred at this location since the late 1940s. Associated Metals operated a recycling facility from approximately 1964 to 1974. From approximately 1974 to 1988 Levin metals operated a metals recycling facility. From 1988 to the present, Sims has operated a metals recycling facility at the site, where scrap metal, including automobiles and appliances are either sorted, cut, flattened, or compacted, and transported off-site either for further processing or for sale to steel mills. The site uses include offices, employee parking areas, scrap metal handling and stockpiling, and truck loading areas.[13]

Consent Order, Docket No. HSA-CO 05/06-021 divided the Sims Metal site into two divided study areas: Study Area #1 and Study Area #2. Study Area #1 located within the RSP Area consists of approximately 1-acre portion of APN 002-001-035-0001, currently owned by DRV and leased to Sims. Sims and Levin Enterprises, Inc. is the primary respondent for Study Area #1. Levin Enterprises, Inc. is the current landowner of approximately 1.3 acres of Study Area #2

[11] Department of Toxic Substances Control, 2006. Explanation of Significant Differences Regarding Northwest Corner RAP Amendment, Union Pacific Railyard – Sacramento Site, September 13, 2006.

[12] Rashmawi, Elias Managing Senior Principal, Brownfield Development Subsector Leader, Stantec, personal communication, December 15, 2015.

[13] Amec Geomatrix, Inc., 2012. Revised Feasibility Study Report, Sims Metal Site – Study Area #1, 130 North 12th Street, Sacramento California. Consent Order Docket No. HAS-CO 05/06-021, June 15, 2012.

(APN 002-031-001-0000) and is a former operator of the site. SAG/WIG LLC is the current landowner of approximately 6.5 acres of Study Area #2 (APN 002-031-002-0000) located outside of the RSP Area. Sims, Levin and SAG/WIG are the primary respondents with respect to Study Area #2.[14]

Potential contaminants of concern within Study Area #1 include metals (lead), polychlorinated biphenyls, Polynuclear Aromatic Hydrocarbons and Total Petroleum Hydrocarbons (diesel and motor oil range). Completed in 2012, the Revised Feasibility Study Report developed remedial action objectives and alternatives. The remedial action objectives included the prevention of exposure to future outdoor industrial and construction workers to contained soils and vapor exceeding cumulative cancer risk and restoring groundwater quality to meet applicable beneficial uses. Based on these remedial action objectives, remedial action alternatives were development for the site based the current uses. The Revised Feasibility Study Report concluded that the remedial action alternatives may be revisited should land uses change in the future.

Central Shops

Since the 2007 RSP EIR the Final Feasibility Study Report for the Central Shops Soil Study Area and the South Groundwater Plume was approved by DTSC. The main objective of the Final Feasibility Study Report was to gather sufficient information to support an informed risk management decision regarding the most appropriate remedy for a site.[15]

The Final Draft Remedial Action Plan was approved on July 3, 2013.[16] Additionally, in December 2014 the Remedial Design and Implementation Plan – Part G was prepared to address the Shallow Soil Target Area component described in the above mentioned Final Draft Remedial Action Plan. The Shallow Soil Target Area is defined by presence of nonvolatile COCs (metals, TPH, and nonvolatile SVOCs) remedial goals, which are predominantly within the upper 10 feet of soil. The Remedial Design and Implementation Plan includes objective for the Shallow Soil Target Area remedy component, a summary of the results of the pre-design investigation performed in August and September 2014, and implementation plans for the soil excavation.[17]

As of December 2015, all accessible contaminated soils had been removed and/or remediated and soil remediation activities associated within the Central Shops had been completed. Certification for Central Shops soil is currently scheduled for 2017. Due to access and potential impact to the buildings, soils under the Central Shops buildings and areas immediately adjacent to those

[14] Amec Geomatrix, Inc., 2012. Revised Feasibility Study Report, Sims Metal Site – Study Area #1, 130 North 12th Street, Sacramento California. Consent Order Docket No. HAS-CO 05/06-021, June 15, 2012.

[15] ERM-West, Inc., 2010. Final Feasibility Study Report, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California, July 2010.

[16] ERM-West, Inc., 2013. Final Draft Remedial Action Plan, Central Shops Area – Soil and South Plume Study Area – Groundwater, Sacramento, California, January 2013.

[17] ERM-West, Inc., 2014. Remedial Design and Implementation Plan - Part G, Shallow Soil Target Area, Central Shops Study Area, Former SPTCo Sacramento Railyard, Sacramento, California. December 23, 2014.

buildings have not been remediated. The Soil Management Plan will be used to manage soils within these inaccessible areas, should they be encountered in the future.[18]

Sacramento Station

As discussed on pages 6.5-12 and 6.5-13 of the 2007 RSP Draft EIR, a LUC was established as part of the closure process. The LUC restricts certain uses and identifies acceptable remedial goals in soils for future development scenarios. A Closure Certification Report for the Sacramento Stations Metals Area and a Closure Report for Sacramento Station Hydrocarbon Area Soils were submitted to DTSC in January 1991 and May 1994, respectively. Closure and certification was issued by the Southern Pacific Transportation Company on May 27, 1994. A LUC was recorded on May 19, 1994. Impacted soils in accessible areas located under the former mainline tracks and in Areas A & B identified in the Sacramento Station Covenant were subsequently remediated and approved by DTSC. With the exception of an inaccessible area located under a concrete platform owned by the City of Sacramento outside the RSP Area, no further investigation or remediation is necessary in this portion of the RSP Area.

Since the publication of the 2007 RSP EIR, the mainline tracks that previously cut through the Sacramento Station site were relocated north. This allowed for the soils under former the mainline tracks that were not previously accessible to be remediated, as previously indicated. In September of 2015 a new LUC was issued replacing the Sacramento Station Covenant for areas owned by DRV within the Sacramento Station.[19] Other areas within the Sacramento Station owned by Administrative Offices of the Courts and City of Sacramento remain under the Sacramento Station Covenant.[20] A new LUC will be recorded for the areas that are not included in the May 19, 1994 Sacramento Station LUC so the remedy can be certified as complete.

Since the publication of the 2007 RSP EIR, 3 tunnels, 2 bridges, 2 roadways, passenger facilities, mainline track corridor, two detention basins, and several wet and dry utilities have been constructed within or adjoining the Sacramento Station Study Area (these facilities also extended into the Central Shops, the Central Corridor, and the Northern Shops study areas). Additional roadways and one detention basin expansion are being constructed in this area in 2016. Construction of these features was and is being completed in accordance with terms of the Sacramento Station Covenant and the Railyards Project Soil and Groundwater Management Plan (SGMP) and similar applicable plans that were developed for the Track Relocation, 6th Street, 5th Street and Railyards Boulevard and Sacramento Valley Station – Phase 2 project which were completed prior the 2015 SGMP. The SGMP is described in Section 4.8.2 Regulatory Setting.

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18 Rashmawi, Elias, Managing Senior Principal, Brownfield Development Subsector Leader, Stantec, personal communication, December 15, 2015.

19 A portion of the Sacramento Station (the block between H and G Streets and 6th and 7th Streets) was purchased from the DRV by SMUD; however, this property remains covered by the 2015 LUC.

20 Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

Manufactured Gas Plant

The Manufactured Gas Plant Study Area was identified in 2003, after discovery of remnants of Manufactured Gas Plant gas holders on the western boundary of the Northern Shops area during soil remediation activities. Excavation of this area also encountered visible staining, strong odors, and a floating hydrocarbon product similar to fuel oil at the water table and soil interface. Completed in 2015, the Remedial Investigation Report – Former Manufactured Gas Plant Study Area focuses on both soil and groundwater. The Remedial Investigation Report identified a broad spectrum of petroleum hydrocarbons, VOCs, and SVOCs.[21]

It is anticipated that the following documents will be completed within the next few years for the Manufactured Gas Plant Study Area: health risk assessment, 2017; remedial action plan, 2017; and a remedial design implementation plan, 2018. Implementation is expected to occur between 2018 and 2020.[22]

West Jibboom Street Property

As discussed on page 6.5-13 of the 2007 RSP Draft EIR, a Phase 1 Environmental Site Assessment (ESA) was prepared for the westernmost portion of the proposed Riverfront District. This area, which is located between Jibboom Street and the east bank of the Sacramento River, would remain as open space under the Specific Plan.[23] The Jibboom Street Property (APN 002-0010-023), currently owned by the California Department of Parks and Recreation, included the Sacramento Gas Company from 1854 to the late 1800s, and later housed the Pioneer Mill, warehouses, and blacksmithing shop from the late 1800s through the mid-1900s. Presently on the site is the shell of a warehouse built in 1918; the site is otherwise vacant and is used as a bicycle path.

Remediation efforts have removed much of the shallow soil across the RSP Area. Extensive areas were excavated up to 5 feet below the ground surface with some areas excavated up to 34 feet below the ground surface.[24] The excavated areas did not include the levee area along the Sacramento River at the proposed location of the storm drain outfall structure. Some soil, sediment, and soil vapor samples were collected in the levee and shore area just south of the proposed outfall location and analyzed for various chemicals as part of the investigation and cleanup of the former Manufactured Gas Plant.[25] The sampled area along the levee extended from the former Manufactured Gas Plant adjacent to the old Southern Pacific pump station

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21 ERM-West, Inc., 2015. Final Remedial Investigation Report - Manufactured Gas Plant Study Area, Former SPTco Sacramento Railyard, Sacramento, California, April 2015.

22 Rashmawi, Elias, Stantec, 2015. Preliminary notes to SEIR preparer regarding remediation at the Sacramento Railyards [Memorandum], September 15, 2015.

23 The remaining portion of the proposed Riverfront District (i.e., property between Jibboom Street and I-5) was investigated as part of the overall investigation and remediation process, specifically in the Northern Shops, Central Shops, and Sacramento Station study areas. See Figure 4.8-1.

24 ERM-West, Inc., 2015, *First Five-Year Review Report, Former SPTCo Sacramento Railyard, Sacramento, California*, June 2015.

25 ERM-West, Inc., 2015. Final Remedial Investigation Report - Manufactured Gas Plant Study Area, Former SPTco Sacramento Railyard, Sacramento, California, April 2015.

northward to within about 200 feet of the proposed outfall location. Soil gas, river sediment, and soil samples were analyzed for TPH as gasoline, diesel, and motor oil; VOC; SVOC, and metals. The sample results were compared to screening levels to assess whether further action at a given location was needed. The screening levels were the lowest applicable regulatory-established screening levels (most restricted), which included California Human Health Screening Levels, Residential and Commercial Criteria, United States Environmental Protection Agency Region 3, 6, and 9 Screening Levels; site-specific goals for total extractable petroleum hydrocarbons, and Regional Water Board Environmental Screening Levels for each respective constituent.

Low levels of VOCs, SVOCs, TPH, and metals were detected in some of the soil and soil vapor samples. However, the concentrations of chemicals in the northernmost samples were either below the laboratory analytical reporting limits or below the screening levels. For the river sediment samples, only some metals were detected; however the concentrations were consistent with upstream background levels, suggesting that the former Manufactured Gas Plant did not release contaminants to the river sediments at detectable levels.

South Plume

Groundwater under the Sacramento Station, which is part of the South Plume remediation area, is subject to remedial measures under the Central Shops and South Plume Remedial Action Plan which was approved in July 2013, and is currently being implemented. The Remedial Action Plan identifies remediation goals (levels and timing) and preferred alternative for achieving established remediation goals.[26]

Prior to the Central Shops and South Plume Remedial Action Plan, the Final Feasibility Study Report for the South Plume Study Area was approved on June 30, 2010. The main objective of the Final Feasibility Study Report was to gather sufficient information to support an informed risk management decision regarding the most appropriate remedy for a site.[27]

Groundwater and soil vapor investigation and remediation are underway in accordance with the approved plans.

Lagoon Groundwater

On January 30, 2015, the Final Health Risk Assessment for the Lagoon Groundwater Study Area was approved. The Final Health Risk Assessment indicated that potential risk could be associated with unremediated conditions under future on-site land use scenarios. Further evaluation of groundwater to mitigate these potential risks would be required. The Feasibility Study, anticipated to be completed in late 2016, would further evaluate this risk through development of

[26] ERM-West, Inc., 2013. *Final Draft Remedial Action Plan, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California*. January 2013.

[27] ERM-West, Inc., 2010. Final Feasibility Study Report, Central Shops Study Area – Soil and South Plume Study Area – Groundwater, Sacramento, California, July 2010.

health based remedial goals and the incorporation of a more contemporary data set.[28] In addition to the Feasibility Study, it is anticipated that the following documents will be completed within the next few years for the Lagoon Groundwater Study Area: Remedial Action Plan, 2017; and Remedial Design and Implementation Plan, 2018.[29]

Manufactured Gas Plant Plume

A small plume of groundwater impact is associated with the Manufactured Gas Plant Study Area and is centered on the former gas holders. The COCs identified include total petroleum hydrocarbons, VOCs, and SVOCs, similar to the sources identified in soils. Metals were detected in groundwater at concentrations that are generally consistent with naturally occurring concentrations. As discussed above, the Remedial Investigation Report – Former Manufactured Gas Plant Study Area was completed in 2015.[30] It is anticipated that the following documents will be completed within the next few years for the Manufactured Gas Plant Study Area: Health Risk Assessment, 2017; Remedial Action Plan, 2017; and a Remedial Design Implementation Plan, 2018. Implementation is expected to occur between 2018 and 2020.[31]

Project-Specific Components

The following paragraphs summarize the study areas within which the KP Medical Center, MLS Stadium, and the Stormwater Outfall are located, as well as the remediation status for these same areas.

KP Medical Center

The KP Medical Center is located within the Northern Shop Soils Study Area and the Lagoon Groundwater Study Area. Soil contaminants of concern for this area were metals (primarily lead), TPH, VOC, SVOC, and asbestos. As mentioned above, soil remediation for the Northern Shop Study Area was certified complete in November 2015, and is subject to the 2015 LUC.[32]

As previously described, a Final Health Risk Assessment was completed in 2014 which indicated that potential risk could be associated with unremediated conditions under future on-site land use scenarios. Constituents of concern identified included metals, VOCs, SVOCs, arsenic, TPH, and 1,4-dioxane.[33] The feasibility study, anticipated to be completed in 2016, would further evaluate the risk through development of health-based remedial goals and incorporation of a more contemporary data set. A Remedial Design and Implementation Plan is anticipated in 2018.

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28 ERM-West, Inc., 2014. Final Health Risk Assessment Report Lagoon Groundwater Study Area, December 2014.

29 Department of Toxic Substances Control, 2015. Up, Downtown Sacramento-Lagoon (34400008) Available: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=34400008. Accessed November 30, 2015.

30 ERM-West, Inc., 2015. Final Remedial Investigation Report - Manufactured Gas Plant Study Area, Former SPTco Sacramento Railyard, Sacramento, California, April 2015.

31 Rashmawi, Elias, Stantec, 2015. Preliminary notes to SEIR preparer regarding remediation at the Sacramento Railyards [Memorandum], September 15, 2015.

32 Department of Toxic Substances Control, 2015. Certification of Remedial Action, The Railyards, Sacramento California, November 20, 2015.

33 ERM-West, Inc., 2014. Final Health Risk Assessment Report Lagoon Groundwater Study Area, December 2014.

MLS Stadium

The MLS Stadium is located within the Lagoon Study Area and Car Shop Nine Study Area. Soil contaminants of concern for this area were metals (primarily lead), TPH, VOC, SVOC, and asbestos. As mentioned above, soil remediation for the Lagoon and Car Shop None Study Areas was certified complete November 2015 and is subject to the 2015 LUC. However, two small areas below the existing portion of Track 150, clipping the southeastern and southwestern corners of the Car Shop Nine Study Area were inaccessible for remediation. These minor areas will require further remediation in accordance with the Remedial Action Plan prior to excavation or initiation of any redevelopment activities.[34]

The groundwater remediation process is underway for this area in accordance with relevant portions of the South Plume Remedial Action Plan (occupying the southern portion beneath the MLS Stadium area). The Final Health Risk Assessment for the Lagoon Groundwater Study Area identified metals, VOCs, SVOCs, arsenic, TPH, and 1,4-dioxane.[35] In the upcoming years additional site remediation documentation is anticipated for the Lagoon Groundwater, which occupies the northern portions beneath the MLS Stadium.

Stormwater Outfall

The Stormwater Outfall is located within the Northern Shops Study Area for soils; however it is outside of any identified groundwater contamination areas. Based on the existing investigative and remediation records, there are no known soil or groundwater significant remaining concerns associated with the location of the Stormwater Outfall. The existing DTSC clean parcel letters that approved soil remediation within the Stormwater Outfall site (for the Northern Shop Study Area), and the November 2015 soil certification and the 2015 LUC complete the remediation process for the Stormwater Outfall site.

Hazardous Materials Transportation through the RSP Area

Rail

The UPRR main line tracks run through the RSP Area. The tracks carry both passenger (Amtrak) and freight trains. The freight trains that pass through the RSP Area could carry hazardous materials. Any shipper that chooses to use rail to transport hazardous materials may do so, provided the shipper and rail car(s) transporting the materials meet all federal rail safety transportation requirements for hazardous materials. In the event of an emergency involving an accidental or threatened release of hazardous substances, this information would immediately be available to response personnel via a coordinated national, state, and local emergency response system (see Section 4.8.2 Regulatory Setting, below).

[34] Department of Toxic Substances Control, 2015. Certification of Remedial Action, The Railyards, Sacramento California, November 20, 2015.

[35] ERM-West, Inc., 2014. Final Health Risk Assessment Report Lagoon Groundwater Study Area, December 2014.

Roadways

Only one open street, 7th Street, currently runs through the RSP Area, connecting downtown Sacramento to the River District (or Richards Boulevard area) to the north. Three additional roads, 5th Street, 6th Street and Railyards Boulevard, have been constructed within the RSP Area. Extension of F and G streets are under construction and projected to be completed in 2016. Local truck traffic transporting products containing hazardous substances may legally use these roadways when they are open. I-5 is a major highway on which hazardous substances are routinely transported.

Existing Hazardous Materials Use

Current On-Site Conditions

Small quantities of household-type products (e.g., cleaning agents, pesticides, paints) are used at the station building and platforms for maintenance. Small quantities of various chemicals and fuel are also used at the California Railroad Museum shop for railcar rehabilitation and restoration.[36] Fueling, including storage, at the main line platforms occurs for parked locomotives.

Adjacent Uses

Surrounding land uses where hazardous substances could be present (e.g., transported, used, or stored) include a former PG&E transformer station in a narrow parkway between the Sacramento River and the RSP Area to the west of the site, and the offsite portion of the Sims Metals leased property east of the RSP Area. The area north and northeast of the RSP Area was historically a largely industrial and commercial area, although some residential uses, a school and social services were also present in this area when the 2007 RSP EIR was prepared. This area, which had been known as the Richards Area, is now called the River District. The River District is undergoing a transition to more residential and mixed use land uses, such as the Township Nine development at 7th Street and Richards Boulevard. However, a number of industrial, warehouse and heavy commercial uses are still located in the area. There are also municipal facilities in this area, including the City of Sacramento's water treatment plant and the State Printing Plant. Commercial facilities include gasoline service stations, freight and trucking facilities, and motels. The downtown business district, consisting primarily of residential and office development and some retail, is south of the RSP Area.

4.8.2 Regulatory Setting

Federal

The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (USEPA), U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (DOT). Federal laws, regulations, and responsible agencies are summarized in **Table 4.8-1**.

[36] City of Sacramento, 2007. Railyards Specific Plan Draft Environmental Impact Report. August 2007.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

State

The primary State agencies with responsibility for hazardous materials management include the California Environmental Protection Agency (Cal EPA), California Occupational Safety and Health Administration (Cal/OSHA), California Department of Health Services (CDHS), California Highway Patrol and the California Department of Transportation. State laws, regulations, and responsible agencies are summarized in **Table 4.8-2**.

TABLE 4.8-1.
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA)	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	DOT has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 CFR).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).
Radioactive Materials[a]	Atomic Energy Act	Administered by the Nuclear Regulatory Commission, the act regulates the use and control of radioactive material.[b]
Biosafety Standards[c]	The National Institutes of Health, and the Centers for Disease Control and Prevention (CDC)	Operated under the U.S. Department of Health and Human Services, these agencies establish standards for working with biohazardous materials.
Structural and Building Components (Lead-based paint, polychlorinated biphenyls, and asbestos)	Toxic Substances Control Act	Regulates the use and management of polychlorinated biphenyls in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	USEPA	The USEPA monitors and regulates hazardous materials used in structural and building components and their effects on human health.

NOTES:
a U.S. Nuclear Regulatory Commission, Atomic Energy Act of 1954.
b Radioactive material is any material or combination of materials that spontaneously emit ionizing radiation.
c A hazardous biologic material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biologic material.

SOURCE: ESA.

TABLE 4.8-2.
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)	In January 1996, Cal EPA adopted regulations, which implemented a Unified Program. 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.
	State Hazardous Waste and Substances List ("Cortese List")	The RSP Area is included on the "Cortese List" compiled pursuant to Government Code section 65962.5 and referenced in Public Resources Code 21092.6. The oversight of hazardous substances release sites often involves several different agencies that may have overlapping authority and jurisdiction. DTSC is the lead agency coordinating with the Regional Water Board and other agencies regarding issues pertaining to hazardous substances release sites.
Hazardous Waste Handling	Cal EPA	The Cal EPA is the parent agency of the DTSC which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment.
	California Hazardous Materials Release Response Plan and Inventory Law of 1985	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.
	DTSC	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.
	Part 9 of the California Building Standards Code	Part 9 the California Fire Code regulates the operation, placement, and use of emergency generators.
Hazardous Materials Transportation	Title 26 of the California Code of Regulations	Regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR).
	California Highway Patrol and the California Department of Transportation (Caltrans)	These two state agencies are primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Occupational Safety	Cal/OSHA	Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.
	Cal/OSHA regulations (8 CCR)	Concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

Classification	Law or Responsible State Agency	Description
Occupational Safety (cont.)	California Office of Statewide Health Planning and Development	The Office of Statewide Health Planning and Development serves as the regulatory building agency for all hospitals and nursing homes in California. Its primary goal in this regard is to ensure that patients in these facilities are safe in the event of an earthquake or other disaster, and to ensure that the facilities remain functional after such an event in order to meet the needs of the community affected by the disaster.
Medical Waste	Medical Waste Management Act	Within the regulatory framework of the Medical Waste Management Act, the Medical Waste Management Program of the CDHS ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste offsite treatment facilities and transfer stations throughout the state. The CDHS also oversees all medical waste transporters.
Aviation	Caltrans	Caltrans' Division of Aeronautics issues permits for all heliports in the State of California. Heliports must meet the Federal Aviation Administration's Final Approach and Takeoff Area standards in order to obtain a Caltrans operating permit, in addition to complying with Title 21 CCR, Airports and Heliports, which is based upon the Federal Aviation Administration's Advisory Circular on Heliport Design.
Underground Infrastructure	California Government Code Section 4216-4216.9	Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Local

City of Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan are relevant to Hazards and Hazardous Substances.

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.

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.

PHS 3.1.4 **Transportation Routes.** The City shall restrict transport of hazardous materials within Sacramento to designated routes.

PHS 3.1.8 **Risks from Hazardous Materials Facilities.** The City shall review proposed facilities that would produce or store hazardous materials, gas, natural gas, or other fuels to identify, and require feasible mitigation for, any significant risks. The review shall consider, at a minimum, the following: presence of seismic or geologic hazards; presence of hazardous materials; proximity to residential development and areas in which substantial concentrations of people would occur; and nature and level of risk and hazard associated with the proposed project.

Goal PHS 4.1 Response to Natural and Human-Made Disasters. Promote public safety through planning, preparedness, and emergency response to natural and human-made disaster

Policies

PHS 4.1.2 **Post-Disaster Response.** The City shall plan for the continued functioning of critical facilities following a major seismic or geologic disaster to help prevent major problems during post-disaster response such as evacuations, rescues, large numbers of injuries, and major clean up operations.

Goal PHS 5.1 Human Services and Healthy Community. Improve provision of human services and promote health and safety.

Policies

PHS 5.1.10 **Pest/Vector Management**. The City shall coordinate with appropriate agencies (e.g., Sacramento-Yolo Mosquito and Vector Management District) to support pest/vector management strategies (e.g., mosquito control), require drainage of untreated pools and other water features in homes and businesses that are vacant or in sale proceedings, and enhance public awareness of vector control.

As discussed in Impacts 4.8-1 through 4.8-7, the RSP has been investigated to identify areas with possible hazardous materials contamination to ensure the safety of people in the vicinity of these areas. In addition, the RSP would be managed in a way that would reduce the potential for adverse impacts on human or environmental health. Therefore, the RSPU would be consistent with the General Plan goals and policies.

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.[37] 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 DTSC, CHP California Department of Fish and Wildlife (CDFW), RWQCB, and local fire departments.

[37] Sacramento County Environmental Management Department, 2012. Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County, September 2012.

Sacramento County Environmental Management Department, Hazardous Materials Division

The Hazardous Materials Division of the Sacramento County Environmental Management Department is the designated Certified United Program Agency (CUPA) for the City of Sacramento and Sacramento County and is responsible for implementing six statewide environmental programs for Sacramento County. The CUPA program streamlines and provides consistent regulatory activities including inspections, permitting, and enforcement for the following specific environmental and emergency response areas:

- Underground storage of hazardous substances (USTs);
- Hazardous Materials Business Plan requirements;
- Hazardous Waste Generator requirements;
- California Accidental Release Prevention program;
- Uniform Fire Code hazardous materials management plan; and
- Above Ground Storage Tanks (Spill Prevention Control and Countermeasures Plan).

Sacramento County Well Ordinance

Chapter 6.28 of the Sacramento County Code is intended to protect the health safety and general welfare of the people by ensuring that the groundwater of the County is not polluted or contaminated by improper well construction, modification, repair, or abandonment. The ordinance prohibits digging, boring, drilling, deepening, modifying, repairing or destroying a well without receiving a permit to do so from the Sacramento County Environmental Management Department.[38]

Sacramento-Yolo Mosquito and Vector Control District

The Sacramento-Yolo Mosquito and Vector Control District (SYMVCD) provides mosquito and vector control for Sacramento and Yolo counties. To accomplish this, the District provides ongoing surveillance of mosquitoes and other vectors to determine the threat of disease transmission and lower annoyance levels. The District has enforcement authority under the California Health and Safety Code if needed to respond to conditions that could encourage growth of mosquitos and other vectors. The Sacramento-Yolo Mosquito and Vector Control District works with various City agencies to develop and implement abatement strategies including working with the DOU. The DOU oversees and applies vector control best management practices at detention basins, drainage channels, drainage pump stations and drop inlets in the CSS located throughout the City. As part of their role, DOU reviews private development projects for application of identified best management practices.

[38] Sacramento County Code. Chapter 6.28 Wells and Pumps.

Restriction Governing the RSP Area

Remediation of site soils have been completed for the Central Corridor, Car Shop Nine, Northern Shops, Lagoon (except for the Northwest Corner) study areas in accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. However not all soils were remediated to levels protective for unrestricted land use, so the Remedial Action Plans for these areas required a LUC. **Table 4.8-3** lists the LUC within the RSP Area and Figure 4.8-4 identifies each areas covered by those restrictions. Further details for these LUCs are provided below and under Impact 4.8-1.

TABLE 4.8-3.
LUCS IN THE RSP AREA

Area Name	Adoption Date	Land Use Covenants
Sacramento Station	May 6, 1994	The Sacramento Station Covenant allows for industrial uses, commercial uses, and landscaped and paved areas without restriction. Restricted use include but are not limited to: residential, day care, educational, public or institutional uses, parks, playgrounds, water features, open space, yards, gardens, and landscaped areas. No excavation at and/or removal of soil from the site is allowed, except as specifically allowed, without the prior written approval of DTSC. Excavated soil must be tested for contamination and properly used, treated, and/or disposed of as required by law and DTSC. In September of 2015 a new LUC was issued replacing this Sacramento Station Covenant for areas owned by DRV within the Sacramento Station. Restrictions included in the 1994 covenant were revised in the 2015 LUC, the currently governing covenant. Other areas within the Sacramento Station owned by Administrative offices of the Courts and City of Sacramento remain under the Sacramento Station Covenant.
7th Street Corridor	July 11, 2001	The 7th Street Covenant restricts the use of residence, hospitals, school or day care centers. Prohibited activities include raising food, drilling for water, oil or gas with DSTC approval, and the extraction of groundwater for purpose other than remediation or construction dewatering.
Lagoon, Central Corridor, Car Shop Nine and Northern Shops	September 30, 2015	For any use, which includes commercial, retail, industrial, hospital, school, daycare, mixed use, residential or park use, that include areas in which direct human exposure to soil is possible following construction the top layer of clean soil should be maintained. No activities that would disturb the soil are allowed within the site without a soil management plan approved in writing by DTSC. Any soils that are brought to the surface should be managed in compliance with all applicable provision of the state and federal laws and an approved soil management plan. Appendix H.2 includes this LUC.

2015 Land Use Covenant

As part of the certification process, and pursuant to Civil Code section 1471, DTSC determined that a LUC was necessary to protect present or future human health or safety or the environment as a result of hazardous materials (as defined in Health and Safety Code section 25260) remaining on the land after remediation. DTSC also concluded that the Property (Assessor's Parcel Numbers 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058), as remediated and when used in

compliance with the Environmental Restrictions of the 2015 LUC, would not present an unacceptable risk to present and future human health or safety or the environment.[39]

The 2015 LUC sets forth environmental restrictions that apply to and encumber the site and every portion thereof no matter how it is improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. The covenant runs with the land pursuant to Health and Safety Code section 25355.5 and Civil Code section 1471.

The 2015 LUC includes restrictions and requirements in Article 4, which is provided in Appendix H.2. Issues addressed in the 2015 LUC include:

4.01 **Prohibited Use** If improvements to be constructed for any use, which allowed uses include, but are not limited to commercial, retail, industrial, hospital, school, daycare, mixed use, residential or park use, include areas in which direct human exposure to Native Soil remains possible following the completion of such construction (e.g., yards, open space or landscaped areas), the Owner or Occupant shall install, keep and maintain a top layer of clean soil of a thickness and composition to prevent exposure to such Native Soil which is reasonably satisfactory to DTSC as being protective of human health, and the environment approved in writing by DTSC or determined by DTSC on an individual parcel basis. With the exception of routine maintenance, the Compliant Soil Layer should not be disturbed unless the Owner or Occupant of the site demonstrates to the reasonable satisfaction of DTSC that the disturbance of the Compliant Soil Layer is necessary to the present or modified use of the site and can be accomplished in a manner that would not materially increase exposure to the Native Soil as compared to the existing Compliant Soil Layer or is otherwise performed and completed in a manner the DTSC approves as being protective of human health and the environment. DTSC may waive the requirement of a Compliant Soil Layer on a particular site if it is demonstrated to the DTSC's satisfaction, that the Native Soil would not pose an unacceptable risk to human health and safety and the environment.

4.02 **Soil Management.** No activities that would disturb the soil are allowed within the site without a soil management plan approved in writing by DTSC. Any soils that are brought to the surface should be managed in compliance with all applicable provision of the state and federal laws and an approved soil management plan.

4.03 **Prohibited Activities.** Prohibited activities include the extraction of groundwater without an approved groundwater management plan, or the drilling for water, oil, or gas without prior written approval by DTSC.

[39] Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

4.04 **Non-Interference with Remediation Systems.** No disruption of any Remediation Systems are permitted without prior written approval by DTSC. DTSC should also consider the location and placement of new Remediation Systems to avoid interference with new development.

4.05 **Vapor Intrusion Mitigation Management.** Any enclosed building or enclosed structure or utility corridors to be constructed within the Vapor Mitigation Areas must be designed and constructed to include Vapor Mitigation unless exempted from such requirement by DTSC. If Vapor Mitigation is required by DTSC, the Downtown Railyard Venture or subsequent Owner shall certify in writing to DTSC within 30 days following completion of such construction that the required Vapor Mitigation was incorporated into such construction in accordance with the requirements of DTSC.

4.06 **Access for DTSC.** DTSC shall have a reasonable right of entry and access to the site for inspection, monitoring, and other activities as deemed necessary by DTSC in order to protect the public health or safety, or the environment.

4.07 **Access for Implementing Operation and Maintenance.** The entity or person responsible for implementing operation and maintenance activities should be able to access the site for the purpose of implementing operation and maintenance activities until DTSC determines that no further operation and maintenance activity is required.

4.08 **Inspection and Reporting Requirements.** One purpose of the MOA is to address all monitoring, inspection and reporting requirements required by the 2015 Land Use Covenant (Article 4). Therefore, it is understood that the reporting requirements will be met, as long as the MOA is complied with. If reporting requirements are not met through the MOA, then each Owner shall conduct an annual inspection of its portion of the Property verifying compliance with the Covenant, and shall submit an annual written inspection report to the DTSC for its approval by March 15th of each year.

4.09 **Signage Requirement.** For those areas of the property that remain undeveloped and at which disturbance of Native Soil remains possible, the owner(s) of such unimproved portions of the Property shall post and maintain signage which is reasonably adequate to provide notice of no trespassing, and the prohibition of disturbing soils.

Failure of the Owner or Occupant to comply with the Covenant would be grounds for the DTSC to require modification or removal of any Improvements constructed or placed upon any portion of the Property in violation of the Covenant. Violation of the Covenant, including such as failure to submit a record or report to the Department, would be grounds for DTSC to pursue administrative, civil, or criminal actions, as provided by law.

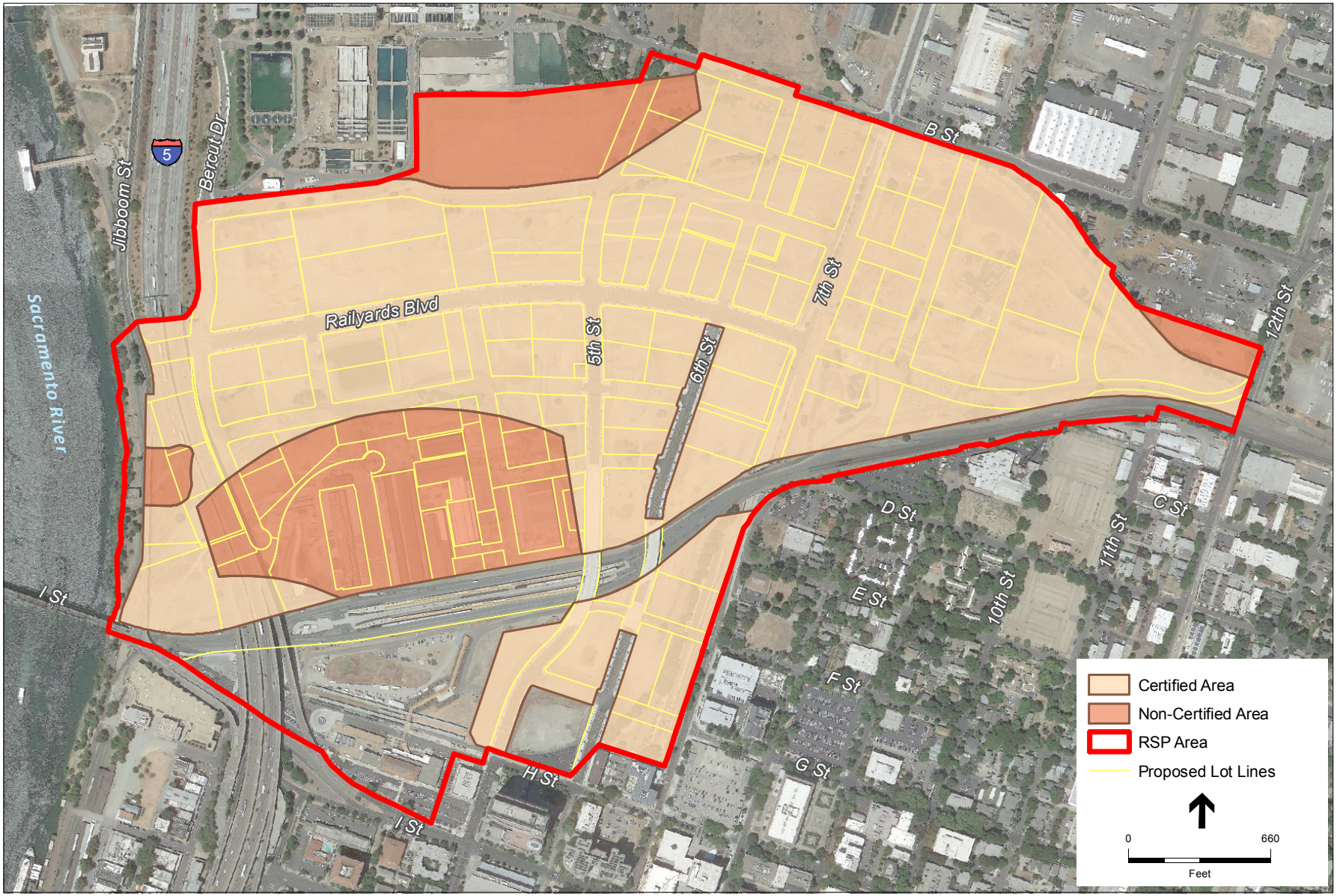
Railyards Project Soil and Groundwater Management Plan

The Railyards Projects Soil and Groundwater Management Plan or SGMP (see Appendix H.2) was approved by DTSC in 2015. The SGMP was prepared for use with each development project to be constructed within the RSP Area that requires special handling of soil and/or groundwater to ensure compliance with regulatory requirements and other obligations set forth in the SGMP. The SGMP's purpose is to describe required management, handling, and procedures associated with encountering soil and groundwater, and general waste streams with the potential to require special handling. It is based on existing regulatory order(s), including the 1988 Enforceable Agreement, along with relevant established approvals, practices and procedures as set forth and implemented in several project-specific soil and groundwater management plans that have been approved by DTSC and implemented in the RSP Area.

Specifically, the SGMP is applicable to all development projects in areas within the RSP Area owned by DRV and relates to (1) soils moved, handled, disturbed and/or excavated by or on behalf of a project proponent in anticipation of or during the course of project development; (2) groundwater encountered by or on behalf of a project proponent during the course of project development that requires pumping for excavation activities; and (3) the imposition of and the required satisfaction of other obligations set forth in the SGMP.

Specific provisions of the SGMP apply to: (1) the portion of the RSP Area within the 2015 LUC (referred to as the Certified Area in the SGMP); and (2) the remainder of the RSP Area (referred to as the Non-Certified Area in the SGMP). **Figure 4.8-5** shows the Certified and Non-Certified Areas covered by the SGMP. Unless otherwise indicated, soils within the Certified Area have been certified by DTSC as having met their respective remedial goal requirements. Remedial goals for the RSP Area were selected by DTSC for each Study Area (see Figure 4.8-1). The remedial goals (listed in Exhibit E of the Plan) were established by DTSC to be the more protective value of either construction workers or groundwater exposure taking into account inhalation of volatile constituents of concern released from groundwater into ambient air, trench air, and indoor air. Additionally, a set of remedial goals for groundwater were also selected to restore the groundwater to beneficial use.

The SGMP describes project development management activities for soil and groundwater in Certified Area consistent with DTSC directives for on-site management and testing before appropriate disposition is determined. In addition, the SGMP describes testing, management, treatment and disposition activities what would be implemented in the event that soils or groundwater is determined to be above applicable remediation goal levels. As previously stated, soils in the Certified Area have been certified by DTSC to have met relevant remediation goals; nevertheless, the procedures in the SGMP apply to any soils or groundwater encountered, regardless of the certification status.



SOURCE: Kimley-Horn, 2015; AECOM, 2016; ESA, 2016

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Figure 4.8-5

Certified and Non-Certified Areas

Development in Non-Certified Areas such as the Central Shops Study Area and the portion of the northwest corner of the Lagoon Study Area east of Vista Park can only commence after the project proponent (defined in the SGMP as the entity that would be primarily responsible for construction of a development project) obtains written approval from DRV, the property owner (defined in the SGMP as a public or private entity that owns all or portions of the RSP Area where projects are to be developed) and DTSC of an addendum to the SGMP (Project Addendum, described in detail below). In addition to its own internal approval process, DRV's approval could include gaining approval from UPRR due to UPRR's ongoing remediation obligations in such areas which may include adherence to additional required processes. Project proponents must assume that all soils, including soils at depths deeper than previously remediated or characterized by UPRR encountered are suspect soils (soils excavated from certified areas with apparent indications that remedial goals could be exceeded as evident from site experience and observations of the Environmental Oversight Project Manager (person designated to oversee activities related to implementation of the SGMP) or other qualified personnel). Soils would be subject to the characterization protocol described in Section 5 of the SGMP.

The property owner and project proponent for a development project are responsible for implementing the SGMP. At the inception of any given development project, the project proponent would submit to DRV and the various property owners whose property would be accessed or impacted, a Project Addendum for approval that provides sufficient project details and describes project specific implementation tasks. The Project Addendum must include the following (to the extent applicable) and any other information required by the SGMP or otherwise requested by approving parties:

1. Brief project description;
2. Project area(s), owner(s), and proponent(s);
3. Project main stakeholders, including public funding agencies, if any;
4. Environmental oversight project manager, construction manager and general contractor;
5. Impacted or restricted areas or properties;
6. Construction plans, including earth work handing and land use plans;
7. Encroachments, transportation and access routes, laydown areas, project management and support areas, off-site soil and material/waste removal and disposal, soil and material import protocols, and any similar such construction plans to be implemented;
8. Groundwater control and dewatering plans, if any;
9. Plans for wells and above ground or subsurface remediation system relocation and replacement, if any;

10. Plans for removal of existing hardscape, especially but not limited to areas where remediation has not occurred, if any;

11. Hazardous waste on-site and off-site handling and disposal plans;

12. Storm water pollution prevention plan;

13. Health and safety plan(s);

14. Transportation and debris handing and removal plan(s); and

15. Archaeology oversight and review plan.

The property owner and its project proponents for a given development project would be responsible for implementing the SGMP in accordance with the LUC (applicable to the Certified Aras), all applicable approvals and relevant laws and regulations.

4.8.3 Analysis, Impacts, and Mitigation

Significance Criteria

The criteria listed below is similar those used in the 2007 RSP EIR. One additional criterion has been added related to the exposure of contaminated groundwater during construction or dewatering activities. This SEIR assumes implementation of the proposed projects would have a significant impact related to hazardous substances if it would:

- Substantially increase the risk of exposure of people to contaminated soils during site development;
- Substantially increase the risk of exposure of future occupants to contaminated soils;
- Interfere with ongoing soil and groundwater remediation efforts for the Railyards cleanup by precluding access to groundwater remediation and monitoring systems at the site during construction or occupancy, or conflict with the cleanup orders;
- Expose occupants to a substantial, unmitigated risk of exposure to contaminated soil or groundwater due to phased development of the specific plan and/or ongoing remediation efforts;
- Expose construction workers, occupants, and/or site visitors to unmitigated hazards associated with the presence of hazardous substances (e.g., asbestos, lead, PCBs, etc.) in buildings that would be renovated and/or restored;
- Substantially increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances to the environment from non-residential uses during project occupancy; or
- Substantially increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways and rail lines within the RSP Area;

- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during construction or dewatering activities.

Methodology and Assumptions

Remediation documentation, the Enforceable Agreement, MOA, 2015 LUC, Sacramento Station Covenant, 7th Street Covenant and interviews were reviewed to identify known contaminated soil and/or groundwater sites and the history of the RSP Area. This information was used to determine if the proposed projects 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 development within the RSP Area and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. Businesses that could locate in the RSP Area 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 RSP 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 RSP 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. The methods employed in this analysis are similar to those used in the 2007 RSP EIR.

Issues Not Discussed in Impacts

Impact 6.5-3 on pages 6.5-30 and 6.5-31 of the 2007 RSP EIR found that the soil remediation activities would occur concurrently with the development of the 2007 RSP and; therefore, could expose project occupants or visitors to adverse health effects associated hazardous substances. The 2007 RSP EIR found this impact to be potentially significant and recommend Mitigation Measure 6.5-3 be implemented to ensure project occupants or visitors are protected from unacceptable exposure to residual levels of hazardous substances during remediation activates. Since the certification of the 2007 RSP EIR, soil remediation and/or certification has been completed for the majority of the RSP Area including the Lagoon, Central Corridor, Car Shop Nine, Central Shops, and the Northern Shops Study Areas. Remediation activities of the remaining contaminated areas would include implementation of measures to protect construction workers that would also ensure the health and safety of the general public. In addition, it is unlikely that the RSPU would be constructed in advance of the remaining soil remediation efforts. As such, no impact would occur and this issue is not further addressed.

Impact 6.5-5 on pages 6.5-32 and 6.5-33 of the 2007 RSP EIR determined that throughout the life of the project, proposed land uses may be changed and new construction may occur, exposing construction workers and site occupants to unacceptable levels of contaminated soil and/or groundwater in the 2007 RSP Area. The 2007 RSP EIR found this impact to be potentially significant and recommended Mitigation Measure 6.5-5, which required consistency with the Tri-Party MOU. Since the certification of the 2007 RSP EIR soil remediation and certification has been completed for the majority of the RSP Area. Remediation of site soils were conducted in

accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. Furthermore, LUCs have been recorded which restrict land uses for much of the RSP Area. Land uses associated with project phasing would not therefore present an unacceptable risk to present and future human health or safety or the environment and the cleanup standards affecting soil and groundwater have been established in the remediation documentation. Therefore, no impact would occur.

The 2007 RSP did not address vector control, because it did not anticipate the use of interim retention basins or other facilities that could provide breeding habitat for mosquitos. The 2016 RSPU could require expansion of existing retention basins and/or construction of new temporary basins prior to completion of the Stormwater Outfall (see Section 4.13, Utilities, for more discussion). Such basins, if not properly managed, could provide breeding habitat for mosquitos, which are vectors for several diseases. As discussed in the Regulatory Setting, the SYMVCD in concert with the City DOU requires BMPs to minimize the potential for creation of breeding habitat, which would preclude the conditions necessary for breeding habitat in the RSPU basins, if constructed. Therefore, this issue is not addressed further in this Draft SEIR.

Impacts and Mitigation Measures

Impact 4.8-1: Construction of the proposed projects could result in the exposure of people to health risk associated with contaminated soils and debris.

Impact 6.5-1 on page 6.5-25 of the 2007 RSP EIR found that the 2007 RSP would occur on property that is known to contain contaminated soil which could present a hazard to construction workers if not properly managed. Soil containments of concern include metals, hydrocarbons, VOCs, and SVOCs. The 2007 RSP EIR found this impact to be potentially significant and recommend Mitigation Measure 6.5-1 be implemented for all construction activities to ensure that construction workers are protected from unacceptable exposure to residual levels of hazardous substances during site development.

Impact 6.5-9 pages 6.5-38 and 6.5-39 of the 2007 RSP EIR analyzed the potential for development of the West Jibboom Street Property to expose construction workers to hazardous substances that could be present in soil or groundwater. The 2007 RSP EIR found this impact to be potentially significant and recommended Mitigation Measure 6.5-9, which required a Phase 2 ESA and subsurface geophysical investigation prior to development.

As discussed in Section 4.5.1 Environmental Setting, soils in the RSP Area contained metals, hydrocarbons, VOCs, and SVOCs. Exposure to substances that adsorb to the soil, such as heavy metals and semi-volatile organic compounds, could occur through inhalation or ingestion of affected soils. Exposure to more mobile chemicals, such as VOCs could result from inhalation of gases or skin contact. Exposure to hydrocarbons could result by any of the above-mentioned exposure routes. Unmitigated releases of hazardous substances in excess of risk-based standards could result in adverse short-term or long-term human health or environmental effects. Construction activities that move soil, such as pile driving, grading, trenching and excavation,

could expose construction workers or the public to chemicals and associated health risks if the soils were not remediated to health-protective levels. In addition to contaminated soil, based on the history of industrial activity with the RSP Area, there is the potential to encounter significant debris, industrial deposits, and foundation remnants in fill soils including scrap metal associated with the railroad industry, concrete fragments and foundation pieces, rock fragments such as granite of various sizes, and wood debris. Brick and ACM could also be encountered in debris. ACM-free debris does not pose an unacceptable risk to construction workers. Bricks on their own are not a cause of concern, unless coupled with other factors with known impacts. For example, in some areas in the past, brick and ACM have been associated with foundry waste that generated contaminated soil, which has required remediation.[40]

Railyards Specific Plan Update

Since the certification of the 2007 RSP EIR, soil remediation and certification has been completed for the majority of the RSP Area including the Lagoon, Central Corridor, Car Shop Nine, and the Northern Shops Study Areas. Remediation of site soils for these areas was conducted in accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. However, soils were not remediated to levels protective for unrestricted land use; therefore, the Remedial Action Plans for these areas required a LUC that places restrictions on certain parcels.[41] As described in the Environmental Setting, DTSC concluded that these properties, as remediated and when used in compliance with the Environmental Restrictions of the 2015 LUC, including soil management, would not present an unacceptable risk to present and future human health or safety or the environment during construction. Specifically, the Environmental Restrictions require that any soils brought to the surface be managed in compliance with all applicable provision of the State and federal laws, and an approved SGMP. In May of 1994, DTSC certified the regulatory closure of the Sacramento Station Study Area.[42] The portion of the Sacramento Station owned by the DRV is covered under the Environmental Restrictions of the 2015 LUC and an approved SGMP. The Lagoon, Central Corridor, Car Shop Nine, and the Northern Shops Study Areas and the portion of the Sacramento Station owned by DRV are referred to as Certified Areas in the SGMP.

Some areas in the RSP Area owned by DRV are not covered by the 2015 LUC, because they still undergoing remediation and/or have not been certified by DTSC. Such areas are also required to comply with the relevant provisions and requirements of an approved SGMP (these areas are referred to as Non-Certified Areas in the SGMP). There are also other portions of the RSP Area that are not owned by DRV. These portions of the RSP Area are referred to as Other Areas. The following summarizes the impact associated with risk of exposure to contaminated soil and debris

40 Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

41 Department of Toxic Substances Control, 2015. Certification of Remedial Action, The Railyards, Sacramento California, November 20, 2015.

42 The mainline track that previously cut through the Sacramento Station were relocated north, allowing for the soils under the mainline tracks that were not previously accessible to be remediated.

in Certified and Non-Certified Areas (see Figures 4.8-4 and 4.8-5), and other areas not owned by DRV.

The RSPU also contains policies requiring that development –related excavation be carried out in a manner that meets DTSC requirements (Policy HAZ-1.1) and to fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1).

Certified Areas Owned by DRV

Certified Areas in the RSP Area include the Lagoon, Central Corridor, Car Shop Nine, Northern Shops Study Areas, and the portion of the Sacramento Station Study Area owned by the DRV. Development in each of these areas would be accomplished in compliance with the Environmental Restrictions of the 2015 LUC; therefore, potential exposure to contaminated soil would not present an unacceptable risk to present and future human health or safety or the environment. Specifically, the Environmental Restrictions require that any soils that are brought to the surface be managed in compliance with all applicable provision of the State and federal laws, and an approved SGMP.

The SGMP identifies a wide range of activities to address various development construction tasks that could encountered including, but not limited to, soil excavation and stockpiles, soil transportation, health and safety, asbestos handling and mitigation, groundwater handling, debris handling, well abandonment or adjustment, and general site requirements. Prior to initiation of site development activities, as part of the Approved Project Addendum (described in the Regulatory Setting), the contractor is required to submit to DRV and the various property owners whose property would be accessed or impacted, a plan that addresses the applicable activities described above. The plan would be developed incorporating project-specific handling procedures, to ensure human health is not compromised through the handling or spread of contaminated soil throughout the RSP Area. The SGMP also includes general rules that should be included this plan. Some of the general rules include controlling fugitive dust emissions in accordance with applicable regulations; as needed, the use of protective covering prior to stockpiling and handling soils; obtaining written approval by the property owner and DRV for the storage or transportation of material, soil, waste, water, debris, equipment of any kind onto properties owned by others; and, isolating and disposing brick material and asbestos waste at a regulated facility in accordance with applicable regulations.[43] These measures would ensure that the public is not exposed to contaminated soils and soil is handled in a way to limit distribution or contact.

The SGMP also describes management activities and requirements for soil remediation of areas that could require further remediation. Such areas could include small areas within Car Shop Nine Study Area that the Certification of Remedial Action and the 2015 LUC note are not currently accessible and could require further remediation prior to excavation.[44]

[43] Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

[44] Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

Because construction of the Lagoon, Central Corridor, Car Shop Nine, and the Northern Shops Study Areas and the portion of the Sacramento Station Study Area owned by the DRV would be conducted in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP, the potential exposure to contaminated soil would not present an unacceptable health risk to people during construction activities and this impact would be **less than significant**.

Non-Certified Areas Owned by DRV

Central Shops Study Area

As of December 2015, all accessible contaminated soils had been removed/remediated and cleanup activities associated within the Central Shops Study Area had been complete. Certification for Central Shops soil is scheduled for 2017. Some soils under the Central Shops buildings and areas immediately adjacent to those buildings have not yet been remediated due to inaccessibility. Although the Central Shops Study Area is not currently covered by the 2015 LUC, development in this area would be required to comply with the requirements of an approved SGMP (described above). As a result, soil disturbance activities in the Central Shops Study Area would not exposure people to unacceptable health risks associated with contaminated soils during construction and this impact would be **less than significant**.

Sims Metal Site

Although part of the Lagoon Study Area the portion of the Sims Metal site located within the RSP Area is not covered under the 2015 LUC and is undergoing a separate remediation process with DTSC. Because remediation has not been completed in this area and a LUC has not been recorded, soil disturbance activities could exposure people to unacceptable health risks associated with contaminated soils. Further, any development of this site would be subject to the requirements of an approved SGMP which includes measures to reduce risk of exposure and protect health and safety and; therefore, this would be a **less-than-significant** impact.

Manufactured Gas Plant Study Area and Northwest Corner

Soil remediation in the Manufactured Gas Plant Study Area and the Northwest Corner would be conducted in accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. If soils are not remediated to levels protective for unrestricted land uses the Remedial Action Plans may require a LUC for these areas. However, any development in the Manufactured Gas Plant Study Area and the Northwest Corner would be subject to the requirements of an approved SGMP which includes measures to reduce risk of exposure and protect health and safety and; therefore, this would be a **less-than-significant** impact.

Other Areas

Sacramento Station Study Area

Parts of the Sacramento Station Study Area within the RSP Area are owned by the Administrative Offices of the Courts and City of Sacramento and would be developed in accordance with the

restrictions in the Sacramento Station Covenant.[45] The 1994 Sacramento Station Covenant includes environmental restrictions to ensure people are not exposed to unacceptable health risks associated with contaminated soils during construction. The Sacramento Station Covenant prohibits excavation at and/or removal of soil from the site, except as specifically allowed, without the prior written approval of DTSC. Excavated soil must also be tested for contamination and properly used, treated, and/or disposed of as required by law and DTSC.[46] As a result, because soil disturbance activities in this portion of the Sacramento Station Study Area would be conducted in conformance with the Sacramento Station Covenant potential of exposure to unacceptable health risks associated with contaminated soils during construction would be **less than significant**.

7th Street Corridor

In 2000, remediation activities for the 7th Street Corridor in the RSP Area were deemed complete by DTSC. Construction within the 7th Street Corridor must comply with the 7th Street Covenant, which include Environmental Restrictions for human health and safety. The Environmental Restrictions of the 7th Street Corridor Covenant require that prior to any soil disturbance activities a Soil Management Plan and a Health and Safety Plan be approved by DTSC.[47] These plans would ensure appropriate procedures for worker health and safety and the safe and lawful handling of potential contaminated soils. Because construction within the 7th Street Corridor would be conducted in compliance with the Environmental Restrictions of the 7th Street Corridor Covenant, the potential exposure to contaminated soil would not present an unacceptable health risk to people during construction activities and this impact would be **less than significant**.

West Jibboom Street Property

As discussed in Section 4.5.1 Environmental Setting, only small portions of the West Jibboom Street Property (APN 002-0010-023) had been sampled for soil contamination as part of the investigation and cleanup of a former manufactured gas plant. The portion of the property along the Sacramento River currently owned by the California Department of Parks and Recreation, proposed location of the stormwater outfall structure was not sampled (see discussion below under Stormwater Outfall). However, results of sampling along the levee from the former Manufactured Gas Plant adjacent to the old Southern Pacific pump station identified screening levels at the lowest applicable regulatory-established screening levels for each constituent.

[45] Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

[46] Department of Toxic Substances Control, 1994. Covenant and Agreement to Restrict use of Property, Sacramento Station site at the southern Pacific Transportation Company, Sacramento Locomotive Works, Sacramento, California, May 6, 1994.

[47] Department of Toxic Substances Control, 2001. Covenant to Restrict Use of Property, Environmental Restrictions, 7th Street Corridor, Former Southern Pacific Transportation Company, Sacramento Locomotive Works, Sacramento County, California. June 14, 2001.

Furthermore, review of existing and known records did not indicate the presence of adverse soil conditions.[48]

Although contaminated soils are not anticipated to be encountered at the West Jibboom Street Property, because any development on this property would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact. The 2007 RSP EIR Mitigation Measure 6.5-9, which required a Phase II ESA for the Jibboom Street Property would no longer be required because since 2007, a comprehensive multi-phase soil and groundwater remedial investigations of the Manufactured Gas Plant Area have been completed under the direction of DTSC and the Regional Water Board. The results of these reports established groundwater and soil impact boundaries that do not extend to this property.[49] 2007 RSP EIR Mitigation Measure 6.5-9 has been replaced by Mitigation Measure 4.8-1. Mitigation Measure 4.8-1 would ensure that the appropriate measures are taken if unidentified contaminated soil is encountered during construction.

Railyards Specific Plan Update Land Use Variant

Similar to the RSPU, development of the RSPU Land Use Variant could expose people to unacceptable health risks associated with contaminated soils in those areas that are not subject to the 2015 LUC, Sacramento Station Covenant, the 7th Street Covenant, or an approved SGMP. Therefore, the discussion above would be the same for the RSPU Land Use Variant and the potential impact would be **potentially significant** for the West Jibboom Street Property.

KP Medical Center

The KP Medical Center site is primarily located within the Northern Shops Study Area, which is covered by the 2015 LUC. As discussed above, construction in this area must be accomplished in compliance with the Environmental Restrictions of the 2015 LUC, including compliance with the SGMP, which would minimize the potential exposure to contaminated soil. The RSPU also contains policies requiring that development –related excavation be carried out in a manner that meets DTSC requirements (Policy HAZ-1.1) and to fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1). Therefore, construction of the KP Medical Center would not present an unacceptable health risk to people during construction activities. This impact would be **less than significant**.

MLS Stadium

The MLS Stadium site is located within the Lagoon Study Area and Car Shop Nine Study Area, which is covered by the 2015 LUC. As discussed above, construction in these study areas must be accomplished in compliance with the Environmental Restrictions of the 2015 LUC, including

[48] Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

[49] Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

compliance with the SGMP, which would minimize the potential exposure to contaminated soil. The RSPU also contains policies requiring that development –related excavation be carried out in a manner that meets DTSC requirements (Policy HAZ-1.1) and to fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1). Therefore, construction of the MLS Stadium would not present an unacceptable health risk to people during construction activities. This impact would be **less than significant**.

Stormwater Outfall

The Stormwater Outfall site is located within the Northern Shops Study Area and within the West Jibboom Street Property. The portion of the Stormwater Outfall located in the Northern Shops Area would be constructed in compliance with the Environmental Restrictions of the 2015 LUC (including compliance with the SGMP). As discussed above under the West Jibboom Street Property heading, the proposed outfall would be constructed on property currently owned by the California Department of Parks and Recreation and was not sampled as part of the investigation and cleanup of a former manufactured gas plant. However, results of sampling along the levee from the former Manufactured Gas Plant adjacent to the old Southern Pacific pump station identified screening levels at the lowest applicable regulatory-established screening levels for each constituent. Furthermore, review of existing and known records did not indicate the presence of adverse soil conditions.[50] Although contaminated soils are not anticipated to be encountered during construction of the Stormwater Outfall, because development of this site is not currently covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant impact**.

Summary

Development of the RSP Area located in the Certified and Non-Certified Areas, including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall (as shown in Figures 4.8-4 and 4.8-5) would occur in areas where soil remediation has been certified complete and/or where the Environmental Restrictions of a LUC and the SGMP are required to be implemented. Therefore, the risk of exposing people to contaminated soil and debris during construction would be **less than significant**. In the West Jibboom Street property and the portion of the Stormwater Outfall to be constructed on property currently owned by the California Department of Parks and Recreation, although contaminated soils are not anticipated to be encountered, because development of these areas is not currently covered by the requirements of a LUC or an approved SGMP, the potential exposure to unidentified contaminated soil and debris would be a **potentially significant impact**. This impact is similar to Impacts 6.5-1 and 6.5-9 of the 2007 RSP EIR, but the severity is substantially reduced because extensive remediation has occurred since 2007, reducing the potential risk of exposure.

[50] Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

Mitigation Measure

Mitigation Measure 4.8-1 described below replaces Mitigation Measures 6.5-1 and 6.5-9, pages 6.5-25, 6.5-26 and 6.5-39 of the 2007 RSP EIR. No mitigation is required for those portions of the RSP Area located in the Certified and Non-Certified Areas including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall.

Mitigation Measure 4.8-1 (RSPU, West Jibboom only, SO)

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 work shall stop in the area of potential contamination, and the type and extent of contamination shall be identified by a qualified professional. The 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.

Impact Significance After Mitigation: Mitigation Measure 4.8-1 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, with the implementation of Mitigation Measure 4.8-1, this impact would be reduced to a **less-than-significant** level.

Impact 4.8-2: Renovation of Central Shop buildings could expose people to asbestos-containing materials, lead-based paint and/or other hazardous materials.

Impact 6.5-6 discussed on pages 6.5-33 and 6.5-34 of the 2007 RSP EIR addressed the potential exposure to asbestos, lead-based paint, or other hazardous substances as a result of the renovation or restoration Central Shops buildings. The 2007 RSP EIR found the potential release of such materials into the environmental could be a significant impact if not properly identified, removed, contained, or transported for disposal at approved sites. Mitigation Measure 6.5-6, requiring that remaining hazardous substances and/or waste be removed in compliance with applicable State and local laws and regulations was recommended to reduce this impact to a less-than-significant level.

As discussed in the 2007 RSP EIR asbestos, a naturally-occurring fibrous material was used as a fireproofing and insulating agent in building construction before such uses were terminated due to

liability concerns in the late 1970s. Because it was widely used prior to the discovery of its health effects, asbestos can be found in a variety of building materials and components such as insulation, walls and ceilings, floor tiles, and pipe insulation. Friable (easily crumbled) materials are particularly hazardous because inhalation of airborne fibers is the primary mode of asbestos entry into the body. Nonfriable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. Non-friable asbestos and encapsulated friable asbestos do not pose substantial health risks.

Asbestos exposure is a human respiratory hazard. Asbestos-related health problems include lung cancer and asbestosis. Any activity that involves cutting, grinding, or drilling during building renovation or demolition or relocation of underground utilities could release friable asbestos fibers unless proper precautions are taken. Inhalation of airborne fibers is the primary mode of asbestos entry into the body, making friable materials the greatest potential health risk.

Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils around buildings and structures painted with lead-based paint. In 1978, the federal government required the reduction of lead in house paint to less than 0.06 percent (600 parts per million (ppm)).[51] However, some paints manufactured after 1978 for industrial or marine uses legally contain more than 0.06 percent lead.[52] Excessive exposure to lead (even low levels of lead) can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems because it is easily absorbed into developing systems and organs.

Old light tubes, thermostats, and other electrical equipment typically contain heavy metals such as mercury. Elemental mercury can also be found in many electrical switches. Due to accidental spills and historic disposal practices before the adoption of more stringent disposal regulations, it is possible elemental mercury may be present in non-structural features of the Central Shops buildings. Mercury liquid evaporates slowly if exposed to air, and, at certain levels of exposure, mercury vapors are toxic and can cause kidney and liver damage.

Polychlorinated biphenyl (PCB) is an organic chemical, usually in the form of an 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 highly persistent in the environment, and exposure to PCBs has been demonstrated to cause cancer, as well as a variety of other adverse health effects on the immune system, reproductive system, nervous system, and endocrine system.[53]

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51 California Department of Education, 2015. Lead in Paint, October 12, 2015. Available: http://www.cde.ca.gov/ls/fa/hs/leadpaint.asp. Accessed January 12, 2016.

52 PBS&J/EIP, 2007. Railyards Specific Plan Draft Environmental Impact Report. August 2007.

53 U.S. Environmental Protection Agency, 2013. Basic Information Polychlorinated Biphenyl (PCB), April 8, 2013. Available: http://www3.epa.gov/epawaste/hazard/tsd/pcbs/about.htm, accessed January 12, 2016.

Railyards Specific Plan Update

Since the certification of the 2007 RSP EIR abatement (i.e., removal or encapsulation of hazardous materials) has been completed on five of the Central Shops buildings. Abatement still needs to be complete on two remaining Central Shops buildings.[54]

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. The RSPU also contains policies to fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1).

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). Therefore, exposure to asbestos containing materials, lead-based paint and/or other hazardous materials would be **less than significant**.

The 2007 RSP EIR recommended Mitigation Measure 6.5-6 be implemented for the renovation and/or restoration of the Central Shops buildings. Mitigation Measure 6.5-6 required written documentation be provided to the City that asbestos-containing materials and lead-based paint had been abated and any remaining hazardous substances and/or waste had been removed in compliance with applicable State and local laws and regulations. However, the RPSU is required to apply with all State and local laws and regulations; therefore Mitigation Measure 6.5-6 is not carried forward for this impact.

[54] Rashmawi, Elias, Managing Senior Principal, Brownfield Development Subsector Leader, Stantec, personal communication, December 15, 2015.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant potential to expose people to asbestos, lead-based paint, and/or other hazardous substances as a result of the renovation or restoration Central Shops buildings is the same as discussed above for the RSPU. 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). Therefore, exposure to asbestos containing materials, lead-based paint and/or other hazardous materials would be **less than significant**.

KP Medical Center

The KP Medical Center would not affect renovation and/or restoration of the Central Shops buildings. As such, the KP Medical Center would result in **no impact** related to the exposure of people to asbestos containing materials, lead-based paint and/or other hazardous materials.

MLS Stadium

The MLS Stadium would not result in the renovation and/or restoration of the Central Shops buildings. As such, the MLS Stadium would result in **no impact** related to the exposure of people to asbestos containing materials, lead-based paint and/or other hazardous materials.

Stormwater Outfall

The Stormwater Outfall would not renovate and/or restore of the Central Shops buildings. As such, the Stormwater Outfall would result in **no impact** related to the exposure of people to asbestos containing materials, lead-based paint and/or other hazardous materials.

Summary

The RSPU and RSPU Land Use Variant renovation and/or restoration of the Central Shops buildings could release asbestos, lead-based paint, or other hazardous substances, to the environment if not properly identified, removed, contained, and transported. 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. Therefore, risk of exposing people to asbestos containing materials, lead-based paint or other hazardous materials would be **less than significant**. The KP Medical Center, MLS Stadium and Stormwater Outfall would not result in the renovation and/or restoration of the Central Shops buildings; therefore **no impact** would occur.

Mitigation Measure

None required.

Impact 4.8-3: Development of the proposed projects could expose people to existing contaminated groundwater during dewatering activities.

Railyards Specific Plan Update

The potential for the development of the RSPU to expose people to existing groundwater contamination during dewatering activities was not previously discussed in the 2007 RSP EIR. The 2007 RSP EIR discussed adverse effects of groundwater related groundwater flow and groundwater recharge in Section 6.6 Hydrology and Water Quality.

Groundwater underlying the RSP Area has been reported at depths ranging from approximately 2 to 18 feet above mean sea level with ground surface elevations ranging from 6 to 47 feet above mean sea level.[55] As described in the Environmental Setting, contaminated groundwater under the RSP Area includes the South Plume, Lagoon Groundwater and Manufactured Gas Plant Plume. These plumes are routinely monitored for contaminants of concern, which include VOCs, SVOCs, TPH and metals.

Because buildings would be constructed with waterproof foundations and would not include basement levels there would be no anticipated permanent dewatering and associated risk of exposure to contaminated groundwater. Therefore, this impact focuses on potential exposure associated with temporary dewatering during construction of proposed project facilities.

Temporary dewatering in areas of shallow groundwater is often necessary for excavation to construct shallow foundation systems, utility corridors, or installation of deep pilings. Construction dewatering activities could extract groundwater that contains elevated level of contaminants of concern. If dewatered groundwater is inadvertently released into the environment; such release could expose the environment, construction workers, and/or the public to contaminants. The dewatering of contaminated groundwater could therefore present risks to public health and safety, and the environment, if the contaminated dewatered groundwater is not handled properly.

Groundwater extracted during construction would be discharged into the City's CCS before being discharged to the Sacramento River. See Section 4.13 Utilities and Services for a discussion of sewer and drainage infrastructure and infrastructure capacity. Dewatered groundwater discharges to the City's CCS 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 CCS are defined as construction dewatering discharges, foundation or basement dewatering discharges, treated or untreated contaminated groundwater cleanup, discharges, and uncontaminated groundwater discharges.

[55] ERM-West, Inc., 2015. First Five-Year Review Report, Former SPTCo Sacramento Railyard, Sacramento California, June 1, 2015.

The City requires that any short-term discharge be permitted, or an approved 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 (RegionalSan) and Regional Water Board-approved levels. All groundwater discharges to the sewer must be granted a RegionalSan discharge permit. As a standard precautionary action, the Regional Water Board would be notified prior to beginning any site preparation or grading and the applicant would adhere to all requests and recommendations from the Regional Water Board.

In addition, prior to discharge, a National Pollutant Discharge Elimination System (NPDES) permit would be required that would specify standards for testing, monitoring, and reporting, receiving water limitations, and discharge prohibitions. The RSPU also contains policies requiring that development – related excavation and dewatering be carried out in a manner that meets DTSC requirements (Policy HAZ-1.1).

Certified Areas Owned by DRV

Certified Areas in the RSP Area include the Lagoon, Central Corridor, Car Shop Nine, Northern Shops Study Areas, and a portion of the Sacramento Station Study Area owned by the DRV. Any groundwater extraction in the Certified Areas would be conducted in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP. The Environmental Restrictions set forth in the 2015 LUC requires approval from DTSC prior to any groundwater extraction. The SGMP requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activities. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City, RegionalSan, and State permits. Compliance with the 2015 LUC, SGMP, federal, State and local regulations minimizes potential degradation of receiving waters and the risk of exposure to contaminated groundwater during construction dewatering activities. Therefore, this is considered a **less-than-significant** impact.

Non-Certified Areas Owned by DRV

Central Shops Study Area

As described above, if dewatering activities were required for the Central Shops Study Area the discharge of groundwater during dewatering would be regulated by federal, State and local regulations. However, the Central Shops Study Area lies above the contaminated South Plume and dewatering activities could expose construction workers and/or the public to contaminated groundwater if not properly managed or monitored. Even though the Central Shops Study Area is

not currently covered by the 2015 LUC, any dewatering would comply with the protective measures included in an approved SGMP which requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activities. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City, RegionalSan, and State permits. Compliance with an approved SGMP, federal, State and local regulations would minimize potential degradation of receiving waters and the risk of exposure to contaminated groundwater during construction dewatering activities. Therefore, this is considered a **less-than-significant** impact.

Sims Metal Site

As previously discussed, although part of the Lagoon Study Area, the portion of the Sims Metal site located within the RSP Area is not covered under the 2015 LUC and is undergoing a separate remediation process with DTSC. Because remediation has not been completed in this area and a LUC has not been recorded, any dewatering during construction could encounter contaminated groundwater as a result of past activities on the site. However, any dewatering would comply with the protective measures included in an approved SGMP which requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activities. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City, RegionalSan, and State permits. Compliance with an approved SGMP, federal, State and local regulations would minimize potential degradation of receiving waters and the risk of exposure to contaminated groundwater during construction dewatering activities. Therefore, this is considered a **less-than-significant** impact.

Manufactured Gas Plant Study Area and Northwest Corner

Both the Manufactured Gas Plant Study Area and the Northwest Corner are above contaminated groundwater plumes and dewatering activities could expose construction workers and/or the public to contaminated groundwater if not properly managed or monitored. However, any dewatering would comply with the protective measures included in an approved SGMP which requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activities. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City, RegionalSan, and State permits. Compliance with an approved SGMP, federal, State and local regulations would minimize potential degradation of receiving waters and the risk of exposure to contaminated groundwater during construction dewatering activities. Therefore, this is considered a **less-than-significant impact**.

Other Areas

Sacramento Station Study Area

As previously discussed, the portion of the Sacramento Station owned by the DRV is covered under the 2015 LUC Environmental Restrictions and the SGMP. Other areas within the

Sacramento Station Study Area owned by the Administrative Offices of the Courts and City of Sacramento and would be developed in accordance with the restrictions in the Sacramento Station Covenant which requires approval from DTSC prior to any groundwater extraction. [56] Compliance with the Sacramento Station Covenant and federal, State and local regulations would minimize potential degradation of receiving waters and risk of exposure to contaminated groundwater during construction dewatering activities. Therefore, this is considered a **less-than-significant** impact.

7th Street Corridor

Construction within the 7th Street Corridor must comply with the 7th Street Covenant, which include Environmental Restrictions for human health and safety with the 7th Street Corridor. The Environmental Restrictions of the 7th Street Corridor Covenant allows for construction dewatering within the limits of parcel. Under the RSPU, 7th Street could be widened; however, such activities would not likely require dewatering. If construction dewatering activities were required, compliance with federal, State and local regulations and the 7th Street Corridor Covenant would minimize the potential degradation of receiving waters and would minimize the potential for exposure to contaminated groundwater during dewatering activities. Therefore, this is considered a **less-than-significant** impact.

West Jibboom Street Property

As previously described, the portion of this property along the Sacramento River currently owned by the California Department of Parks and Recreation, proposed location of the stormwater outfall structure, was not sampled (see discussion under Stormwater Outfall). Comprehensive multi-phase groundwater remedial investigations of the former Manufactured Gas Plant area have been completed under the direction of DTSC and the Regional Water Board. The results of these reports established groundwater impact boundaries that do not extend to this property. Furthermore, the property is located upgradient of the Manufactured Gas Plant Study Area.[57] It was also determined that the Lagoon Groundwater Plume Study Area and the Central Shops/South Plume Study Area did not extend to under the property.[58] Never the less, past activities at this site could have contaminated underlying groundwater which could expose construction workers and/or the public if not properly managed or monitored. Although contaminated groundwater would not be expected to be encountered, and dewatering activities would be regulated by federal, State and local regulations, because this property is not currently included in the Certified or Non-Certified Area and dewatering activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact.

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56 Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

57 Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

58 Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

Railyards Specific Plan Update Land Use Variant

Similar to the RSPU, development of the RSPU Land Use Variant could expose people to existing contaminated groundwater during dewatering activities. The discussion above would be the same for the RSPU Land Use Variant and the potential impacts effects of the RSPU Land Use Variant would be equal to those of identified for the RSPU. The potential for exposure to contaminated groundwater associated with dewatering activities at the West Jibboom Street Property is considered a potentially **significant impact**.

KP Medical Center

The KP Medical Center could require some limited construction period dewatering during excavation for deeper pile caps, grade beams, or underground vaults. As such, the discussion above any dewatering on this site would be subject to federal, State and local regulations for the discharge of groundwater during dewatering. The KP Medical Center site would also be constructed in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP. The SGMP requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activates. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City, RegionalSan, and State permits.[59] The RSPU also contains policies requiring that dewatering is carried out in manners that meet DTSC requirements (Policy HAZ-1.1). Therefore, the potential for exposure to contaminate groundwater during dewatering activities associated with construction of the KP Medical Center would be **less than significant**.

MLS Stadium

Construction of the proposed MLS Stadium could require temporary dewatering. 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 site to obtain data prior to and during dewatering. It is anticipated that groundwater may have to be treated on-site prior to discharge. A temporary groundwater treatment facility would be installed within the footprint of the proposed MLS Stadium to meet discharge flow rate and quality requirements.

As the MLS Stadium site is located within an area covered by the 2015 LUC, development must be accomplished in compliance with the Environmental Restrictions of the 2015 LUC, including compliance with the SGMP. The SGMP requires that a groundwater control plan be prepared by the general contractor and submitted for approval prior to any groundwater extraction, treatment or discharge activates. The groundwater control plan must estimate volumes, rate, location, and type of groundwater control, as well as securing all needed discharge permits, including City,

[59] Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

RegionalSan, and State permits.[60] The RSPU also contains policies requiring that dewatering is carried out in manners that meet DTSC requirements (Policy HAZ-1.1).

While it is likely that contaminated groundwater associated with the Lagoon Groundwater and South Plume would be extracted during dewatering activities, because the MLS Stadium 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 risk of exposure to contaminated groundwater during dewatering activities, this is considered a **less-than-significant** impact.

Stormwater Outfall

The Stormwater Outfall site is located within the Northern Shops Study Area and within the West Jibboom Street Property. The portion of the Stormwater Outfall located in the Northern Shops Area would be constructed in compliance with the Environmental Restrictions of the 2015 LUC (including compliance with the SGMP). As discussed above under the West Jibboom Street Property heading, the proposed outfall would be constructed on property currently owned by the California Department of Parks and Recreation. Comprehensive multi-phase groundwater remedial investigations of the former Manufactured Gas Plant area, Lagoon Groundwater Plume Study Area and the Central Shops/South Plume Study Area established groundwater impact boundaries that do not extend to this property. Furthermore, the property is located upgradient of the Manufactured Gas Plant Study Area.[61] Never the less, past activities at this site could have contaminated underlying groundwater which could expose construction workers and/or the public if not properly managed or monitored. Although contaminated groundwater would not be expected to be encountered, and dewatering activities would be regulated by federal, State and local regulations, because this property is not currently included in the Certified or Non-Certified Area and dewatering activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact.

Summary

In addition to compliance with federal, State and local requirements would minimize the potential impacts associated with the degradation of receiving waters during construction dewatering activities development of the RSP Area located in the Certified and Non-Certified Areas, including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall (as shown in Figures 4.8-4 and 4.8-5), would occur in areas where the Environmental Restrictions of a LUC and the SGMP are required to be implemented. Therefore, the risk of exposing people to contaminated groundwater during construction dewatering would be **less than significant**. In the West Jibboom Street property and the portion of the Stormwater Outfall to be constructed on property currently owned by the California Department of Parks and Recreation, although

60 Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

61 Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

contaminated groundwater would not be expected to be encountered, and dewatering activities would be regulated by federal, State and local regulations, because these properties are not currently included in the Certified or Non-Certified Area and dewatering activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact. Operational dewatering is not anticipated to occur as buildings would be constructed with waterproof foundations and would not include basement levels.

Mitigation Measure

Mitigation Measure 4.8-3 described below is a new mitigation measure not previously addressed in the 2007 RSP EIR. No mitigation is required for those portions of the RSP Area located in the Certified and Non-Certified Areas, including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall.

Mitigation Measure 4.8-3 (RSPU, West Jibboom only, SO)

Implement Mitigation Measure 4.8-1.

Impact Significance After Mitigation: Mitigation Measure 4.8-3 would minimize risk of exposure to previously unidentified groundwater 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 groundwater would be accomplished with applicable federal, State and local laws. The measure will reduce the impact to **less than significant**.

Impact 4.8-4: Construction of the proposed projects' infrastructure and buildings could interfere with remediation efforts.

Impact 6.5-4 on pages 6.5-31 and 6.5-32 of the 2007 RSP EIR found that earthwork activities could encounter site remediation systems and unless planned and coordinated with site remediation activities, there would be an increased risk of damaging or interfering with remediation site controls such as soil containment areas, or groundwater remediation facilities. The 2007 RSP EIR found this impact to be potentially significant and recommend Mitigation Measures 6.5-3 and 6.5-4 be implemented to ensure construction of site features do not interfere with remediation efforts.

Development of portions of the RSP would occur simultaneously with implementation of the site remediation activities that are being implemented through DTSC-approved cleanup plans. Development activities such as site preparation, grading, installation of underground utility lines, and foundation excavation, to name a few, are examples of the types of earthwork that could encounter site remediation systems.

Railyards Specific Plan Update

Since the certification of the 2007 RSP EIR soil remediation was certified complete in for the Lagoon, Central Corridor, Car Shop Nine, Sacramento Station and the Northern Shops Study Areas. Soil remediation is only needed for a limited portion of the RSP Area. As described in the Environmental Setting, contaminated groundwater under the RSP Area includes the South Plume, Lagoon Groundwater and Manufactured Gas Plant Plume. The groundwater quality of these plumes is routinely monitored at varying stages in the remediation process.

Certified Areas Owned by DRV

Certified Areas in the RSP Area include the Lagoon, Central Corridor, Car Shop Nine, Northern Shops Study Areas, and a portion of the Sacramento Station Study Area owned by the DRV. Soil remediation was certified complete in November 2015 for the Lagoon, Central Corridor, Car Shop Nine, and the Northern Shops Study Areas with only a small area within Car Shop Nine Study Area still requiring remediation due to inaccessibly. However, due to ongoing remediation of groundwater there is the potential to interfere with groundwater remediation facilities, which could result in an increased risk of exposure to adverse health or ecological effects. The Environmental Restrictions set forth in the 2015 LUC prohibit the disruption of any remediation systems without prior written approval from DTSC.[62] Furthermore, the SGMP recognizes that replacement, adjustment, and relocation of monitoring and extraction wells, vapor probes, and associated remediation systems are expected to occur. Such work is permitted to occur under the SGMP only with written approval by the project proponent, DRV and property owner, coordination with UPRR, written approval by DTSC, and appropriate permitting in accordance with all applicable regulations.[63]

In additional, the SGMP require that DTSC, DRV, property owners, and project proponents are notified of any conflicts between intended construction activities and existing wells as soon as possible. Any damage to wells or remediation systems is the responsibility of the general contractor to repair, in accordance with applicable regulations.[64]

Implementation of the measure outlined in the SGMP and the Environmental Restrictions of the 2015 LUC would reduce this impact to a **less-than-significant** level by ensuring project developers and their contractors are aware of the timing, locations, and types of remediation activities so that construction activities do not inadvertently or adversely affect cleanup activities, and that remediation contractors are aware of planned construction activities. Such efforts would ensure that contaminated substances would not be inadvertently encountered (e.g., infrastructure improvements involving trenching through the project site) and that soils or contaminated substances are not inappropriately moved or used within the site.

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62 Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

63 Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

64 Stantec, 2015. Railyards Projects Soil and Groundwater Management Plan, December 2015.

Non-Certified Areas Owned by DRV

Sims Metal Site, Manufactured Gas Plant Study Area and Northwest Corner

In the remaining Non-Certified Area (Sims Metal Site, Manufactured Gas Plant Study Area, and Northwest Corner) soil and groundwater remediation are at varying stages in the remediation process. Unless planned and coordinated with site remediation activities, there could be an increased risk of damaging or interfering with remediation site controls facilities such as soil containment areas, or groundwater remediation facilities such as extraction and monitoring wells, pumps, or pipelines. Such incidents could interfere with remediation efforts, resulting in delays. They could also compromise the effectiveness of measures intended to control inadvertent releases of contaminants to the environment, which could result in an increased risk of exposure and associated adverse human health or ecological effects. However, even though a LUC has not been recorded, development in these study areas would be required to comply with the requirements of an approved SGMP. Therefore the impact associated with the increased risk of damaging or interfering with remediation site controls facilities would be **less than significant**.

Other Areas

Sacramento Station Study Area

The portion of the Sacramento Station owned by the DRV is covered under the 2015 LUC Environmental Restrictions and the SGMP. Other areas within the Sacramento Station Study Area owned by the Administrative Offices of the Courts and City of Sacramento and would be developed in accordance with the restrictions in the Sacramento Station Covenant.[65] The Sacramento Station Covenant requires approval from DTSC prior to any groundwater extraction and prohibits hindering remediation efforts deemed necessary by the DTSC to remove or remediate groundwater contamination. Therefore the impact associated with the increased risk of damaging or interfering with remediation site controls facilities in the portion of the Sacramento Station Study Area not covered by the 2015 LUC would be **less than significant**.

West Jibboom Street Property

As previously described, comprehensive multi-phase soil and groundwater remedial investigations established that soil and groundwater impact boundaries do not extend to this property.[66] Although contaminated soil and/or groundwater is not anticipated to be encountered, past activities could encounter previously unidentified contamination that could require remediation. Any remediation activities at this property, unless planned and coordinated with other remediation activities in the RSP Area could damage or interfere with on-going remediation facilities including extraction and monitoring wells, pumps, or pipelines. In addition to delays, any interference could also compromise the effectiveness of measures intended to control

[65] Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

[66] Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

inadvertent releases of contaminants to the environment, which could result in an increased risk of exposure and associated adverse human health or ecological effects. Because this property is not currently included in the Certified or Non-Certified Area and any remediation activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact.

Railyards Specific Plan Update Land Use Variant

Similar to the RSPU, construction of the RSPU Land Use Variant infrastructure and buildings could interfere with remediation efforts. Therefore, the discussion above would be the same for the RSPU Land Use Variant and the potential impacts equal to those identified for the RSPU. The potential for interference with groundwater remediation activities during development of the West Jibboom Street Property is considered a **potentially significant impact.**

KP Medical Center

The KP Medical Center site is located primarily within the Northern Shops Study Area, which is covered by the 2015 LUC. As discussed above, the Environmental Restrictions of the 2015 LUC and the SGMP prohibit the disruption of any remediation systems without prior written approval from DTSC.[67] Therefore, implementation of the measure outlined in the Environmental Restrictions of the 2015 LUC and the SGMP would ensure the impacts associated with the construction of the KP Medical Center infrastructure and buildings would not interfere with remediation efforts. This impact would be **less than significant**.

MLS Stadium

The MLS Stadium site is located within the Lagoon Study Area and Car Shop Nine Study Area, which is covered by the 2015 LUC. As discussed above, the Environmental Restrictions of the 2015 LUC and the SGMP prohibit the disruption of any remediation systems without prior written approval from DTSC.[68] Therefore, implementation of the measure outlined in the Environmental Restrictions of the 2015 LUC and the SGMP would ensure the impacts associated with the construction of the MLS Stadium infrastructure and buildings would not interfere with remediation efforts. This impact would be **less than significant**.

Stormwater Outfall

The Stormwater Outfall site is located within the Northern Shops Study Area and within the West Jibboom Street Property. The portion of the Stormwater Outfall located in the Northern Shops Area would be constructed in compliance with the Environmental Restrictions of the 2015 LUC (including compliance with the SGMP). Although contaminated soil and/or groundwater is not

[67] Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

[68] Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

anticipated to be encountered, past activities could encounter previously unidentified contamination that could require remediation. Any remediation activities at this property, unless planned and coordinated with other remediation activities in the RSP Area could damage or interfere with on-going remediation facilities and result in an increased risk of exposure and associated adverse human health or ecological effects. Because this property is not currently included in the Certified or Non-Certified Area and any remediation activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact.

Summary

Development of the RSP Area located in the Certified and Non-Certified Areas including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall (as shown in Figures 4.8-4 and 4.8-5), would occur in areas where the Environmental Restrictions of a LUC and the SGMP are required to be implemented. Therefore, the risk of damaging or interfering with remediation site or facilities during construction would be **less than significant**. Additionally, the RSPU contains policies to establish an ongoing process for coordination during the remediation activities that coincide with development (Policy HAZ-5.1).

Although contaminated soil and/or groundwater is not anticipated to be encountered, past activities could encounter previously unidentified contamination that could require remediation. Any remediation activities at the West Jibboom Street property, including a portion of the Stormwater Outfall, unless planned and coordinated with other remediation activities in the RSP Area, could damage or interfere with on-going remediation facilities and result in an increased risk of exposure and associated adverse human health or ecological effects. Because this property is not currently included in the Certified or Non-Certified Area and any remediation activities would not be covered by the requirements of a LUC or an approved SGMP, this is considered a **potentially significant** impact.

Mitigation Measure

Mitigation Measure 4.8-4 replaces Mitigation Measure 6.5-4, pages 6.5-31 and 6.5-32 of the 2007 RSP EIR. No mitigation is required for those portions of the RSP Area located in the Certified and Non-Certified Areas, including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall.

Mitigation Measure 4.8-4 (RSPU, West Jibboom only, SO)

Implement Mitigation Measure 4.8-1.

Impact Significance After Mitigation: Mitigation Measure 4.8-4 would minimize risk of exposure to previously unidentified soil and/or groundwater 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 or groundwater would be accomplished with applicable federal, State and local laws. Coordination with appropriate regulatory agencies would ensure that the public is not exposed to contaminated soil or groundwater as a result of the disruption of remediation activities. Therefore, with implementation of Mitigation Measure 4.8-4 this impact would be reduced to a **less-than-significant** level.

Impact 4.8-5: Occupancy of the proposed projects could increase the use of hazardous substances during occupancy.

Impact 6.5-7 discussed on pages 6.5-34 through 6.5-36 of the 2007 RSP EIR found that the potential for the 2007 RSP to increase the use of hazards substance occupancy would result in a less significant impact. It was determined that compliance with hazardous materials regulations would reduce the risk to human health and the environment from the routine use of hazardous substances.

This impact analysis addresses the routine use, transport, storage, and disposal of hazardous substances that would occur with occupancy of the RSP Area. For an analysis of potential exposure of project occupants to the transportation of hazardous materials within and adjacent to the RSP that are not related to the RSP, please see Impact 4.8-6.

As discussed in the 2007 RSP EIR, hazardous substances would be used in varying amounts during occupancy of the RSP Area. The types and quantities of hazardous substances that would be present during occupancy of the residential, office, and commercial land uses in the are expected to include, for example, household-type and maintenance products (e.g., cleaning products, paints, solvents, pesticides/herbicides).

Hazardous substances would be handled and stored routinely by households and most businesses within the RSP Area. Typical household hazardous substances would include oils (e.g., motor oil and hydraulic oil), fuels (gasoline and diesel), paints (both latex and oil-based), solvents (e.g., degreasers, paint thinners, and aerosol propellants), acids and bases (e.g., automobile battery fluids, swimming pool chemicals, and many cleaners), disinfectants, metals (e.g., mercury in thermometers, batteries, and photography chemicals), and pesticides and herbicides. Businesses would use materials similar to households and some (e.g., gas stations, dry cleaners, and photoprocessors) would use hazardous substances in larger quantities specifically related to their business activities. For example, supermarkets and gas stations stock hazardous substances for sale to consumers; service stations handle fuel, motor oil, antifreeze, and other fluids; and supermarkets handle automotive fluids, cleaners, pesticides, and batteries. In addition, dry cleaners handle perchloroethylene and photoprocessors handle fixer and developer chemicals.

Although individual households and many businesses use relatively small volumes of hazardous substances, the total volume of the hazardous substances managed by all of the households and

businesses in the RSP Area would increase the opportunities for accidents and improper use, transportation, storage, and disposal. However, because many hazardous substances are consumed through their use (e.g., fuel, paint, aerosols), the quantity of hazardous substances handled is generally believed to be substantially greater than the volume of hazardous waste generated. In any case, the Sacramento County Environmental Management Department has a household hazardous waste collection program that safely collects, transports, and disposes of residual hazardous wastes.

Commercial products are labeled to inform users of potential risks and to instruct users in appropriate handling procedures. Although households are relatively less regulated than businesses, the risks posed by hazardous substances use at project-related residences would be similar to those in similar residential areas already developed in the City of Sacramento. The home use of common household hazardous substances is typically considered to pose an acceptable level of risk.

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As indicated above, the types and amounts of hazardous substances would vary according to the nature of the activity. Specific businesses or commercial activities have not been identified for most of the RSPU. Therefore, the actual hazardous substances and amounts that would be on site or within a specific location in the RSP Area cannot be determined at this time. In some cases, it is the type of hazardous material that is potentially hazardous; in others, it is the amount of hazardous material that would present a hazard.

Exposure of site occupants to hazardous substances could occur in the following manner: improper handling or use of hazardous substances or hazardous wastes during operation of uses under the RSPU, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion or other emergencies. Future occupants could be exposed to hazards associated with accidental releases of hazardous substances, which would result in adverse health effects.

Hazardous materials regulations, which are codified in Titles 8, 22 and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code were established at the State level to ensure compliance with Federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the State (e.g., OSHA in the workplace or DTSC for hazardous waste) and/or local jurisdictions (e.g., the Sacramento Fire Department).

By ensuring that businesses in or adjacent to the RSP Area (which are within the City and, therefore, subject to City regulations) comply with the Unified Program, which provides consistent regulatory activities including inspections, permitting, and enforcement, the City would reduce impacts associated with the potential for accidental release of hazardous substances associated with construction activities and occupancy of uses under the RSPU. This would be

accomplished by ensuring that regulated activities (e.g., businesses) under the RSPU are managed in accordance with applicable regulations such as Hazardous Materials Release Response Plans and Inventories, and the California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements. Compliance with Title 26 of the CCR, which would be monitored by the City, would reduce impacts associated with potential for accidental release during occupancy of the RSPU. Compliance with this regulation would ensure that businesses where hazardous substances are used or stored adhere to regulations designed to prevent leakage and spills of material in transit and provide detailed information to clean-up crews in the event of an accident.

Workplace regulations addressing the use, storage, and disposal of hazardous substances in Title 8 of the CCR would apply to businesses and public facilities in and adjacent to the RSP Area Compliance with these regulations would be monitored, in part, by the Sacramento Fire Department when it performs hazardous materials inspections. Other mechanisms in place to enforce the Title 8 regulations include compliance audits and reporting to local and State agencies. Implementation of the workplace regulations would further reduce the potential for hazardous materials releases.

The RSPU includes infill development of new commercial uses and some public services that would use and transport hazardous substances through the RSP Area on existing and proposed interior roadways. The number of hazardous substances incidents along existing and proposed roadways could increase depending on the type of commercial and industrial uses, and the number of persons exposed would increase due to the proposed plans. Proposed uses requiring the use of hazardous substances could generate hazardous waste, and could increase the transportation of such materials through the RSP Area, thereby increasing the risk of exposure to new residents to transportation-related hazardous substances incidents. CFR 49 and Title 26 regulate the transportation of hazardous substances by trucks and other vehicles. These requirements would apply to any transporters delivering or removing hazardous substances or wastes from the RSP Area.

Compliance with applicable federal and State laws and regulations that are administered and enforced by the CUPA and Sacramento Fire Department standards (the local agency that implements applicable hazardous substances-related sections of the Uniform Fire Code and Uniform Building Code), and federal and State transportation regulations would reduce impacts associated with the routine use, storage, and transportation of hazardous substances in the RSP Area to a **less-than-significant** level.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant potential for the increase the use of hazards substance during occupancy would be the same as those discussed above. As such, the discussion above would be applicable to the RSPU Land Use Variant and the effects of the RSPU Land Use Variant would be equal to those of the RSPU; therefore, resulting a **less-than-significant impact**.

KP Medical Center

In addition to the typical hazardous materials used by businesses, the KP Medical Center has the potential to use and store hazardous chemicals, radioactive materials, and biohazardous materials related specifically to its medical functions. Medical and administrative activities at the KP Medical Center site would use hazardous chemicals common in medical care, office and support settings. These chemicals would include familiar materials, such as toners, paints, lubricants, kitchen and restroom cleaners, and other maintenance materials as well as chemicals used during patient care, laboratory testing and medical diagnostics. These common products would be used for the same purposes as in any office or residence. A medical facility cannot reasonably predict in advance every possible chemical or combination of chemicals it might use.

The KP Medical Center could involve the use of a wide range of chemical compounds and products for facilities maintenance and patient care. Among these are hazardous materials including fuels, liquid oxygen, waste oil, battery waste, various liquid chemicals and radioactive materials. The use, storage and disposal of these hazardous materials could result in health and safety risks for those handling the materials within the hospital as well as the community. Should any of these materials be improperly used, stored or transported, toxins could be released into the air or water; fire or explosions could occur; and exposure could cause acute or chronic health effects to workers and visitors. Because of the potential risks, acute care facilities, like the KP Medical Center, are required to comply with several regulatory controls that control the transportation, storage, use, and disposal of chemical and other materials considered a risk to public health.

Areas within the hospital that contain hazardous chemicals, gases or bio-hazards must be equipped with proper ventilation and secondary spill containment. Most of the flammable materials stored indoors would be kept in fire safety cabinets when not in use. Until the time that they are used, hazardous materials would be stored in their original containers. As required, the hazardous materials would be stored, in each building, in locations according to compatibility and in storage enclosures (i.e., flammable material storage cabinets and biological safety cabinets) or in areas or rooms specially designed, protected, and contained for such storage, in accordance with state and local regulations for hazardous materials management (see Regulatory Setting, above).

Handling and use of hazardous materials and the disposal of the resulting hazardous wastes would be conducted under federal, State, and local laws and regulations for hazardous materials management. Hazardous materials would be used by personnel that have been trained in the handling and use of the material and that have received proper hazard-communication training. Hazardous materials planning and reporting requirements under the California Hazardous Materials Business Planning, California Proposition 65 notification, and Emergency Planning and Community-Right-to-Know Act would be initiated and completed, as required, for acute care facilities. Compliance with these laws and regulations would reduce the risk of hazard and hazards to workers, the public, and the environment to such that they would not pose a threat to project occupants or the public.

During operation the KP Medical Center would use a diesel-powered emergency back-up generator. This emergency back-up generator would be located within the CUP. Use of this diesel-powered emergency back-up generator would not be continuous. It would only operate during emergencies or when being tested (typically, monthly). The generator would be subject to the requirements of the California Fire Code, which includes placement limitations and fuel capacity limits.

The KP Medical Center has the potential to expose hospital occupants and the community to hazardous materials via storage, normal uses, and disposal. However, laws, regulations, and standards federally administered through OSHA, DOT, RCRA, EPA, Cal EPA, and the California Fire Code would ensure that the KP Medical Center would implement current safeguards and standards to reduce the risk or chemical and hazardous material exposure at the KP Medical Center and in the surrounding environment. Impacts are, therefore, **less than significant**.

MLS Stadium

The types and quantities of hazardous substances that would be present during operation of the MLS Stadium are expected to be similar to those discussed above for businesses in the RSP Area, which could include oils, fuels, paints, solvents, acids and bases, disinfectants, metals, and pesticides and herbicides. It is assumed that the use of hazardous substances would be intermittent and use would increase with event activity. During operation the MLS Stadium could use a diesel-powered emergency back-up generator. Use of this diesel-powered emergency back-up generator would not be continuous. It would only operate during emergencies or when being tested (typically, monthly). The generator would be subject to the requirements of the California Fire Code, which includes placement limitations and fuel capacity limits.

The MLS Stadium would be require to comply with the same federal, State and local regulations a discussed above under the Railyards Specific Plan Update heading, therefore, the impacts associated with the routine use, storage, and transportation of hazardous substances would be **less than significant**.

Stormwater Outfall

During operation the Stormwater Outfall would use a diesel-powered emergency back-up generator. This emergency back-up generator would be located within the proposed pump station located under I-5 viaduct immediately south of Railyards Boulevard. Use of this diesel-powered emergency back-up generator would not be continuous. It would only operate during emergencies or when being tested. The generator would be subject to the requirements of the California Fire Code, which includes placement limitations and fuel capacity limits. The Stormwater Outfall would be require to comply with the same federal, State and local regulations a discussed above for the RSPU, including the California Fire Code; therefore, impacts associated with the routine use, storage, and transportation of hazardous substances would be **less than significant**.

Summary

Compliance with applicable federal and State laws and regulations would reduce impacts associated with the routine use, storage, and transportation of hazardous substances in the RSP Area to a **less-than-significant** level for the RSPU, RSPU Land Use Variant, KP Medical Center, MLS Stadium, and the Stormwater Outfall.

Mitigation Measure

None required.

Impact 4.8-6: Development of the proposed projects would bring new occupants or visitors in proximity to hazardous substances transportation routes, such as I-5 and the UPRR rail lines.

Impact 6.5-8 discussed on pages 6.5-36 through 6.5-38 of the 2007 RSP EIR determined that the 2007 RSP would result in a less-than-significant impact as it relates to the proximity of new residents to existing non-project-related hazardous substances transportation routes, such as I-5 and the UPRR rail lines.

Hazardous substances that are not related to RSPU construction or occupancy can be legally transported through the RSP Area via rail or in trucks and other vehicles (on 7th Street, for example), or on adjacent roadways such as Richards Boulevard and I-5. The exact types and amounts of non-project-related hazardous substances that could be transported via rail within the RSP Area or adjacent to the RSP Area on roadways would vary from day-to-day, as would occur on roadways and rail elsewhere throughout the Sacramento metropolitan region. As noted in the Regulatory Setting, above, many federal and industry programs are already in place, and more are being developed, to help improve transport of hazardous substances.

As discussed in the 2007 RSP EIR, a primary safety and security concern related to the rail transportation of hazardous materials is the catastrophic release or explosion in proximity to densely populated areas, including urban areas and events or venues with large numbers of people in attendance. Also of major concern is the release or explosion of a rail car in proximity to iconic buildings, landmarks, or environmentally significant areas. Such a catastrophic event could be the result of an accident, or a deliberate act of terrorism. The consequences of an intentional release of hazardous material by a criminal or terrorist action are likely to be more severe than the consequences of an unintentional release because an intentional action is designed to inflict the most damage possible.[69] The causes of intentional and unintentional releases of hazardous material are very different; however, in either case the potential consequences of such releases could be substantial.

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[69] *Federal Register*, Proposed Rules- Hazardous Materials: Enhancing Rail Transportation Safety and Security for Hazardous Materials Shipments, December 21, 2006 [Volume 71, Number 245, page 76836].

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As noted in the Environmental Setting, freight trains do not stop in the RSP Area (or any other locations in the downtown Sacramento area) for any planned purpose. But if there is a delay in the system, there is the potential that a freight train carrying hazardous substances would be stopped in the RSP Area for a short amount of time. Such occurrences would be completely random and unscheduled, however, and the number of cars carrying hazardous materials and their contents would be similarly unpredictable. The risk of an accident involving a rail car carrying hazardous substances traveling through the RSP Area would be similarly unpredictable.

In the unlikely event of a worst-case scenario release of a hazardous substance in the RSP Area, the City of Sacramento has an extensive emergency response network in place to provide first response, which is described in the Regulatory Setting. Furthermore, a new fire station is proposed to be built as part of the RSPU, which would a enable quicker response time by personnel trained to deal with hazardous materials.

New residential uses are proposed to be developed in close proximity to the relocated main line, which would continue to be used to transport freight through the RSP Area. During the day, a large number of office workers would also be present in the RSP Area. While development of the RSPU would increase the number of people within the RSP Area who could be exposed to a risk of hazardous substances exposure from an unintentional release, the RSPU in and of itself would not alter the types of rail shipments through the RSP Area. Further, it is likely that many of the future occupants (residences and businesses) will simply be those that move from an existing location in the Sacramento metropolitan area (or other highly urbanized area), such as the KP Medical Centers. Where there is already a risk from a catastrophic release of an acutely hazardous substance. Moreover, an accidental or intentional release of an acutely hazardous substance would not be limited to the RSP Area, but could have severe consequences downtown and even greater distances. An unintentional or intentional release of hazardous substances within the RSP Area could occur, regardless of whether the RSPU is developed or not.

For the reasons outlined above, the RSPU would not substantially increase the risk of exposure to inadvertent or accidental releases of hazardous substances transported on adjacent roadways and rail lines within the RSP Area, as compared to existing conditions. Additional, as discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Therefore, the impact is considered **less than significant**.

Railyards Specific Plan Update Land Use Variant

The RSPU Land Use Variant potential to bring new occupants or visitors in proximity to hazardous substances transportation routes, such as I-5 and the UPRR rail lines would be the same as those discussed above. As such, the discussion above would be applicable to the RSPU Land Use Variant and the effects of the RSPU Land Use Variant would be equal to those of the RSPU, resulting in a **less-than-significant** impact.

KP Medical Center

Hazardous substance could be transported adjacent to the KP Medical Center on roadways or the UPRR rail lines. The KP Medical Center would be located approximately 200 feet from I-5. The KP Medical Center potential to bring patients, staff or visitors in proximity to hazardous substances transportation routes, such as I-5 would be the same as those discussed above. The KP Medical Center would be located approximately 1,300 feet from the UPRR rail lines. At this distance, patients, staff or visitors potential exposure to hazardous substances transported along the UPRR rail lines would be less those discussed above for the RSPU. As noted in the Regulatory Setting, many federal and industry programs are already in place to regulate the transportation of hazardous substances. As such, the KP Medical Center would result in a **less-than-significant** impact.

MLS Stadium

The proposed MLS Stadium would be located approximately 0.60 mile or (approximately 3,200 feet) from I-5 and approximately 200 feet from UPRR rail lines. The proposed MLS Stadium would not substantially increase the risk of exposure to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines, as compared to existing conditions. Additional, as discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Therefore, the impact is considered **less than significant**.

Stormwater Outfall

The Stormwater Outfall would not result in occupancy during operation. As a result the Stormwater Outfall would not bring new occupants or visitors in proximity to hazardous substances transportation routes, such as I-5 and the UPRR rail lines. As such, the Stormwater Outfall would have **no impact**.

Summary

The RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium would not substantially increase the risk of exposure to inadvertent or accidental releases of hazardous substances transported on adjacent roadways and rail lines within the RSP Area, as compared to existing conditions. Additional, as discussed in the Regulatory Setting, transportation of hazardous materials is regulated by the DOT and Caltrans. Therefore, the impact is considered **less than significan**t and no mitigation is required for the RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium. The Stormwater Outfall would result in no impact as it would not require occupancy during operation.

Mitigation Measure

None required.

Impact 4.8-7: Operation of the proposed projects could result in the exposure of people to health risks associated with contaminated soils and groundwater.

Impact 6.5-2 on pages 6.5-26 through 6.5-30 of the 2007 RSP EIR found that development of the RSP would not substantially increase the risk of exposure of construction workers or future occupants to hazardous substances contamination in soil or groundwater at the project site as long as development is consistent with the remediation action plans and LUCs. However, porous utility lines could be infiltrated by contaminated groundwater create a significant impact. The 2007 RSP EIR recommended Mitigation Measure 6.5-2, requiring measures to prevent infiltration of groundwater in accordance with DTSC requirements.

The potential risk associated with soil and groundwater exposure is primarily based on possible land uses. Typically, the greatest soil and groundwater exposure potential is found in single-family residential development. Typically with single family development, the resident family could choose to grow and eat produce from the property and children routinely play in or could ingest soil. Under this land use, children are the population with the greatest potential for exposure. Remediation standards that are protective of the single-family occupants are considered residential or unrestricted use standards.

Substantially lesser exposure potential exists in higher density residential uses, commercial or industrial land uses where property occupants or users have little to no opportunity for contact with soil. Under commercial or industrial land uses, the residents or occupants are considered the population with the greatest potential for exposure to soil. Remediation standards that are protective of commercial or industrial uses are considered restricted use standards.

With the exception of parks and open spaces, anticipated land uses in the RSP Area would be mixed commercial, residential and office uses. Currently, there are no plans for single-family residential development. Furthermore, the 2015 LUC states that, for properties covered by the LUC, where direct human exposure to Native Soil remains possible after construction, the Owner or Occupant should install, keep and maintain a top layer of clean soil to prevent exposure to such Native Soil, regardless of land use.

Development of the proposed projects would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes.

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As described in the Environmental Setting, DTSC concluded that these properties, as remediated and when used in compliance with the Environmental Restrictions of the 2015 LUC would not present an unacceptable risk to present and future human health or safety or the environment. Specifically, the Environmental Restrictions limit the type of development and actions that can be taken on the property. The RSPU also contains policies that fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1).

Some areas in the RSP Area are not covered by the 2015 LUC, because they are not owned by the applicant and/or still require remediation. Such areas are also required to comply with the relevant provisions and requirements of an approved SGMP (these areas are referred to as Non-Certified Areas in the SGMP). The following summarizes the impact associated with risk of exposure to contaminated soil and debris in Certified and Non-Certified Areas (see Figures 4.8-4 and 4.8-5).

When remediation is completed to DTSC remedial goals, DTSC would issue certifications of completion and record a LUC on the property. The LUC would limit uses of the property to those activities that are consistent with the implemented level of remediation, similar to what has been done for other portions of the RSP Area. LUC components could include the following:

1. Groundwater cannot be extracted without DTSC approval.

2. Industrial and commercial land uses, including construction and maintenance of utility corridors and street rights-of-way, are allowed under an appropriate management plan.

3. Landscaping is allowed provided that clean soil to appropriate depths is placed in areas where direct soil contact can occur.

4. Post-certification excavation or soil removal is not permitted without prior DTSC approval.

5. Environmental restrictions, which include implementation and compliance with the SGMP.

The RSP Area remediation process ensures that the remedial goals combined with the LUCs takes into account the mixed-use nature of the project to ensure the health and safety of construction workers and future occupants. The following summarizes the impact associated with risk of exposure to contaminated soil and debris in the RSP Area.

Certified Areas Owned by DVR

Certified Areas in the RSP Area include the Lagoon, Central Corridor, Car Shop Nine, Northern Shops Study Areas, and a portion of the Sacramento Station Study Area owned by the DRV. Development of these areas would be conducted in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP. The Environmental Restrictions require that any soils that are brought to the surface be managed in compliance with all applicable provision of the State and federal laws, and the approved SGMP. Additionally, the Environmental Restrictions limit activities associated with the extraction of groundwater. Because development of the Certified Area would be conducted in compliance with the Environmental Restrictions of the 2015 LUC and approved SGMP, the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, development of these areas would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potential significant** impact.

Non-Certified Areas Owned by DRV

Central Shops Study Area

Certification for Central Shops soil is scheduled for 2017, followed by a LUC. The LUC would limit uses of the property to those activities that are consistent with the implemented level of remediation. The LUC would also place restriction on the extraction of groundwater. Because development within the Central Shops Study Area would be required to comply with a LUC and an approved SGMP, the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, development of the Central Shops Study Area would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

Sims Metal Site

Although part of the Lagoon Study Area the portion of the Sims Metal site located within the RSP Area is not covered under the 2015 LUC. The Sims Metal site is undergoing a separate remediation process with DTSC as past uses at the site include industrial uses such recycling facility. Development of the Sims Metal site would be required to comply with a LUC and an approved SGMP. The LUC would limit uses of the property to those activities that are consistent with the implemented level of remediation complete on the site. The LUC would also place restriction on the extraction of groundwater. As a result, the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, development in the Lagoon Study Area would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

Manufactured Gas Plant Study Area and Northwest Corner

Soil remediation in the Manufactured Gas Plant Study Area and the Northwest Corner would be conducted in accordance with the 1988 Enforceable Agreement and the DTSC-approved Remedial Action Plans. If soils are not remediated to levels protective for unrestricted land uses the Remedial Action Plans may require a LUC for these areas. However, any development in the Manufactured Gas Plant Study Area and the Northwest Corner would be subject to the requirements of an approved SGMP which includes measures to reduce risk of exposure and protect health and safety. However, porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

Other Areas

Sacramento Station Study Area

The portion of the Sacramento Station owned by the DRV is covered under the 2015 LUC and the SGMP. Therefore, the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk.

Other areas within the Sacramento Station Study Area owned by Administrative offices of the Courts and City of Sacramento and would be developed in accordance with the restrictions in the Sacramento Station Covenant.[70] The Sacramento Station Covenant allows for industrial uses, commercial uses, and landscaped and paved areas without restriction. The Sacramento Station Covenant also includes restrictions on soil exaction and groundwater extraction.[71] Because development within the Sacramento Station Study Area would be accomplished in compliance with the Sacramento Station Covenant the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, development of the area would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

7th Street Corridor

In 2000, remediation activities for the 7th Street Corridor were deemed complete by DTSC. The 7th Street Corridor Covenant prohibits residential uses, hospitals, schools and childcare centers. Additionally, Environmental Restrictions of the 7th Street Corridor Covenant require a soil Management Plan and a Health and Safety Plan be prepared and approved by DTSC prior to any soil disturbance activities.[72] These measures would ensure that potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

West Jibboom Street Property

The RSP does not propose any new uses on the West Jibboom Street Property that would require future occupancy. Therefore, the potential exposure of future occupants to contaminated soil or groundwater would not present an unacceptable health risk. As previously discussed, comprehensive multi-phase soil and groundwater remedial investigations established that soil and groundwater impact boundaries do not extend to this property.[73] Never the less, past activities at this site could have contaminated underlying soil and/or groundwater. Although contaminated soil and groundwater would not be expected to be encountered, porous utility lines could be

70 Department of Toxic Substances Control, 2015. Land Use Covenant and Agreement, County of Sacramento, Portions of APNs 002-0010-049, 002-0010-052, 002-0010-056 and 002-0010-058, Specified Study Area within the Sacramento Railyards, September 30, 2015.

71 Department of Toxic Substances Control, 1994. Covenant and Agreement to Restrict use of Property, Sacramento Station site at the southern Pacific Transportation Company, Sacramento Locomotive Works, Sacramento, California, May 6, 1994.

72 Department of Toxic Substances Control, 2001. Covenant to Restrict Use of Property, Environmental Restrictions, 7th Street Corridor, Former Southern Pacific Transportation Company, Sacramento Locomotive Works, Sacramento County, California. June 14, 2001.

73 Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

infiltrated by unidentified contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potentially significant** impact.

Railyards Specific Plan Update Land Use Variant

Similar to the RSPU, development of the RSPU Land Use Variant would be required to comply with a LUC. Therefore, the discussion above would be the same for the RSPU Land Use Variant. The potential use of porous pipelines in areas with contaminated groundwater would be a **potentially significant** impact.

KP Medical Center

The KP Medical Center site is located primarily within the Northern Shops Study Area, which is covered by the 2015 LUC. As discussed above, development in this area must be conducted in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP. The RSPU also contains policies fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1). Therefore, operation of the KP Medical Center would not present an unacceptable health risk to future occupants associated with contaminated soils and groundwater. Development of the KP Medical Center would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potential significant** impact.

MLS Stadium

The MLS Stadium site is located within the Lagoon Study Area and Car Shop Nine Study Area, which is covered by the 2015 LUC and the SGMP. As discussed above, development in these study areas must be accomplished in compliance with the Environmental Restrictions of the 2015 LUC and the SGMP. The RSPU also contains policies fully protect human health and the environment through implementation of DTSC approved remedial action plans (Policy HAZ-4.1). Therefore, operation of the MLS Stadium would not present an unacceptable health risk to future occupants associated with contaminated soils and groundwater. Development of the MLS Stadium would include the installation of underground utility lines. Porous utility lines could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potential significant** impact.

Stormwater Outfall

During operation the proposed Stormwater Outfall would not be occupied. As a result, operation of the Stormwater Outfall would not present an unacceptable health risk to future occupants associated with contaminated soils and groundwater. As previously discussed, comprehensive multi-phase soil and groundwater remedial investigations established that soil and groundwater impact boundaries do not extend to this property.[74] Never the less, past activities at this site

[74] Stantec, 2016. Draft Supplement-Environmental Status Summary. Western Project Components of the Outfall Project [Supplemental Memorandum], June 1, 2016.

could have contaminated underlying soil and/or groundwater. Although contaminated soil and groundwater would not be expected to be encountered, porous utility lines associated with the Stormwater Outfall could be infiltrated by unidentified contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potential significant** impact.

Summary

The KP Medical Center, MLS Stadium, and a portion of the Stormwater Outfall are located where the Environmental Restrictions of the 2015 LUC and the SGMP are required to be implemented. Therefore, operation would not present an unacceptable health risk to future occupants associated with contaminated soils and groundwater. For the areas not covered by the 2015 LUC other existing or future LUC would require compliance with development restrictions. Therefore, risk of exposing future occupants to contaminated soil or groundwater would not present an unacceptable health risk. However, porous utility lines associated with all development could be infiltrated by contaminated groundwater or volatile contaminants in soil vapor that could contaminate water flowing through the pipes, resulting in a **potential significant** impact.

Mitigation Measure

Mitigation Measure 4.8-7 expands upon Mitigation Measure 6.5-2 on page 6.5-30 of the 2007 RSP EIR. This measure would be required for all development in the RSP Area.

Mitigation Measure 4.8-7 (RSPU, KPMC, MLS, SO)

a) In areas where the groundwater contamination has the potential to reach water, sewer or storm drainage pipelines due to fluctuations in the elevation of the groundwater table, or where volatile contaminants in soil vapor could enter porous utility lines, measures such as concrete trenches, membrane barriers and venting will be used to prevent infiltration in accordance with DTSC requirements.

b) Routine monitoring of the above areas shall be performed by the landowners and/or the City, reported to DTSC and Regional Water Board, and corrective actions implemented if the results indicate adverse change in water quality. For stormwater, the monitoring may be conducted through the City's MSR 4 program.

Impact Significance After Mitigation: Mitigation Measure 4.8-7 would ensure all appropriate measures are taken to minimize contaminated groundwater reaching water, sewer or storm drainage pipelines. With the implementation of Mitigation Measure 4.8-7, this impact would be reduced to a **less-than-significant** level.

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 projects 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.

Since the certification of the 2007 RSP EIR, soil remediation and/or certification has been completed for the majority of the RSP Area. As a result, the potential exposure to contaminated soils and debris is less likely than previously analyzed in 2007. The proposed projects would contribute to potential cumulative exposure associated with interference with remediation of the South Plume and Lagoon Groundwater and accidental or inadvertent release of hazardous substances during transportation. Each of these cumulative impacts is further discussed below. Impacts 6.5-11 and 6.5-12 of the 2007 RSP EIR are not further discussed in this section as the associated impacts are generally site-specific and would not result in a cumulative impact. Impacts 6.5-11 and 6.5-12 of the 2007 RSP EIR are located on pages 6.5-40 through 6.5-41.

Impact 4.8-8: The proposed projects in combination with development of other projects in the surrounding area known to contain, or could contain contaminated soil or groundwater, could present a hazard to construction workers if not properly managed.

Impact 6.5-10 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating to the RSP construction effects due to soil or groundwater contamination in combination with development on properties that are known to contain, or could contain contaminated soil or groundwater. This topic can be located on pages 6.5-39 and 6.5-40 of the 2007 RSP EIR.

Areas surrounding the RSP past and current uses have included industrial uses such as recycling facilities and metal scrap yards. Other uses could have included the use of underground storage tanks or other hazardous materials. Such uses could have resulted in soil or groundwater contamination and the potential exists for release of hazardous substances during construction and/or remediation of those sites. Groundwater and some soil remediation are ongoing within the RSP Area. Development of the RSP Area located in the Certified and Non-Certified Areas including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall (as shown in Figures 4.8-4 and 4.8-5), would occur in areas where the Environmental Restrictions of a LUC and the SGMP are required to be implemented. In the West Jibboom Street property and the portion of the Stormwater Outfall to be constructed on property currently owned by the California Department of Parks and Recreation, although contaminated soil and/or groundwater would not be anticipated to be encountered, because these areas are not currently covered by the requirements of a LUC or an approved SGMP, development could result in the increased exposure to unidentified contaminated soils or groundwater if not properly managed. Although considerable uncertainty exists regarding the construction schedules for the proposed projects as

well as other projects in the vicinity, exposure to contaminated soils or groundwater with those projects in combination with the proposed projects would be considered a temporary **significant cumulative** impact and the contribution of the proposed projects would be cumulatively considerable.

Mitigation Measure

Mitigation Measure 4.8-8 (RSPU, West Jibboom only, SO)

Implement Mitigation Measure 4.8-1.

Impact Significance After Mitigation: Mitigation Measure 4.8-8would minimize risk of exposure to previously unidentified soil and/or groundwater 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 or groundwater would be accomplished with applicable federal, State and local laws. Therefore, with implementation of Mitigation Measure 4.8-8 the contribution of the proposed projects to this cumulative impact would be less than considerable and this cumulative impact would be reduced to a **less-than-significant** level.

Impact 4.8-9: The proposed projects could contribute to cumulative dewatering activities that could interfere with remediation of the existing South Plume and Lagoon Groundwater.

Within the RSP Area there are two existing groundwater plumes that extend beyond the boundaries of the RSP Area, South Plume and Lagoon Groundwater (see Figure 4.8-2). As discussed in Section 4.5.1 Environmental Setting, the plumes contain contaminates of concern and are at various stages of remediation. The South Plume extends from the RSP Area beneath downtown Sacramento to approximately Q Street to the south, 5th Street to the west, and 12th Street to the east. Groundwater and soil vapor investigation and remediation are underway for the South Plume in accordance with the approved plans. The Lagoon Groundwater is mostly contained within the RSP Area; however does extend slightly north past North B Street. Projects in areas that overlie the existing South Plume and Lagoon Groundwater 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 north or south and/or closer to the ground surface, resulting in a **significant cumulative impact**.

Development of the RSP Area located in the Certified and Non-Certified Areas including the KP Medical Center, the MLS Stadium and the eastern portion Stormwater Outfall (as shown in Figures 4.8-4 and 4.8-5), would occur in areas where the Environmental Restrictions of a LUC and the SGMP are required to be implemented. Therefore, the risk of interfering with

groundwater remediation would be less than considerable. In those areas that have not been remediated and/or are still undergoing remediation that are not in the Certified or Non-Certified Area and, therefore not covered by the requirements of a LUC or he SGMP (West Jibboom Street, including a portion of the Stormwater Outfall), although contaminated soil and/or groundwater is not anticipated to be encountered, development could encounter unidentified contamination requiring remediation resulting in an increased risk of interfering with groundwater remediation and the contribution would be considerable.

Mitigation Measure

Mitigation Measure 4.8-9 (RSPU, West Jibboom only, SO)

Implement Mitigation Measure 4.8-1.

Impact Significance After Mitigation: Mitigation Measure 4.8-9 would minimize risk of exposure to previously unidentified soil and/or groundwater 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 or groundwater would be accomplished with applicable federal, State and local laws. Coordination with appropriate regulatory agencies would ensure that the public is not exposed to contaminated soil or groundwater as a result of the disruption of remediation activities. With the implementation of Mitigation Measure 4.8-9, the contribution of the proposed projects to this cumulative impact would be less than considerable and this cumulative impact would be **less than significant**.

Impact 4.8-10: The proposed projects 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.

Impact 6.5-13 of the 2007 RSP EIR found that the 2007 RSP would have a less-than-significant impact relating to the cumulative increases in the number of people who could be exposed to accidental or intentional release hazardous substances on rail lines and roadways. This topic can be located on pages 6.5-41 and 6.5-42 of the 2007 RSP EIR.

The transportation of hazardous materials associated with the RSPU, 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 RSPU's contribution would be less than considerable.

Mitigation Measure

None required.

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SECTION 4.9
Hydrology and Water Quality

This section of the EIR addresses potential effects to hydrologic resources in the Railyards Specific Plan Update (RSPU) area, including water quality, groundwater resources, flooding, and drainage. Site characteristics such as regional and local drainage, flooding conditions, and water quality are described. The potential of the proposed RSPU to degrade water quality, adversely affect groundwater resources and/or expose people and structures to flooding is evaluated.

Issues related to the generation of wastewater and urban storm drainage, and the capacity of the City's Combined Sewer and Stormwater System (CSS) and the Sacramento Regional Wastewater Treatment Plant (SRWTP) to handle flows generated by the proposed projects, are addressed in Section 4.13, Utilities and Service Systems. Groundwater remediation is addressed in Section 4.8, Hazards and Hazardous Materials.

For the purposes of this analysis, there would be no environmental effects related to seiche, tsunami or mudflow. The RSP Area is located far from the Pacific Ocean and other large bodies of water and historically has not been affected by tsunamis. In addition, the topography is flat and mudflows are unlikely. A seiche in the Sacramento River is theoretically possible. However, the risk of this event is considered very low because the river channel is not completely enclosed. Therefore, these issues are not discussed further in the SEIR.

NOP comment letters received relevant to this section included comments regarding the historical and ongoing remedial measures for contaminated groundwater (see Appendix B). A discussion of groundwater remediation can be found in Section 4.8, Hazards and Hazardous Materials. No other comments related to hydrology and water quality were received.

The analysis included in this section was developed based on information developed in the Specific Plan, the Railyards Stormwater Quality Management Plan,[1] the Railyards Drainage Master Plan,[2] City of Sacramento 2035 General Plan Update Master EIR, and other published technical reports, as indicated in the footnoted references.

Issues Addressed in the 2007 RSP EIR

Issues that were discussed in the 2007 RSP EIR include construction-related degradation of water quality, operation-related degradation of water quality, polluted runoff that could violate water

[1] Kimley-Horn and Associates, Inc., 2016. The Railyards Stormwater Quality Management Plan. June 2016.

[2] Kimley-Horn and Associates, Inc., 2016. The Railyards Drainage Master Plan. June 2016.

quality standards, interference with groundwater recharge, increased flooding risk, and the effects of using a cistern to capture and meter stormwater flows. These issues will be addressed in this section, with the exception of the cistern, which is no longer proposed. Instead, the RSPU proposes to construct a stormwater outfall into the Sacramento River, which was not planned or discussed in 2007.

4.9.1 Environmental Setting

The environmental setting for hydrology and water quality is described on pages 6.6-2 through 6.6-18 of the 2007 RSP Draft EIR. The information presented for the project site remains relatively unchanged since certification of the 2007 RSP EIR. The description of the cistern is no longer relevant, because a new outfall is now proposed instead. The following discussion is based on the 2007 RSP EIR setting, updated as needed to reflect changes that have occurred since 2007.

Regional Surface Water Resources

The City of Sacramento is located at the confluence of two major rivers, the Sacramento River and American River. The RSPU lies very close to the confluence, with the Sacramento River located just west of the site, while the American River parallels the northern boundary. The total length of the Sacramento River is approximately 327 miles. Its drainage area encompasses approximately 27,200 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 Delta-Central Sierra area to the south. The Sacramento River is the principal stream in the basin. 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 tributary creeks flow from the east and west.

The average runoff from the Sacramento River basin is estimated to be 22 million acre-feet per year. The melting snow pack in the Sierra Nevada maintains stream flow during most of the summer. The Sacramento River system experiences variations in water levels throughout the year. Two factors affecting the water levels are the amount of runoff entering the system from the rivers' watersheds and the amount of water being released from dams upstream. The downstream portion of the system is also subject to tidal action from the Sacramento-San Joaquin Delta (Delta). Finally, the mainstem of the Sacramento River and many of its tributaries are confined by a levee system along their streambanks. During periods of high flows, primarily in the winter, a system of bypass channels allows water to leave the mainstem channel and bypass the urbanized areas of the valley, thus reducing potential flood hazard. Chief of these in the project vicinity is the Yolo Bypass, which is located west of the Sacramento River.

The Sacramento River, beginning at the I Street Bridge and including all portions downstream, is considered part of the Sacramento-San Joaquin Delta. Flooding has historically been a problem for Sacramento, prompting the City to build levees beginning in the 1860s. The RSP Area is immediately upstream of the I Street Bridge and landside to the east bank of the river.

The American River drains the central portion of the Sierra Nevada from the crest near Lake Tahoe to the reservoir at Folsom Lake, and the secondary reservoir below it at Nimbus Dam. The American River basin drains an area of roughly 1,875 square miles. An average of 2.2 million acre-feet of runoff drains from the basin annually. The Lower American River comprises the 24-mile stretch of river below Nimbus Dam to the confluence. Flows in the Lower American River are controlled by releases from Folsom Dam and Nimbus Dam.[3]

Surface Water Quality

The Sacramento River has been classified by the Central Valley Regional Water Quality Control Board (CVRWQCB) as having numerous beneficial uses, including providing a municipal, agricultural, and recreational water supply. Other beneficial uses include freshwater habitat, spawning grounds, wildlife habitat, and navigation on the Sacramento River. Ambient water quality in the Sacramento River is influenced by agricultural drainage, drainage from historic and current mines, urban runoff, and industrial, municipal and construction discharges.

The Sacramento River Basin covers approximately 27,210 square miles and includes the entire area drained by the Sacramento River. For planning purposes, this includes all tributary watersheds that upstream of and including the Cosumnes River watershed and includes the closed basin of Goose Lake and drainage sub-basins of Cache and Putah Creeks. The principal streams are the Sacramento River and its larger tributaries, which include: the Pit, Feather, Yuba, Bear, and American rivers to the east; and Cottonwood, Stony, Cache, and Putah Creeks to the west. Major reservoirs and lakes include Shasta, Oroville, New Bullards Bar, Folsom, Clear Lake, and Lake Berryessa.[4]

Currently, there are reaches of the Sacramento River through the Sacramento urban area that are considered impaired and included in the federal Clean Water Act (CWA) Section 303(d) list of impaired and threatened waters for California. Section 303(d) establishes the total maximum daily load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify streams in which water quality is impaired (affected by the presence of pollutants or contaminants) and to establish the TMDL or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects. The 303(d) list breaks up the Sacramento River into four sections, Keswick Dam to Cottonwood Creek, Cottonwood Creek to Red Bluff, Red Bluff to Knights Landing, and Knights Landing to the Delta. All sections of the Sacramento River are listed on the 303(d) list for unknown toxicity, and Red Bluff to the Delta is also listed for mercury. Mercury is primarily a legacy of gold mining.

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

[3] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report (SCH No. 2012122006)*. Certified March 3, 2015. pp. 4.7-1 – 4.7-18.

[4] Central Valley Regional Water Quality Control Board. 2015. Water Quality Control Plan for the Sacramento and San Joaquin River Basins. Revised Pages, pp. I-1.00. June 2015.

wastewater treatment plants, stormwater runoff, agriculture, recreation activities, mining, and timber harvesting.

Urban Runoff Water Quality

Constituents found in urban runoff vary as a result of differences in rainfall intensity and occurrence, geographic features, land uses, as well as vehicle traffic and percent of impervious surface. In the Sacramento area, there is a natural weather pattern of little to no precipitation from May to October. During this seasonal dry period, pollutants contributed by vehicle exhaust, vehicle and tire wear, crankcase drippings, spills, and atmospheric fallout accumulates within the urban watershed. Precipitation during the early portion of the wet season (November to April) washes these pollutants into the stormwater runoff, which can result in elevated pollutant concentrations in the initial wet weather runoff. This initial runoff with peak pollutant levels is referred to as the "first flush" of a storm event or events.

Stormwater discharge monitoring data have been collected from the Sacramento urban area monitoring stations since 1990. From this monitoring, the following six pollutants have been identified as “target pollutants:” mercury, diazinon, chlorpyrifos, lead, copper, and fecal coliform. These pollutants were determined based on their toxicity, potential of exceeding water quality criteria, ability to accumulate in humans and animals, or listed as a pollutant impairing water bodies by the State Water Resources Control Board.

Groundwater Use

The City of Sacramento has historically relied on groundwater to satisfy a portion of its demand. The City overlies two subbasins of the Sacramento Valley Groundwater Basin (the North American and South American subbasins). The two subbasins are separated from one another, and recharged from the American River. The City is one of many water purveyors that use groundwater from these subbasins. The City operates 25 municipal supply wells and 5 irrigation wells in the North American subbasin, and operates 2 municipal supply wells and 9 irrigation wells in the South American subbasin. Although the City pumps groundwater from both subbasins, approximately 17,772 AF, or 96 percent, was pumped from the North American subbasin, while only 665 AF was pumped from the South American subbasin for potable water consumption in 2010.[5]

Groundwater Quality

This section if focused on the South American subbasin, because groundwater quality within this subbasin is separated from that of the North American subbasin, except at much greater depths. The South American subbasin covers approximately 248,000 acres (388 square miles) and lies within the southernmost extent of the Sacramento Valley Basin, extending into northern portions of the Sacramento-San Joaquin Delta. Except for areas of localized groundwater contamination

[5] City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan.* October 2011, Carollo Engineers.

(see Section 4.8, Hazards and Hazardous Materials), groundwater underlying the City's service area generally meets primary and secondary drinking water standards for municipal water use, and is described as being calcium magnesium-bicarbonate type water, with minor fractions of sodium-magnesium bicarbonate. Due to high concentrations of iron and manganese in the lower aquifer system, the upper aquifer system is usually the preferred source of groundwater. The lower aquifer system also contains higher concentrations of total dissolved solids (TDS) than the upper aquifer. The TDS concentration in most wells is within secondary drinking water standards, but varies quite significantly throughout the area (from 21 to 657 milligrams per liter (mg/L), with an overall average of 221 mg/L). TDS concentrations exceed 2,000 mg/L at depths of approximately 1,200 feet or greater. However, most wells do not extend into this poorer quality groundwater.[6]

RSP Area

The RSP Area once contained natural water features. A northern water body was known as Willow Lake, and a southern water body was called Sutter Lake, Sutter Slough, or China Lake. These lakes and adjacent marshland covered the entire RSP Area. Both lakes were connected to the Sacramento River through a narrow channel. Over time, the lakes and marshes were filled to accommodate development. No natural water features remain within the RSP Area.

The RSP Area has been graded and improved during varying stages of soil remediation. In general, the site is relatively flat sloping gently to the west with some intermittent soil stockpiles and excavated depressions throughout. Elevations in the project site range from 10 to 35 feet. Excavated materials from the site have been stockpiled at the north property line. This area has been designated as the location of the future Vista Park. Elevations of Vista Park range from 35 to 50 feet. Also, an embankment borders the northern boundary of the RSP Area extending from the proposed Vista Park site on the west to 12th Street on the east along the south edge of North B Street. This embankment separates the RSP Area from areas to the north. The embankment elevations range from 35 to 40 feet. Historically the north half of the embankment, in addition to a strip of property adjacent to the west side of 7th Street south of the UPRR tracks, drain away from the site due to topography.[7] A flood gate was installed when 7th Street was constructed through the berm with an elevation of approximately 34.

Portions of the RSP Area are located in an area of Sacramento served by the CSS, a collection and conveyance system designed to convey domestic sewage, commercial and industrial wastewater, and surface stormwater runoff in a single pipeline for treatment at a regional wastewater treatment facility. The CSS is a legacy system that was designed to provide both stormwater and sanitary sewer service (combined in a single pipeline system) within this area.

6 City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan.* October 2011, Carollo Engineers.

7 Kimley-Horn and Associates, Inc., 2016. The Railyards Drainage Master Plan. June 2016.

While the RSP Area is in a portion of downtown that conveys flows into the 7th Street and 3rd Street trunk lines, due to site remediation surrounding the historic shops and relocation of the UPRR tracks, all connections between the shops and the CSS on 7th Street have been severed. Stormwater from the shops is currently conveyed under the UPRR tracks to a detention basin at the southwest corner of the shops and then from the detention basin to the CSS at 3rd and I streets.

The development of 7th Street north of the UPRR tracks created a series of ponds to collect runoff from the 7th Street right-of-way. Those ponds direct runoff north to North B Street where it discharges into the City's stormwater Sump 111. The 7th Street basins prevent surface runoff east of 7th Street from draining west. A temporary retention pond was also constructed south and adjacent to Railyards Boulevard to capture runoff from impervious areas west of 7th Street and north of the UPRR tracks. The lined retention pond was designed with a capacity to capture flows from the 10-day, 100-year storm, with a maximum storage capacity of 12 acre feet, and to eliminate the water through evaporation. In addition, stormwater conveyance pipelines were installed in 5th and 6th streets, north of UPRR, which also drain to the Railyards Boulevard trunk line and retention basin. South of UPRR an additional detention basin was constructed west of 5th Street to mitigate the increased runoff from roadway and private lots south of the tracks. A flow control structure was installed in 5th Street, north of H Street, to control flows entering the Basin 52 separate stormwater system. **Figure 4.9-1** shows the existing drainage features and infrastructure in the project site.[8]

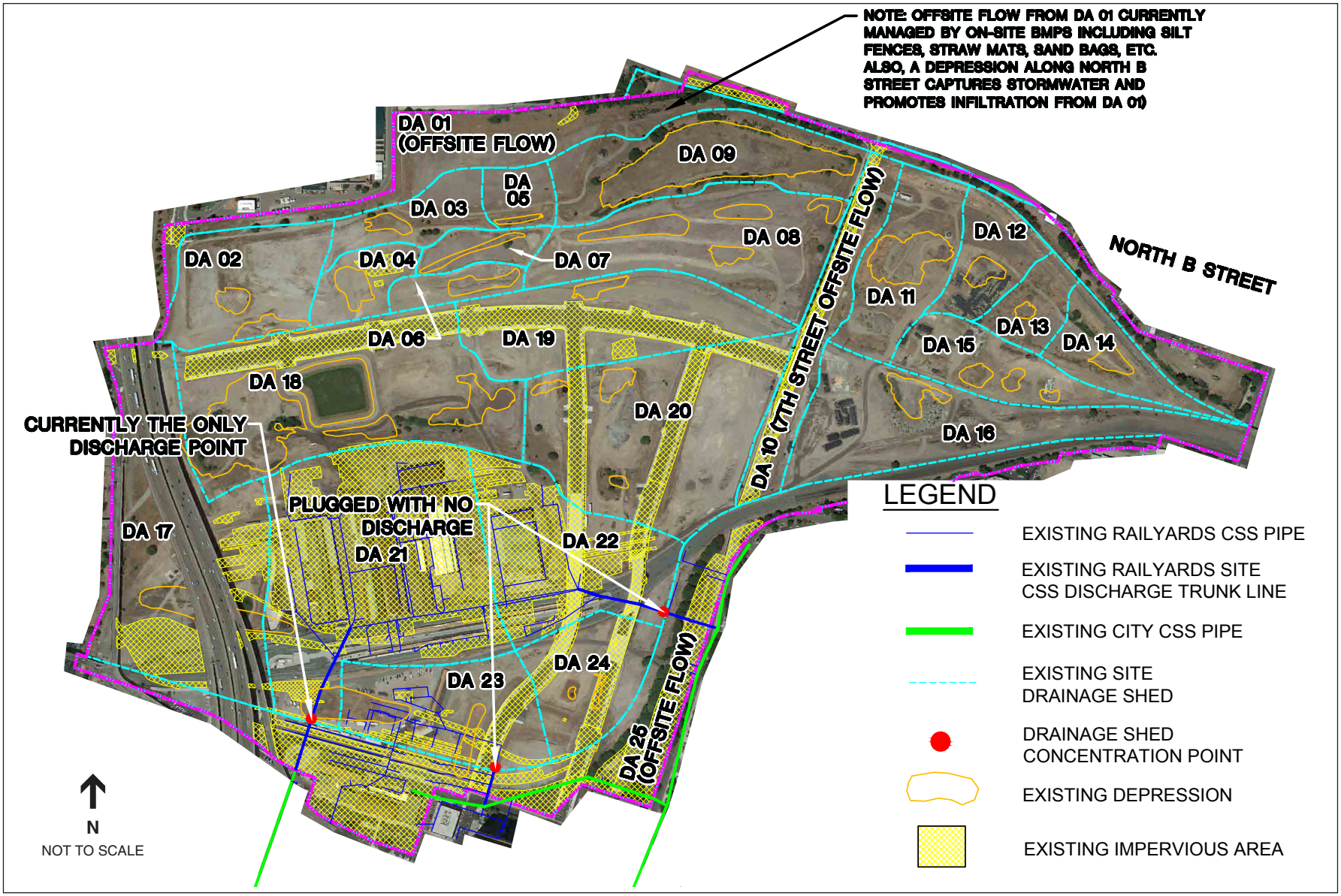
Flooding

The majority of the RSP Area is outside the 100-year floodplain designation, largely due to existing topographic elevations in the RSP Area with respect to the water surface elevation during high water flows events. As shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Sacramento in **Figure 4.9-2**, a majority of the RSPU is classified as Zone X, or "areas determined to be outside the 500-year flood floodplain." A small portion of the RSPU is in a Shaded Zone X, which is defined as "areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood."[9] Historical flooding in the project vicinity generally occurred along the Sacramento and American rivers. Improvements to the levees along these rivers have reduced the risk of flooding in the City; however, additional improvements are scheduled for completion by 2025 for the levee system, in which the RSP Area is located, to meet the State's criteria in Senate Bill (SB) 5 for urban level of flood protection from a 200-year event.

In addition to levees along the Sacramento and American rivers, flood protection is provided by coordinated operation of upstream reservoirs and dams, including Shasta Dam and Folsom Dam, respectively. The RSP Area is mapped within the dam inundation zone in the event of failure at Folsom Dam. A railroad embankment built on the northern boundary of the RSP Area, along

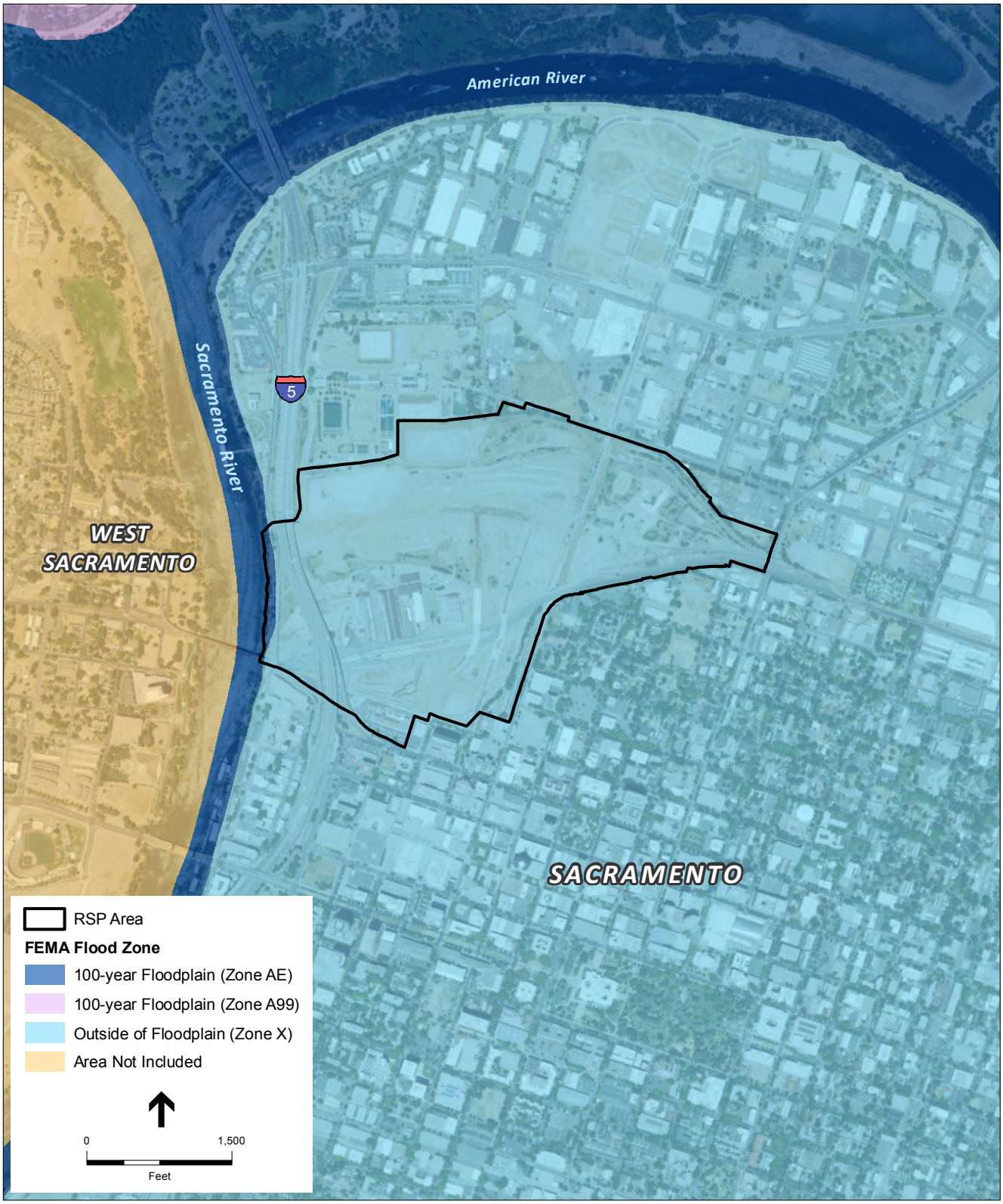
8 Kimley-Horn and Associates, Inc., 2016. The Railyards Drainage Master Plan. June 2016.

9 Federal Emergency Management Agency. Floodplain Map. FEMA, 2015.



SOURCE: ESA 2015

Figure 4.9-1
Existing Stormwater Drainage Features



SOURCE: FEMA, 2015; ESA, 2016

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Figure 4.9-2

FEMA Floodplain Map

North B Street, was once considered a flood prevention facility, but was never certified or constructed under federal standards to serve as a legitimate flood protection levee. FEMA had credited this structure, along with the UPRR tracks embankment, with providing added protection from flooding for areas within the RSP Area, as evidenced on the current FEMA floodplain map.

A recent study conducted for the City found that while the embankment provides some protection of the RSP Area with the 7th Street flood gates closed, the structure was likely built with sandy soils from the American River that would not prevent leakage through the embankment if there were flooding in the River District. Further, the study found that the embankment could provide extra time for evacuation of areas south of the RSP Area only under conditions of failure or overtopping of levees along the American River.[10]

Groundwater

Groundwater underlying the RSP Area has been reported at depths ranging from elevation 2 to elevation 18 feet mean sea level (msl).[11] The depth to groundwater is primarily determined by proximity to the Sacramento River, and is related to the river stage elevation. Groundwater in the RSP Area is currently not in use. Groundwater quality within the RSP Area has been impacted by operations and disposal of wastes in the past due to former industrial activities in various areas of the RSP. This led to the pollution of groundwater beneath the RSP, and down gradient primarily in the south easterly direction. Primary pollutants in the groundwater include a range of contaminants such as heavy metals, VOCs, SVOCs, and petroleum hydrocarbon. This pollution has further impaired the beneficial uses of this water resource.

As described in Chapter 4.8, soil remediation at the RSP has been primarily completed with certification issued by DTSC. Remediated areas within the RSP are considered suitable for development. Groundwater beneath the RSP is divided into two plumes: South Plume and Lagoon Groundwater. Both plumes are currently undergoing remediation by Union Pacific. Even though remediation has been completed in some areas and will occur in the near-term for others, it is possible that residual chemicals could remain in site soils or groundwater where they could be encountered during construction. For more discussion of groundwater contamination, please see Section 4.8, Hazards and Hazardous Materials.

KP Medical Center

The KP Medical Center would be located on an approximately 18-acre parcel near the western end of the RSP Area, north of Railyards Boulevard and west of 5th Street. Like most of the RSP Area, the KP Medical Center site is provided 500-year protection primarily by existing levees and secondarily by the North B Street embankment and elevation of the site. This land is currently undeveloped and has no impervious surfaces. Stormwater on this site percolates into the soil.

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10 GEI Consultants, Inc., February 15, 2016. Technical Memorandum: Assessment of the North B Street Embankment, p. 3.

11 ERM-West, Inc., 2015. 2015 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report, August 28, 2015. p. 33.

Groundwater levels and quality in the KP Medical Center site are similar to that of the RSP Area as a whole.

MLS Stadium

The proposed MLS Stadium would be located on an approximately 13-acre parcel near the eastern end of the Specific Plan project site, north of Railyards Blvd, between 8th and 10th streets, and south of the former railroad embankment that forms the northern boundary of the RSP Area. Like most of the RSP Area, the MLS Stadium site is provided 500-year protection primarily by existing levees and secondarily by the elevation of the site. This land is currently undeveloped and has no impervious surfaces. Stormwater in this area collects in depressions within or adjacent to the site where it evaporates and percolates into the soil. Detention ponds located adjacent to 7th Street collect stormwater from the road right of way where it is discharged into the City's stormwater Sump 111. Groundwater levels and quality in the MLS Stadium site are similar to that of the RSP Area as a whole.

Stormwater Outfall

The Stormwater Outfall would be located at the western boundary of the RSP Area, under the I-5 viaduct immediately south of Railyards Boulevard. The outfall structure will be on the waterside of the existing project levee along the Sacramento River bank. The discharge pipes will be constructed from the new pump station (located east adjacent to the I-5 viaduct) through the project levee to the outfall structure. This land is currently undeveloped and has no impervious surfaces, except for Jibboom Street and a recreational trail.

4.9.2 Regulatory Setting

The 2007 RSP Draft EIR summarizes applicable regulations on pages 6.6-12 through 6.6-18. The following federal, State and local regulations and plans associated with hydrology and water quality updates the information provided in the 2007 RSP Draft EIR.

Federal

Clean Water Act and Associated Environmental Compliance

Several sections of the CWA pertain to regulating impacts on waters of the United States. The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and specifically under Section 404 (Discharges of Dredge or Fill Material) of the act. Section 401 (Certification) specifies additional requirements for permit review, particularly at the state level.

Section 303

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne). Section 303(d) of the CWA established the TMDL process to guide the application of state water quality standards (see discussion of state water quality standards

below). To identify candidate water bodies for TMDL analysis, a list of water quality–limited streams was generated. These streams are impaired by the presence of pollutants, including sediment, and are more sensitive to disturbance. Section 303(d) listing associated with water bodies in the RSPU has been described in the environmental setting above.

Section 401

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States obtain a water quality certification (or waiver). Water quality certifications are issued by RWQCBs in California. Under the CWA, the state RWQCB must issue or waive Section 401 water quality certification for the project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States and imposes project-specific conditions on development. A Section 401 waiver establishes conditions that apply to any project that qualifies for a waiver.

Section 402

The 1972 amendments to the Federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (the State Water Board and RWQCBs) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and non-point-source discharges to waters of the United States.

The State Water Board issues both general and individual permits for discharges to surface waters, including for both point-source and non-point-source discharges. In response to the 1987 amendments, the EPA developed the Phase I NPDES Storm Water Program for cities with populations larger than 100,000, and Phase II for smaller cities. In California, the State Water Board has drafted the General Permit for Discharges of Storm Water from Municipal Separate Storm Sewer Systems (MS4 General Permit). The City of Sacramento has coverage under the Phase I MS4 General Permit issued by the CVRWQCB, which is discussed in more detail below.

Section 404

Dredging and placement of fill materials into the waters of the United States is regulated by Section 404 of CWA, which is administered by the U.S. Army Corps of Engineers (USACE).

Section 408

Section 408 regulates the modification or alteration of federal project levees or other flood management structures and improvements, unless otherwise permitted by the USACE through the Central Valley Flood Protection Board (CVFPB).

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 permit that applies to activities in the City of Sacramento are described under local regulations below.

Rivers and Harbors Act and Associated Environmental Compliance

The Rivers and Harbors Act regulates placement of fill and structures in navigable waterways. The permit program, regulated under Section 10 of the Act, is administered by the USACE. In practice, permitting is combined with CWA Section 404 permitting. A Section 404/10 permit would be required for construction of the proposed marina.

Floodplain Development

The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on hydrologic and hydraulic studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMS), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR).[12] 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.

[12] Code of Federal Regulations, 2002. *Title 44, Emergency Management and Assistance, Part 60, Criteria for Land Management and Use*. October 1, 2002.

State

Discharges from the RSPU are subject to State water quality laws and regulations. The CVRWQCB is responsible for preparing a water quality control plan (basin plan) that identifies beneficial uses of the Sacramento River and its tributaries and also for preparing water quality objectives for the protection of beneficial uses. Numerical and narrative criteria are contained in the basin plan for key water quality constituents, including: dissolved oxygen (DO), water temperature, trace metals, turbidity, suspended material, pesticides, salinity, radioactivity, and other related constituents. The Basin Plan criteria are applied through the Phase I MS4 General Permit issued by the CVRWQCB to cover stormwater discharges from activities in the City, including those from development.

On April 7, 2015, the State Water Board adopted an Amendment to the State's Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries that added Part 1 Trash Provisions (the "Trash Amendment"). (See http://www.waterboards.ca.gov/water_issues/programs/trash_control/.) The City's stormwater collection system (MS4) is subject to the requirements set forth in the Trash Amendment. A key element of the Trash Amendments is a land-use based compliance approach that targets high trash generating areas, such as high density residential (10 unit/acre or greater), industrial, commercial, mixed urban, and public transportation land uses (referred to in the Trash Amendment as "Priority Land Uses"). Projects that include Priority Land Uses will be required to comply with the Trash Amendments by implementing appropriate measures and/or controls as determined by the City's Director of Utilities or designee, and these measures shall be included each project's improvement plans.

Sustainable Groundwater Management Act

The Department of Water Resources (DWR) has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA). Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.

Porter-Cologne Water Quality Control Act Overview

Porter-Cologne, passed in 1969, articulates with the federal CWA (see "Clean Water Act" above). It established the State Water Board and divided the state into nine regions, each overseen by an RWQCB. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 402, and 303(d). In general, the State Water Board manages both water rights and statewide regulation of water quality, while the RWQCBs focus exclusively on water quality in

their regions. The Sacramento River basin is under the jurisdiction of the CVRWQCB. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff associated with Construction Activity (General Construction Permit CVRWQCB Order No. 2012-0006-DWQ, NPDES No. CAS000002), provided that the total amount of ground disturbance during construction is one acre or more. The CVRWQCB requires the implementation of the General Construction Permit within the City of Sacramento. Coverage under a General Construction Permit requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP) and notice of intent (NOI). The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a best management practices (BMPs) monitoring and maintenance schedule. The NOI includes site specific information and the certification of compliance with the terms of the General Construction Permit.

Dewatering Activities

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. R5-2013-0074, 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 and meet the effluent limitations provided in the order for pH, turbidity, total suspended solids, and biological oxygen demand. 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. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. Impacts associated with construction dewatering are addressed entirely within Section 4.8, Hazards and Hazardous Materials.

Stormwater Discharges

The CWA mandates permits for municipal stormwater discharges. The City of Sacramento has coverage under a MS4 Permit. This permit requires that controls be implemented to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and other measures as appropriate. As part of permit compliance, the City has prepared a Stormwater

Quality Improvement Plan (SQIP), which outlines the requirements for municipal operations, industrial and commercial businesses, illegal discharges, construction sites, planning and land development, public education and outreach, and watershed stewardship. These requirements include multiple measures to control pollutants in stormwater discharge. New development under the proposed project would be required to follow the guidance contained in the latest editions of the City's Stormwater Quality Design Manual.

California Department of Water Resources

On February 24, 2006, Governor Arnold Schwarzenegger declared a state of emergency for California's levee system. Soon after, he signed Executive Order S-01-06 directing the California Department of Water Resources (DWR), with the assistance of the USACE, to develop a State Levees Team that would identify and repair eroded levee sites on the state-federal project levee system to prevent catastrophic flooding and loss of life. A total of 33 critical erosion sites were identified on the levee systems in the northern Central Valley. The 29 identified critical erosion sites are located in six counties: Colusa, Sacramento, Solano, Sutter, Yolo, and Yuba. These critical erosion sites were repaired in 2007. As part of its mission, DWR has responded to requests from various local agencies to survey and document erosion damage at a number of additional proposed sites. DWR has committed to assisting local agencies in determining the best way to accomplish any needed repairs, the funding mechanisms available, and the responsible agency to take the lead.

Central Valley Flood Management

The Central Valley Flood Management Planning (CVFMP) Program was launched by DWR in 2008 and is managed by the Division of Flood Management's Central Valley Flood Planning Office (CVFPO). The Central Valley Flood Protection Plan (CVFPP) sets forth a plan for sustainable flood management and investment to improve flood risk management in the Central Valley through use of the State Plan of Flood Control (SPFC) facilities. Following adoption of the CVFPP in 2012, DWR began refinement of the CVFPP recommendations via the Basin-Wide Feasibility Studies, the Regional Flood Management Planning, and the Central Valley Flood System Conservation Strategy. The next update of the CVFPP is scheduled for completion in 2017. Implementation of certain CVFPP actions has already begun and will be expanded after the 2017 Update.

The RSPU 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.[13] In addition, the passage of SB 5 effectively set a higher flood protection threshold for urban areas by requiring a

[13] California Department of Water Resources, 2013. *Central Valley Flood Management (CVFMP) Program.* http://www.water.ca.gov/cvfmp/. Accessed September 13, 2013.

minimum of 200-year protection by 2025.[14] To meet the requirements if SB 5, the City prepared the Comprehensive Flood Management Plan in February 2015.

Further, the CVFPB has the responsibility of regulating encroachment that could affect the federal flood management system, as maintained by local flood agencies (i.e., SAFCA). As stated in the California Code of Regulations, Title 23, Article 1, Section 2(b), "the area of the Board's jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin rivers, and the Tulare and Buena Vista Basins." Because the proposed projects would be located on and within the flood control right-of-way for the levee along the Sacramento River, approval for encroachment by the CVFPB is required. The approval process by the CVFPB is contingent on approval of the 408 permit by USACE mentioned previously.

Local

City of Sacramento General Plan

The City of Sacramento 2035 General Plan adopted the following goals and policy measures that pertain to the impacts evaluated in this section (urban runoff water quality, construction dewatering, and wastewater discharges).

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 4.1.6 **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 (e.g., cluster development), 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.

[14] California Water Code. *Central Valley Flood Protection, Section 9600 –9651*.

ER 1.1.5 **Limit Stormwater Peak Flows.** 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 **Floodplain Capacity.** The City shall preserve urban creeks and rivers to maintain existing floodplain capacity.

EC 2.1.8 **Floodplain Requirements.** The City shall regulate development within floodplains in accordance with State and Federal requirements and maintain the City's eligibility under the National Flood Insurance Program.

EC 2.1.11 **New Development.** The City shall require evaluation of potential flood hazards prior to approval of development projects and shall regulate development in urban and urbanizing areas per state law addressing 200-year level of flood protection.

EC 2.1.14 **Levee and Floodway Encroachment Permit.** The City shall require applicants to secure an encroachment permit from the Central Valley Flood Protection Board for any project that falls within the jurisdiction regulated by the Board (e.g., levees, designated floodways).

EC 2.1.15 **Levee Setbacks for New Development.** The City shall require adequate setbacks from flood control levees consistent with local, regional, State, and Federal design and management standards.

EC 2.1.18 **Design and Operation of Critical Facilities.** The City shall require that critical facilities (e.g., emergency command centers, communication facilities, fire and police stations) and large public assembly facilities be designed to mitigate potential flood risk to ensure operation during a flood event. The City shall encourage non-City critical facilities (e.g., schools and County, State, and Federal buildings) be designed in a similar fashion.

EC 2.1.20 **Roadway Systems as Escape Routes.** The City shall require that areas protected from flooding by levees be designed to provide multiple escape routes for residents and access for emergency services in the event of a levee or dam failure.

EC 2.1.21 **Unobstructed Access to Levees.** The City shall provide unobstructed access, whenever feasible, on City-owned land to levees for maintenance and emergencies and require setbacks and easements for access to levees from private property.

As discussed below and in Impacts 4.13-1 through 4.13-8, development of the proposed projects, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would be required to comply with City stormwater system design standards, including for collection, discharge, and water quality. In addition, the City requires that a project-specific stormwater design plan be submitted prior to development. With implementation of City standards, the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would be consistent with the General Plan goals and polices.

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 Phase I MS4 Permit (CVRWQCB Order No. R5-2015-0023, NPDES Permit No. CAS082597) that was re-issued on April 17, 2015. 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.[15]

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)[16] 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.[17] 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 following are required items for each of the local permitting agencies as specified in the new development element provisions of the MS4 permit:

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15 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 to 1-16.

16 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.

17 Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, Roseville, Sacramento and the Sacramento County. 2007. *Stormwater Quality Design Manual for the Sacramento and South Placer Regions.* May 2007. pp. 1-1 to 1-8.

- 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 expected to be approved in 2016. The HMP includes hydromodification management exemption criteria that apply to this project, but has not been approved by the CVRWQCB yet.

Dewatering

All new groundwater discharges to the CSS or separated sewer system are 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 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.

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 the Sacramento County Regional Sanitation District (RegionalSan) and CVRWQCB-approved levels. All groundwater discharges to the sewer must be granted a RegionalSan discharge permit. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. Impacts associated with construction dewatering are addressed entirely within Section 4.8, Hazards and Hazardous Materials. Impacts associated with construction dewatering and contaminated groundwater are addressed in Section 4.8, Hazards and Hazardous Materials.

Wastewater Discharges

Chapter 13.08 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

RegionalSan. Section 13.08.040 of the Sacramento City Code identifies specific waters, wastes, and substances that may not be discharged to the sewer.

Any discharge into the CSS must have a Sewer Use Questionnaire on file with the RegionalSan, which would apply to the Specific Plan project. The RegionalSan has adopted a Sewer Use Ordinance that regulates the use of public sewers connected to the SRWTP. The wastewater discharged from the SRWTP to Sacramento River is regulated under a NPDES permit issued by the RWQCB. 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 business. Impacts associated with capacity of the CSS and the RegionalSan are addressed in Section 4.13, Utilities.

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.

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.

Sacramento Flood Control Agency

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 area levees nearly collapsed under the strain of the storm. In response, the City of Sacramento, the County of Sacramento, the County of Sutter, 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. SAFCA's 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.

4.9.3 Analysis, Impacts, and Mitigation

Significance Criteria

The following significance criteria were identified in the 2007 RSP Draft EIR, and are used in this analysis. These criteria are also similar to the City's 2035 General Plan EIR and Initial Study Checklist.

This EIR assumes implementation of the proposed project would have a significant impact related to geology, soils, and seismicity if it would:

- Substantially degrade water quality and violate any water quality 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;
- Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood;
- Expose people or property to flood hazards; or

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Methodology and Assumptions

Analysis of potential hydrology and water quality impacts is based on review of the RSPU design and intended uses and information developed by the applicant's engineer to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section.

Impacts on surface and groundwater quality were analyzed by reviewing existing groundwater and surface water quality reports that pertain to the RSP Area, identifying existing onsite ground and surface waters, including the depth to groundwater, and evaluating existing and potential sources of water quality pollutants based on the types of land uses and operational activities in the RSPU. Additionally, the applicability of federal and state regulations, ordinances, and/or standards to surface and groundwater quality of the RSP Area and subsequent receiving waters were assessed. Potential impacts from implementation of the RSPU were determined by evaluating whether development of the RSPU land uses would exceed the thresholds of significance outlined above.

Impacts on water quality are assessed as a function of potential pollutant types, concentrations, and load (effects of flow volume changes). These are evaluated qualitatively because specific design characteristics and land uses could affect the amount, type, and susceptibility to runoff of potential pollutants.

Issues Not Discussed in Impacts

This section addresses all of the issues identified in the Significance Criteria, and addressed in the 2007 RSP EIR Hydrology and Water Quality section.

Impacts and Mitigation Measures

Impact 4.9-1: The proposed projects could degrade water quality during construction.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts with respect to water quality on pages 6.6-19 to 6.6-21, and found that earth-disturbing construction activities could substantially increase the potential for soil erosion and sedimentation in runoff discharging from the site during a rainstorm. Construction equipment would have the potential to leak polluting materials, including oil and gasoline, which could pose a threat to surface or groundwater quality. Through stormwater runoff, these sediments and contaminants could be transported to the Sacramento River and its downstream drainages and water bodies. However, the EIR found that the erosion, siltation, and discharges of construction-related hazardous materials could be minimized by compliance with NPDES requirements and implementation of a Spill Prevention and Control Program (SPCP).

Similar to the 2007 RSP EIR, construction of the RSPU would result in land-disturbing activities such as grading, excavation, and trenching for utility and infrastructure installation. When portions of the RSPU are excavated or otherwise disturbed by construction activities, the potential for soil erosion and sedimentation in runoff discharging from the site would substantially increase during a rainstorm. In addition, construction equipment would have the potential to leak polluting materials, including oil and gasoline. Improper use of fuels, oils, and other construction-related hazardous materials such as pipe sealant may also pose a threat to surface or groundwater quality. Through stormwater runoff, these sediments and contaminants may be transported to the Sacramento River and its downstream drainages and water bodies.

Although earth-disturbing activities associated with construction of the RSPU would be temporary, on- or offsite soil erosion, siltation, discharges of construction-related hazardous materials could degrade downstream surface waters. As discussed in detail below, compliance with existing state and City regulations would ensure that these activities would not substantially degrade water quality.

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 in areas of contaminated groundwater are addressed in section 4.6, Hazards and Hazardous Materials.

As discussed in the Regulatory Setting above, the proposed projects are required to comply with a number of regulations designed to reduce or eliminate construction-related water quality effects, including the NPDES General Construction Permit; 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 NOI filed with the CVRWQCB. After approvals of coverage under the General Construction Permit, the erosion and sediment control plan, and the SWPPP are developed, 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 the City-approved and contractor prepared 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. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. A project-specific permit is required because the RSP Area is located above areas of contaminated groundwater. Impacts associated with construction dewatering and contaminated groundwater are addressed entirely within section 4.8, Hazards and Hazardous Materials.

In light of the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment 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 CVRWQCB or City objectives.

For the above reasons, adherence to applicable regulations and standards would reduce water quality impacts to **less-than-significant levels**. This impact would be the similar to Impact 6.6-1 of the 2007 RSP DEIR.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be similar to the RSPU impact described above, because the same amount of ground would be disturbed, and a similar level of development would occur. As with the RSPU, implementation of regulatory measures would prevent substantial degradation of water quality, this impact would be **less than significant**.

KP Medical Center

Construction activities within the KP Medical Center site would be similar to those discussed above for the RSPU, but with a much-reduced footprint. As discussed above, 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. Considering the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be **less than significant**.

MLS Stadium

Construction activities within the MLS site would be similar to those discussed above for the RSPU, but with a much-reduced footprint. As discussed above, 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. Considering the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be **less than significant**.

Stormwater Outfall

The offsite Outfall would involve construction adjacent to the Sacramento River. Waterside construction would require more stringent measures to prevent contaminated runoff directly into the river. Construction activities within the Stormwater Outfall site would be similar to those discussed above for the RSP Area, but with a much reduced footprint and include in-water construction efforts. As discussed above for the RSP Area, 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. Compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be less than significant. As with the other components in the RSP Area, regulatory compliance would prevent the substantial degradation of water quality during project construction, and this impact would be **less than significant**.

Summary

Compliance with existing regulatory framework that addresses construction impacts on water quality from development pursuant to the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less than significant** impacts.

The magnitude of this impact is the same as that described in Impact 6.6-1 in the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.9-2: Operation of the proposed projects could generate new sources of polluted runoff.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts with respect to polluted runoff and waste discharge requirements for receiving waters on pages 6.6-21 to 6.6-22, and found that the RSP would result in an increase in impervious surfaces and would increase stormwater and non-stormwater runoff entering the Sacramento River and CSS compared to existing conditions. The EIR outlined a drainage concept plan based on the use of a gravity system of pipelines and inlets that would drain to an underground detention basin, referred to as a cistern. The cistern would have stored approximately 27 acre-feet of water and would be pumped at about five cubic feet per second rate into the CSS. The EIR found that post-project runoff would contain varying types and amounts of chemical constituents typical of urban runoff, such as pesticides, metals, and fecal coliform.

These activities were required to meet the City's NPDES Permit requirements, which would include implementation of BMPs to maximize reduction of the pollutants of concern. The 2007 RSP EIR discussed implementation of a mitigation measure to ensure that the cistern would meet water quality standards set by the City and the CVRWQCB. However, this mitigation measure is no longer applicable because the cistern was not built and is not proposed as part of the RSPU. The RSPU proposes construction of an outfall to accommodate the needs of the Railyards stormwater drainage system and to meet the requirements of the City and relevant regulatory agencies. Once built, the Stormwater Outfall would be sized to accommodate all stormwater runoff from the RSP Area, pursuant to City design standards.

However, initial project development on the RSP Area could advance before the pump and outfall are constructed and operated. The RSPU would implement an interim stormwater system to capture the increases in surface runoff from project development. One existing retention basin south and adjacent to Railyards Boulevard and west of 7th Street as well as additional temporary retention basins could be built within the RSP Area to capture runoff from various areas within

the RSP Area (see Figure 4.13-2 in Section 4.13, Utilities). These basins would be designed to retain stormwater runoff from a 10-day 100-year storm event. After the storm event, the basin(s) would discharge to the CSS. A temporary pump and pipeline would be constructed to discharge stormwater from the retention basin(s) into the CSS at 3rd Street at a rate of 1.0 cubic foot per second (cfs). Discharges could temporarily be increased to 2.24 cfs if the groundwater remediation system at the Central Shops was turned off. Because of the volume of the basin(s), it could take several weeks to fully discharge stormwater from the 10-day 100-year event. If an additional storm event occurs prior to the basins being emptied, there is the potential that the basins could overflow. More information and analysis regarding the size and capacity of the CSS to accept additional stormwater flows is discussed in Section 4.13, Utilities. Should the 3rd Street Relief Sewer be constructed and operational before the Stormwater Outfall was operational, discharges from the temporary retention basins could be increased up to the maximum wastewater discharge rate of the RSPU as a temporary solution.

During occupation and operation of the proposed project, runoff from the RSP Area would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, pet waste, and trash. Without BMPs to remove these pollutants, stormwater leaving the RSP Area 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 projects 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 Stormwater Quality Design Manual for Sacramento and South Placer Regions; and the MS4 Permit prior to approval of design and construction of the stormwater outfall that would serve the RSP Area. Specifically, the project would be required to comply with the following permits and plans:

- NPDES Municipal Separate Storm Sewer System Permit (No. CAS082597);
- Stormwater Quality Design Manual for the Sacramento and South Placer Regions (Design Manual) BMPs, and LID measures to reduce pollutants in storm water and non-stormwater 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 RSP Area. Specific BMPs have been proposed in the Railyards Stormwater Quality Management Plant that are approved for use in the City for treatment control,

such as stormwater planters, biorentention filters, and stormwater filters in catch basins. Other potential BMPs for use on private parcels have not been identified because project design is in an early phase and the kinds of BMPs used on each site would differ based on design-level details. The project development process includes identification of BMPs that respond to the design and construction methods within each area of the RSP. The BMPs would be implemented to ensure that water quality would not be degraded and the violation of water quality or waste discharge objectives set by the CVRWQCB would not occur. City review would confirm that BMP implementation complies with all applicable regulations. 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.

The effects of the 2016 RSPU would be equal to the effects of the 2007 RSP, because similar areas would be disturbed, and project development would comply with federal, State and local water quality regulations. The impact would be **less than significant** with implementation of applicable regulations.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be similar to those of the RSPU, and would be required to implement the same regulatory measures to prevent degradation of water quality. The effects of the Land Use Variant would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

KP Medical Center

Impacts for occupation and operation of the KP Medical Center would be similar to those discussed above for the RSP Area, but with a much reduced footprint. During operation, runoff from the project site would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, and trash. As described above for the RSP Area, treatment control and LID regulations are in place to ensure that the project would not result in an impact to water quality, effects of the KP Medical Center would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

MLS Stadium

Impacts for occupation and operation of the MLS Stadium would be similar to those discussed above for the RSP Area, but with a much reduced footprint. During operation, runoff from the project site would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, and trash. As described above for the RSP Area, treatment control and LID regulations are in place to ensure that the project would not result in an impact to water quality, effects of the MLS Stadium would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

Stormwater Outfall

The 100-year peak design flow for the proposed pump station would be approximately 200,000 gallons per minute (450 cubic feet per second). The pump station would be able to pump a minimum of 400 cfs with any single pump out of commission. The five vertical turbine pumps would discharge into seven discharge force mains and ultimately into the Sacramento River. Post-construction maintenance activities would be limited to the outfall structure itself, approximately 0.06 acres. During operation, the pipes would discharge at a headwall that would be located in the river, and which would be designed to minimize hydraulic impact to the flow in the river. The discharge end of the pipes would include flap gates or other closure devices to prevent backflow when the pump station is not operating. The pipe inverts at the discharge headwall would be located at an elevation of 7.0 foot (NAVD), which would typically be above the summer water surface to allow for maintenance, but submerged during higher flows in the winter (see Figure 2-47 in Chapter 2). The water that would be discharged from the outfall would be required to comply with water quality standards for discharge to the Sacramento River set forth in the NPDES MS4 Permit and CWA Section 401 Water Quality Certification. The proposed Stormwater Outfall would be monitored under existing regulations, and would not substantially degrade water quality. This impact would be **less than significant**.

Summary

Compliance with existing regulatory framework that addresses impacts from occupation and operation on water quality from development pursuant to the proposed projects, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less than significant** impacts.

The magnitude of this impact would similar to Impact 6.6-2 in the 2007 RSP EIR, because a similar area would be disturbed, and compliance with federal, State and local regulations would protect water quality.

Mitigation Measure

None required.

Impact 4.9-3: The proposed projects could expose people or property to an increased risk of flood hazards.

Railyards Specific Plan Update

The 2007 RSP Draft EIR discussed impacts with respect to flood hazards on pages 6.6-23 to 6.6-24, and found that the RSP Area was outside the FEMA 100-year floodplain due to its topographic elevation. The 2007 RSP included development along the Sacramento River levee, and found that it would be vital to continue to properly maintain the levee to the level prescribed by the USACE, FEMA, SAFCA, and DWR. Studies done by regulatory agencies such as DWR,

SAFCA, and the USACE at the time of the 2007 RSP project examined levee stability along the Sacramento and American rivers to enhance flood protection to a 200-year level flood event, and found that construction on or through that embankment was not considered as an impact on the flood damage reduction provided by the levees along the rivers. However, construction of project-related structures or improvements on or near the levees could adversely affect levee integrity and could reduce protection for the area. The 2007 RSP EIR found that the project would be required to comply with the Rivers and Harbors Act, Clean Water Act (33 U.S.C. 408), and federal regulations governing development in floodplains (Title 44, Part 60 of the Code of Federal Regulations), DWR and USACE regulations on levee stability, safety, and maintenance criteria which would reduce impacts to a less-than-significant level.

As indicated in the 2007 RSP EIR, the majority of the RSP Area is identified on the FEMA FIRM map within an area outside of the 100-year floodplain due to the elevation of the North B Street and UPRR tracks embankments. Only a small portion of the RSP Area (on the east bank of the Sacramento River) is within the FEMA 100-year floodplain. A recent study done for the City shows that the North B Street embankment could provide some added level of protection from flooding if there were a levee failure along the American River north of the RSP Area. However, the study concludes that the underlying foundation of the embankment is likely constructed of sandy soil that could result in failure along the embankment under those conditions.[18] Because of the recent upgrades made by SAFCA to improve levee stability, current efforts by SAFCA to increase the levee system to meet the 200-year level of protection pursuant to the goals of SB 5, and the completion of the Folsom Joint Federal Project at Folsom Dam to control flows in the American River for flood protection, the risk of levee failure along the American River in the future is extremely low. Further, the proposed project would increase the height along the UPRR tracks and raise the elevation at the pedestrian tunnels to the 31 foot elevation msl using the National Geodetic Vertical Datum 29 (NGVD29), and include a flood gate structure at the 7th Street underpass to maintain the added level of flood protection that the North B Street embankment provides. Therefore, lowering the elevation of the North B Street embankment would not result in a change to the overall flood protection levels within the RSP Area or other areas of the City provided by the flood protection system and would not change the FEMA FIRM designations.

The 2007 RSP EIR found that the proposed cistern would prevent increases in on- or off-site flooding by providing enough storage volume to detain the 10- and 100-year 6-hour stormwater runoff volumes, as required by the Department of Utilities' Procedures Manual. Detained stormwater in the cistern would be released after the peak flow in the Sacramento River and would not result in measurable increases in water surface elevation in the river. No mitigation measures were required for the 2007 RSP components for flooding impacts.

[18] GEI Consultants, Inc. Technical Memorandum: Assessment of the North B Street Embankment to Mr. Bill Busath, City of Sacramento Department of Utilities Director. February 15, 2016.

The RSPU proposes construction of an outfall to accommodate the needs of the Railyards stormwater drainage system and to meet the requirements of the City and relevant regulatory agencies, including through application of a Section 408 approval from USACE and an encroachment permit from the CVFPB prior to construction on or near the levee right-of-way along the Sacramento River. Once built, the Stormwater Outfall would be sized to accommodate all stormwater runoff from the RSP Area, pursuant to City design standards, with a 100-year peak design flow of approximately 200,000 gallons per minute (450 cfs). Because protection from the 100-year flood would be maintained, and the drainage system would be built to City standards, at buildout, the impact of potential exposure to flooding would be less than significant.

However, initial project development in the RSP Area could advance before the Stormwater Outfall is constructed and operated. If the Stormwater Outfall is not operational, the proposed projects would implement an interim stormwater system, as described previously, to capture the increases in surface runoff from project development into the existing retention basin south and adjacent to Railyards Boulevard and west of 7th Street and/or additional retention basin to serve the area east of 7th Street. Stormwater would be collected in the proposed retention basin(s) designed and sized appropriately to meet the City's stormwater retention criteria to contain flows from the 10-day 100-year storm event. The retention basin(s) would be outfitted with temporary pumps and discharge pipes for discharge to the CSS limited to 1.0 cfs, or 2.24 cfs if the groundwater remediation system was shut off, after storms to make storage space for the next storm(s). If an additional storm event occurs prior to the basins being emptied, there is the potential that the basins could overflow. More information and analysis regarding the size and capacity of the CSS to accept additional stormwater flows is discussed in Section 4.13, Utilities.

The retention basins would remain in place until construction and operation of the Stormwater Outfall, as designed in The Railyards Drainage Master Plan, to prevent on-site localized flooding during storm events. See Section 4.13, Utilities for a discussion of capacity of the retention basins. Although sized according to the City design criteria, the retention basins may not have sufficient quantity to contain stormwater runoff from storms that occur subsequent to the design storm and before the pumps have emptied the retention basins, because of limitation on discharge to the CSS. Should the 3rd Street Relief Sewer be constructed and operational before the Stormwater Outfall was operational, discharges from the temporary retention basins could be increased up to the maximum wastewater discharge rate of the RSPU as a temporary solution. Therefore, the proposed project would not expose people or structures to an increased risk of flooding because of flood control structures and the operation of interim stormwater detention basins would not result in localized flooding and this impact would be **less than significant**.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be the same as the RSPU impact, as it would implement the same stormwater drainage system and would not result in a change to the floodplain designation of the site, and this impact would be **less than significant**.

KP Medical Center

Impacts for the KP Medical Center would be the same as the RSPU with regards to FEMA floodplain designation, as it would not result in a change to the floodplain designation of the site. In addition, impacts from localized flooding would be the same as the RSPU relative to operation of interim retention basin. If construction of the KP Medical Center was initiated before completion of the Stormwater Outfall or 3rd Street Relief Sewer, the retention basin south of Railyards Blvd. would be expanded to contain flows from the KP Medical Center area, and operate under the same criteria as discussed above for the RSPU until the Stormwater Outfall is in operation. Once the Stormwater Outfall is completed all stormwater from the KP Medical Center site would be discharged directly to the Sacramento River, preventing localized flooding and impacts would be **less than significant**.

MLS Stadium

Impacts for the MLS Stadium would be the same as the RSPU impact with regards to FEMA floodplain designation, as it would not result in a change to the floodplain designation of the site. In addition, impacts from localized flooding would be the same as the RSPU relative to operation of interim retention basins. If construction of the MLS Stadium was initiated before completion of the Stormwater Outfall or 3rd Street Relief Sewer, a retention basin would be constructed adjacent to and west of 8th Street to contain flows from the MLS Stadium area, and operate under the same criteria, and discharge as discussed above for the RSPU until the Stormwater Outfall is in operation. Once the Stormwater Outfall is completed all stormwater from the MLS Stadium site would be discharged directly to the Sacramento River, preventing localized flooding and impacts would be **less than significant**.

Stormwater Outfall

The Stormwater Outfall would be designed to City standards, with a 100-year peak design flow of approximately 200,000 gallons per minute (450 cubic feet per second). It would pump and discharge stormwater flows away from the RSP Area and into the Sacramento River, thereby preventing localized flooding on the project site. The Stormwater Outfall would not result in a change to the floodplain designation of the site, and there would be **no impact**.

Summary

The RSP Area is within an area protected from the flooding, and the proposed interim drainage system would be designed with sufficient capacity to prevent localized flooding to the proposed RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium, and impacts would be **less than significant**. The Stormwater Outfall would have no impact.

The magnitude of this impact is less than that described in Impact 6.6-4 in the 2007 RSP EIR, because of there is no potential for localized flooding prior to construction of the stormwater outfall.

Mitigation Measure

None required.

Impact 4.9-4: The proposed projects could adversely affect groundwater supplies, groundwater quality and/or interfere with groundwater recharge.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts with respect to depletion of groundwater supplies and groundwater recharge on pages 6.6-22 to 6.6-23, and found that although the RSP would not use groundwater as a supply, the project would substantially increase the amount of impervious surfaces and hence would reduce the ability for precipitation to percolate to the aquifer, thereby reducing groundwater recharge. However, this reduction was not considered a substantial concern because the RSP Area was not identified as a primary groundwater recharge area, the presence of shallow groundwater results in the reduced ability for use of groundwater for potable uses, and aquifer recharge in the area is driven primarily by deep percolation from local waterways, such as the Sacramento River. The same holds true for the 2016 RSPU. The RSPU would not use groundwater as a supply, and similar to the 2007 RSP, the RSPU would result in a substantial increase in impervious surfaces. However, for the same reasons given in the 2007 RSP EIR, the RSPU would not adversely affect groundwater recharge because the main sources for groundwater recharge in the groundwater basin are the Sacramento and American rivers.

The 2007 RSP EIR concluded that implementation of City's Standard Specifications for Dewatering, the CVRWQCB's General Dewatering Permit, and NPDES General Construction Permit BMPs would prevent impacts to groundwater quality during construction, which would be the same requirement for the RSPU. Further, once construction is complete, no dewatering would occur within the RSP Area. Compliance with the same regulations discussed above in Impact 4.9-2 would also result in implementation of BMPs for source control and for source treatment to prevent contamination in stormwater runoff. Issues regarding dewatering and soil foundation conditions can be found in Section 4.6, Seismicity, Soils, Geology, and Mineral Resources, and issues related to dewatering and hazardous materials can be found in section 4.8, Hazards and Hazardous Materials.

For the above reasons, the RSPU would result in **less-than–significant** impacts on groundwater quality, supplies, or recharge. This impact would be similar to Impact 6.6-3 of the 2007 RSP EIR.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be the same as the RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction. Further, the Land Use Variant would not use groundwater supplies,

and for the same reasons as o the effects of the 2007 RSP, it would not affect groundwater recharge. Therefore, the impact would be **less than significant**.

KP Medical Center

Impacts for the KP Medical Center would be the similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction and to comply with dewatering regulations as stated above for the RSPU. Further, the KP Medical Center would not withdraw groundwater for water supply, and would not be located in an important recharge area. For these reasons, the impact would be **less than significant**.

MLS Stadium

Impacts for the MLS Stadium would be the similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction and to comply with dewatering regulations as stated above for the RSPU. Further, the MLS Stadium would not withdraw groundwater for water supply, and is not located in an important groundwater recharge area. For these reasons, the impact would be **less than significant**.

Stormwater Outfall

Impacts for the Stormwater Outfall would be the similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction. Further, the Stormwater Outfall would not use groundwater supplies, and would not affect groundwater recharge, so this impact would be **less than significant.**

Summary

The proposed projects would not withdraw groundwater for water supply, and would not interfere with recharge of the groundwater basin. Development would be required to implement BMPs to prevent impacts to groundwater quality and to comply with dewatering regulations. Therefore, the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less-than-significant** impacts.

The magnitude of this impact is the same as that described in Impact 6.6-3 in the 2007 RSP EIR.

Mitigation Measure

None required.

4.9.4 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. Finally, the cumulative context for all impacts analyzed below assumes full buildout of the RSPU.

Impact 4.9-5: The proposed projects would 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 use and 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. 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 its NPDES MS4 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. Development of the RSPU would be required to meet the following: 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 Stormwater Quality Design Manual for Sacramento and South Placer Regions; the NPDES General Construction Permit; CVRWQCB General Dewatering Permit; the City's MS4 Permit. As discussed under Impact 4.9-1 above, through compliance with these permits and plans, the RSPU would reduce project generation of stormwater pollutants to the maximum extent practicable consistent with the goal of the SWRCB and CVRWQCB water quality criteria and stormwater regulations through the use of structural and non-structural BMPs. Therefore, the

proposed projects' contribution to the significant cumulative impact would be less than considerable, and this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.9-6: The proposed projects 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 floodplain. The Sacramento 2035 General Plan Master EIR identified growth within the City and region would increase population in the future.[19] This growth would likely increase exposure to flood risk. This is considered a significant cumulative impact.

As described above, the RSP Area is located within an areas designated by FEMA to be protected from the 100- and 500-year flood primarily by levees, and secondarily by the elevations, respectively. Construction of the RSP would result in changes in the elevation of the embankment, but would not reduce the FEMA floodplain designation within the RSP Area or other areas within the City, and would not change the levee system integrity. During operation, the project would not expose people or property to the risk of loss, injury, damage, or death in the event of a flood nor would it place structures that could impede or redirect flood flows within the floodplain during construction. Further, as described previously, policies proposed under the Sacramento 2035 General Plan include levee requirements, new development evaluations, and regional flood management planning efforts (Policies EC 2.1.2 through 2.1.21). Development projects would not be approved unless flood risk is consistent with plans that are aimed to provide a 200-year flood protection standard for the entire city (Policy EC 2.1.11) and would be consistent with on-going planning associated with the CVFPB. Therefore, the project would have a less-than-considerable contribution and this impact would be **less than significant**.

Mitigation Measure

None required.

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[19] City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report (SCH No. 2012122006).* Certified March 2015.

Impact 4.9-7: The proposed projects could contribute to cumulative impact on groundwater supplies, quality, and recharge.

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. Because the groundwater basin would be managed sustainably according to the plan, and to meet SGMA regulations, groundwater use would not exceed the calculated long-term average annual sustainable yield of 273,000 acre-feet per year.[20] Likewise, because groundwater recharge in the basin includes natural processes through percolation and hydraulic connectivity with the Sacramento and American River, and with conjunctive use or aquifer storage and recovery operations, groundwater levels in the basin would be managed to retain sustainable groundwater levels. However, while new development is less likely to significantly degrade groundwater quality because of existing regulations, older development, agriculture, and other non-point sources could impair groundwater quality. This is considered a significant cumulative impact. The proposed projects would not withdraw groundwater for water supply, or interfere with groundwater recharge. Development within the RSP Area would be required to meet the water quality regulations listed in Impact 4.9-5 to prevent degradation of groundwater quality. Therefore, the RSPU would have a less-than-considerable contribution and the impact would be **less than significant**.

Mitigation Measure

None required.

[20] Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. pp. 2-22 – 2-23.

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