# DRAFT

## Environmental Impact Report for the Kaiser Permanente Moreno Valley Medical Center Project

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# ACRONYMS AND ABBREVIATIONS

| Acronym/Abbreviation | Definition |
|---|---|
| AB | Assembly Bill |
| ACBCI | Agua Caliente Band of Cahuilla Indians |
| ADA | American Disability Act |
| ADT | Average Daily Traffic |
| AERMOD | American Meteorological Society/Environmental Protection Agency Regulatory Model |
| AFY | acre-feet per year |
| AHU | air handling units |
| AMAWB | annual maximum allowable water budget |
| AMSL | above mean sea level |
| ANSI | American National Standards Institute |
| APS | Alternative Planning Strategy |
| AQMP | air quality management plan |
| ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers |
| ASTM | American Society for Testing and Materials |
| ATCM | Airborne Toxic Control Measure |
| BMP | Best Management Practice |
| BUG | backlight, uplight, and glare |
| CAAQS | California Ambient Air Quality Standards |
| CalEPA | California Environmental Protection Agency |
| CALINE4 | California LINE Source Dispersion Model |
| CalOSHA | California Occupational Safety and Health Administration |
| CAP | Climate Action Plan |
| CARB | California Air Resources Board |
| CAT | Climate Action Team |
| CC | Community Commercial |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CDFW | California Department of Fish and Wildlife |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CESA | California Endangered Species Act |
| CETAP | Community and Environmental Transportation Acceptability Process |
| CFC | chlorofluorocarbon |
| CFM | cubic feet per minute |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CHRIS | California Historical Resources Information System |
| CNDDB | California Natural Diversity Database |
| CNEL | Community Noise Exposure |
| CNPS | California Native Plant Society |
| CNRA | California Natural Resources Agency |

| Acronym/Abbreviation | Definition |
|---|---|
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| CPTED | Crime Prevention through Environmental Design |
| CPUC | California Public Utilities Commission |
| CRA | Colorado River Aqueduct |
| CRHR | California Register of Historical Resources |
| CRMP | Cultural Resources Monitoring Program |
| CRPR | California Rare Plant Rank |
| CUP | Central Utility Plant |
| CUPA | Certified Unified Program Agency |
| CVC | California Vehicle Code |
| CWA | Clean Water Act |
| DIF | Development Impact Fee Program |
| DPM | Diesel particulate matter |
| DPR | Department of Parks and Recreation |
| DTSC | Department of Toxic Substances Control |
| DVLLF | Diamond Valley Lake Local Fauna |
| EAWU | estimated annual water use |
| EBL | eastbound left |
| EBR | eastbound right |
| EBT | eastbound through |
| EC | Existing Conditions |
| EIC | Eastern Information Center |
| EIR | environmental impact report |
| EISA | Energy Independence and Security Act of 2007 |
| EMWD | Eastern Municipal Water District |
| EO | Executive Order |
| EOP | Emergency Operations Plan |
| EPA | Environmental Protection Agency |
| ESA | Environmental Site Assessment |
| FAA | Federal Aviation Administration |
| FAR | Floor Area Ratio |
| FEMA | Federal Emergency Management Agency |
| FESA | Federal Endangered Species Act |
| FTA | Federal Transit Administration |
| FTIP | federal transportation improvement program |
| GHG | greenhouse gas |
| GSA | Groundwater Sustainability Agency |
| GSP | Groundwater Sustainability Plan |
| GWP | global warming potential |
| $H_2O$ | water vapor |
| $H_2S$ | hydrogen sulfide |
| HCM | Highway Capacity Manual |

| Acronym/Abbreviation | Definition |
|---|---|
| HCOC | hydrologic condition of concern |
| HCP | habitat conservation plan |
| HFC | hydrofluorocarbon |
| HMBP | hazardous materials business plan |
| HRA | health risk assessment |
| HVAC | heating, ventilation, and air-conditioning |
| IDS | Investment Development Services |
| IE | Inland Empire |
| ITE | Institute of Transportation Engineers |
| ITS | Intelligent Transportation Systems |
| LACM | Natural History Museum of Los Angeles County |
| LCFS | Low Carbon Fuel Standard |
| LEED | Leadership in Energy and Environmental Design |
| LID | Low Impact Development |
| LOS | Level of Service |
| LST | localized significance threshold |
| MBMI | Morongo Band of Mission Indians |
| MLD | Most Likely Descendant |
| MM | mitigation measure |
| MOB | Medical Office Building |
| MOU | Medical Use Overlay |
| MPO | Metropolitan Planning Organization |
| MRI | Magnetic Resonance Imaging |
| MS4 | separate storm sewer system |
| MSHCP | Multiple Species Habitat Conservation Plan |
| MT | metric ton |
| MUO | Medical Use Overlay |
| MVFD | Moreno Valley Fire Department |
| MVPD | Moreno Valley Police Department |
| MVTAM | Moreno Valley Transportation Analysis Model |
| MVTM | Moreno Valley Traffic Model |
| MVU | Moreno Valley Electric Utility |
| MVUSD | Moreno Valley Unified School District |
| MW | megawatt |
| MWD | Metropolitan Water District of Southern California |
| MWMP | Medical Waste Management Plan |
| $N_2O$ | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NABA | North American Butterfly Association |
| NAHC | Native American Heritage Commission |
| NBL | northbound left |
| NBR | northbound right |
| NBT | northbound through |

| Acronym/Abbreviation | Definition |
|---|---|
| NCCP | Natural Communities Conservation Plan |
| NCHRP | National Cooperative Highway Research Program |
| NEP | narrow endemic plant |
| $NF_3$ | nitrogen trifluoride |
| NHTSA | National Highway Traffic Safety Administration |
| $NO_2$ | nitrogen dioxide |
| NOP | notice of preparation |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | Natural Resource Conservation Service |
| NRHP | National Register of Historic Places |
| NWI | National Wetland Inventory |
| $O_3$ | ozone |
| OC | Office Commercial |
| OPR | Office of Planning and Research |
| OSHA | Occupational Safety and Health Administration |
| OSHPD | Office of Statewide Health Planning Department |
| OWSC | One-Way Stop Control |
| PDF | Project Design Feature |
| PFC | perfluorocarbon |
| $PM_{10}$ | particulate matter with an aerodynamic diameter less than or equal to 10 microns in diameter |
| $PM_{2.5}$ | particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in diameter |
| PPV | peak particle velocity |
| PRC | Public Resources Code |
| PVC | polyvinyl chloride |
| R/O | Residential/Office |
| R4SBA | riverine, intermittent, streambed, temporarily flooded wetlands |
| R4SBC | riverine, intermittent, streambed, seasonally flooded wetlands |
| RBLI | Rincon Band of Luiseño Indians |
| RCFD | Riverside County Fire Department |
| RCP | Regional Comprehensive Plan |
| RCTC | Riverside County Transportation Commission |
| REC | recognized environmental concern |
| RFS | Renewable fuel standard |
| RHNA | Regional Housing Needs Assessment |
| RHSA | Regional System of Highways and Arterials |
| RIRO | right-in/right-out |
| ROG | reactive organic compound |
| RPS | Renewable Portfolio Standard |
| RPW | relatively permanent water |
| RTA | Riverside Transit Agency |
| RTP | Regional Transportation Plan |
| RTP/SCS | Regional Transportation Plan/Sustainable Communities Strategy |
| RWQCB | Regional Water Quality Control Board |

| Acronym/Abbreviation | Definition |
|---|---|
| RWRF | regional water reclamation facility |
| SAB | State Allocation Board |
| SAFE | Safer Affordable Fuel-Efficient |
| SB | Senate Bill |
| SBL | southbound left |
| SBLI | Soboba Band of Luiseño Indians |
| SBR | southbound right |
| SBT | second southbound through |
| SCAB | South Coast Air Basin |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCE | Southern California Edison |
| SCS | Sustainable Communities Strategy |
| $SF_6$ | sulfur hexafluoride |
| SGMA | Sustainable Groundwater Management Act |
| SLF | Sacred Lands File |
| SMBMI | San Manual Band of Mission Indians |
| $SO_2$ | sulfur dioxide |
| $SO_4$ | sulfates |
| SPL | Sound pressure level |
| SRA | State Responsibility Area |
| SRRE | Source Reduction and Recycling Element |
| SWMP | Storm Water Management Plan |
| SWP | State Water Project |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TAC | toxic air contaminant |
| TAZ | Traffic Analysis Zone |
| T-BACT | best available control technology for toxics |
| TCR | tribal cultural resource |
| TDM | Transportation Demand Management |
| TIA | Traffic Impact Analysis |
| TMDL | Total Maximum Daily Load |
| TNW | traditional navigable water |
| TUMF | Transportation Uniform Mitigation Fee |
| USFWS | U.S. Fish and Wildlife Service |
| UST | underground storage tank |
| UWMP | urban water management plan |
| V/C | Volume to Capacity |
| VMT | vehicle miles traveled |
| VOC | volatile organic compound |
| WBL | westbound left |
| WBR | westbound right |

| Acronym/Abbreviation | Definition |
|---|---|
| WBT | westbound through |
| WBTR | westbound through-right |
| WDR | Waste Discharge Requirement |
| WRCOG | Western Riverside Council of Governments |
| WSA | Water Supply Assessment |

# EXECUTIVE SUMMARY

## ES.1 INTRODUCTION

This environmental impact report (EIR) has been prepared by the City of Moreno Valley (City) as lead agency pursuant to the California Environmental Quality Act (CEQA) Public Resources Code 21000 et seq., and the CEQA Guidelines (California Code of Regulations, Section 15000 et seq.). This EIR has been prepared to evaluate the environmental effects of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The purpose of this EIR is to focus the discussion on those potential effects on the environment of the project which the lead agency has determined may be significant. In addition, feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

The project site is comprised of 30 acres and a portion of the site, approximately two-thirds, is developed with a 130,000 square-foot, 100-bed hospital building, two medical office buildings totaling approximately 89,500 square feet, a central utility plant, two modular trailers/conference rooms, and surface parking. The project site has a land use designation of Commercial, is zoned Community Commercial, and is within the Medical Use Overlay.

Regionally, the project site, which is the existing Kaiser Medical Center, is located east of Interstate 215, south of State Route 60, and north of Lake Perris within the City. More specifically, the project site is located on the north side of Iris Avenue, west of Oliver Street, and east of Nason Street at 27300 Iris Avenue, Moreno Valley California, 92555. The project site is composed of two Assessor's Parcel Numbers: 486-310-033 and 486-310-034. The latitude and longitude of the approximate center of the project site is 33°53′49.704″ North and 117°11′12.379″ West. The project site is included within the southwest and southeast quarters of the northwest quarter of Section 22 of Township 3 South, Range 3 West of the Sunnymead 7.5-minute quadrangle, as mapped by the U.S. Geological Survey.

The general vicinity surrounding the project site is developed with a mix of residential and rural residential uses. Single family residential development occurs to the south, east, and west of the existing hospital. Iris Avenue forms the southern site boundary, and undeveloped disturbed lots surround the hospital on the northern, eastern, and western boundaries. Undeveloped open space that has been approved for the implementation of the AquaBella Specific Plan occurs to the northwest. Located north and east of the project site, on the eastern side of Oliver Street, is Landmark Middle School.

## ES.2 DOCUMENT ORGANIZATION

This EIR is organized as follows:

Executive Summary outlines the conclusions of the environmental analysis and provides a summary of the proposed project and the project alternatives analyzed in the EIR. This section also includes a table summarizing all environmental impacts identified in the EIR along with the associated mitigation measures proposed to reduce or avoid each impact.

Chapter 1, Introduction, serves as a forward to the EIR, introducing the project, the applicable environmental review procedures, and the organization of the EIR.

Chapter 2, Environmental Setting, describes the existing environmental conditions at the project site at the time of issuance of the Notice of Preparation.

Chapter 3, Project Description, provides a thorough description of the setting, objectives, characteristics, operation, and construction of the proposed project and required discretionary approvals.

Chapter 4, Environmental Impact Analysis, describes the potential environmental impacts of the proposed project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 4 is organized by 16 environmental issue areas as follows:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

For each environmental issue area, the analysis and discussion are organized into eight subsections as described below:

- Relevant Plans, Policies, and Ordinances – This subsection describes the laws, regulations, ordinances, plans, and policies applicable to the environmental issue area and the proposed.
- Existing Conditions – This subsection describes the physical environmental conditions in the vicinity of the proposed project at the time of publication of the Notice of Preparation. The environmental setting establishes the baseline conditions by which the County will determine whether specific project-related impacts are significant.
- Thresholds of Significance – This subsection identifies a set of thresholds by which the level of impact is determined.
- Project Design Features – This subsection identifies project design features that are incorporated into the project to avoid potential environmental impacts.
- Impacts Analysis – This subsection provides a detailed analysis regarding the environmental effects of the proposed project, and whether the impacts of the proposed project would meet or exceed the thresholds of significance.
- Mitigation Measures – This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse project impacts.
- Level of Significance After Mitigation – This subsection discusses whether project-related impacts would be reduced to below a level of significance with implementation of the mitigation measures identified in the EIR. If applicable, this subsection also identifies any residual significant and unavoidable adverse impacts of the proposed project that would result even with implementation of any feasible mitigation measures.

In addition to the seven subsections listed above, full citations for all documents referred to in each environmental issue area discussion are included at the end of each section or chapter.

Chapter 5, Mandatory CEQA Discussion Areas, addresses significant environmental effects that cannot be avoided, the significant irreversible environmental changes that would result from implementation of the proposed project, growth-inducing impacts associated with the proposed project, and potential secondary impacts of mitigation measures implemented to reduce the impacts of the proposed project.

Chapter 6, Cumulative Impact Analysis, includes an evaluation of the potential cumulative impacts of the proposed project in combination with identified related projects.

Chapter 7, Alternatives, discusses alternatives to the proposed project, including a No Project Alternative. This chapter describes the rationale for selecting the range of alternatives discussed in the EIR and identifies the alternatives considered by the City that were rejected from further discussion as infeasible during the scoping process. Lastly, Chapter 7 includes a discussion of the environmental impacts of the alternatives that were carried forward for analysis and identifies the environmentally superior alternative.

Chapter 8, List of Preparers, gives names and contact information of those responsible for writing this EIR.

Appendices include various technical studies prepared for the proposed project, as listed in the Table of Contents.

## ES.3 PROJECT BACKGROUND

Kaiser Foundation Hospitals, also known as Kaiser Permanente, purchased the existing Moreno Valley Medical Center, formerly known as the Moreno Valley Community Hospital, in 2007 and has continuously operated as a Kaiser Permanente facility since the purchase. Prior to the construction of the Moreno Valley Medical Center, the project site was utilized for agricultural purposes from at least 1938 until approximately 1989. The existing hospital building was constructed in 1989 (Secor 2007).

The City of Moreno Valley General Plan Land Use Map (City of Moreno Valley 2017a) designates the project site as R/O – Residential/Office and C – Commercial uses, and the City's Zoning Map (City of Moreno Valley 2017b) includes two zoning designations on the collective project site: OC – Office Commercial district and CC – Community Commercial district. Per the City Municipal Code, the primary purpose of the Office Commercial (OC) district is to provide for the establishment of business, corporate and administrative office, as well as commercial services which are supportive to major business developments. The primary purpose of the CC – Community Commercial district is to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services. The project site also lies within the Medical Use Overlay (MUO) district the primary purpose of which is to implement the general plan concept of creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital.

## ES.4 PROJECT DESCRIPTION

### ES.4.1 Project Overview

Kaiser Permanente is proposing to redevelop and expand the existing Kaiser Permanente Moreno Valley Medical Center campus into a state-of-the-art medical center consisting of approximately 1,125,000 square feet of medical services facilities and ancillary uses. These facilities and uses would include an approximately 460-bed hospital, hospital support buildings, outpatient medical office buildings, an Energy Center, and surface and structured parking. Kaiser Permanente intends to provide a comprehensive range of health care services to Kaiser Permanente members in the City and surrounding communities within western Riverside County. A summary of the various project elements, by phase, is shown in Table ES-1.

**Table ES-1**
**Project Components**

| Project Components | Size* |
|---|---|
| *Phase I* | |
| Diagnostic and Treatment (D&T) Building | 95,000 square feet |
| Energy Center | 22,000 square feet |
| Temporary Parking (to be removed in Phase III) | 45 spaces |
| *Phase II* | |
| North and East Patient Bed Towers and D&T Expansion | 380,000 square feet |
| Medical Office Building No. 3 | 65,000 square feet |
| Energy Center Expansion | 8,000 square feet |
| Parking Structure No. 1 | 400 spaces |
| Parking Structure No. 2 | 1,400 spaces |
| *Phase III* | |
| West and South Patient Bed Towers | 375,000 square feet |
| Medical Office Building No. 4 | 95,000 square feet |
| Parking Structure No. 3 | 600 spaces |
| *Existing to Remain* | |
| Medical Office Building No. 2 | 75,000 square feet |
| Surface Parking | 150 spaces |
| *Total Buildout* | |
| **Hospital Building with Four Towers and D&T** | **850,000 square feet** |
| **Medical Office Buildings (3)** | **235,000 square feet** |
| **Energy Center** | **28,000 square feet** |
| **Parking** | **2,550 spaces** |

**Source:** CO Architects 2019.

The project would be developed in three phases, with the first phase (Phase I) evaluated at the project level in this EIR. Phases II and III are analyzed in this EIR at a programmatic level because they would be developed at a later date and because they are more conceptual due to several factors that are presently unknown, including the future growth of Kaiser Permanente membership within the City and surrounding communities, the future regional demand for the project's services, the evolution of healthcare technology, the portability of the health care environment, legislative and regulatory changes required by health care reform, the business and health care needs of Kaiser Permanente, and other factors. For Phases II and III, the EIR will provide a general assessment of potential impacts and provide a framework of how impacts and mitigation would be addressed in the future when the components of these phases, being considered in this EIR under a Master

Plot Plan, are submitted to the City for individual Plot Plan entitlements. For all phases of the project, worst-case assumptions are used to evaluate potential effects.

The project would be constructed in three phases. The project's phased development would occur between 2020 and 2038. Additional detailed project description information, including descriptions of the proposed new structures, access and roadway improvements, off-site road improvements, and anticipated construction schedule is provided in Chapter 3 of this EIR.

## ES.4.2 Project Objectives

Section 15124(b) of the CEQA Guidelines states that the project description shall contain "a statement of the objectives sought by the proposed project." Section 15124(b) further states that "the statement of objectives should include the underlying purpose of the project and may discuss the project benefits." The underlying purpose of the proposed project is to accommodate both existing deficits and future demand for medical office, diagnostic, and treatment space, including emergency services, in the Moreno Valley Medical Center service area by improving and expanding existing campus facilities on the current Medical Center site. As set forth in the CEQA Guidelines, The project's specific objectives are provided below.

- Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus.
- Reduce the need for Kaiser members to travel outside the City for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus.
- Develop underutilized land located within the Medical Use Overlay district consistent with the City's objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital.
- Provide for the long-range development capacity on the project site's undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses.
- Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region.
- Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety.

- Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region.
- Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area.
- Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand.
- Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing.
- Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies.

## ES.4.3 Project Design Features

Kaiser Permanente has incorporated project design features (PDFs) into the project to reduce the potential for environmental effects. The following PDFs are incorporated into the analysis in applicable subsections throughout Chapter 4.0, Environmental Impact Analysis.

**Air Quality**

**PDF-AQ-1** Kaiser will prepare and implement a Construction Management Plan, which will include best available control measures among others. Such control measures may include but not be limited to:

- Minimizing simultaneous operation of multiple construction equipment units.
- Require that off-road diesel powered vehicles used for construction should be new low-emission vehicles, or use retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by California Air Resources Board.
- Minimizing idling time by construction vehicles per California Air Resources Board regulations.

**PDF-AQ-2** The following measures shall be adhered to during all phases of construction activities of the project to reduce $PM_{10}$ to the satisfaction of the City of Moreno Valley Planning Department:

- All construction equipment shall be equipped with Tier 4 Final diesel engines or better.
- The engine size of construction equipment shall be the minimum size suitable for the required job.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest number is operating at any one time.
- Construction equipment shall be maintained in tune per the manufacturer's specifications.

**Energy and Greenhouse Gas Emissions**

**PDF-GHG-1** As part of Kaiser's green and sustainability initiatives, the project would incorporate Kaiser's sustainable building standards and green initiatives. Kaiser will obtain LEED Gold certification or equivalent for the buildings that it develops on the project site. The project's design will embrace technology and the environment, incorporate reduced energy demand systems (e.g., solar, thermal insulation), and utilize rainwater, recycling of waste, systems with energy recovery options, prefabrication elements across the project to minimize waste, and local materials for both landscape and construction. To attain this goal, Kaiser would implement many of its current green strategies in the project. These strategies include using:

- polyvinyl chloride–free materials (such as resilient flooring, carpet and roofs)
- low–volatile organic compound or volatile organic compound–free paints
- chlorofluorocarbon-free refrigerants
- innovative construction waste diversion programs to keep harmful materials out of landfills
- formaldehyde-free casework
- high efficiency heating, ventilation, and air conditioning systems
- cogeneration electricity production and heat recovery
- infrared, hands-free faucets

- permeable paving to reduce stormwater runoff in parking areas
- cool roofs for solar reflectivity and building cooling
- turf-free and indigenous native planting for low irrigation demand, and
- water conservation efforts.

Kaiser's future green strategies for the project includes one or more of the following:

- solar power/photovoltaics
- electric vehicle charging stations
- transportation demand management
- fuel-cell technology
- displacement ventilation
- toxin-free furniture, and
- green cement.

## ES.5 AREAS OF KNOWN CONTROVERSY

The NOP for the EIR was distributed to the State Clearinghouse, interested agencies, groups, and individuals on November 26, 2018. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. The 30-day NOP public review period ended December 31, 2018. During the 30-day public review period of the NOP, the City held a Scoping Meeting within the City Council Chambers at 6:00 p.m. on December 12, 2018, to gather additional public input on the project. Comments received during the NOP public review period generally focused on the following:

- Air Quality emission during construction and from traffic
- Cultural and Tribal Cultural Resources in the project vicinity
- Accessibility to transit
- Impacts to surrounding land uses

## ES.6 REQUIRED PERMITS AND/OR APPROVAL

Implementation of the project may require permits or other forms of approval from public agencies or other entities prior to construction of the project. They include, but are not limited to, the following.

### ES.6.1 City of Moreno Valley

The City will consider the following actions for Phase 1:

- Certification of the EIR (PEN18-0217);
- Approval of a Master Plot Plan (PEN18-0228)
- Approval of a Plot Plan for the Diagnostic and Treatment Building (PEN18-0229)
- Approval of a Plot Plan for the Energy Center (PEN18-0230)

Future programmatic-level components evaluated within this EIR will require future approvals from the City under Phases II and III.

### ES.6.2 Regional Water Quality Control Board, Santa Ana Region

National Pollutant Discharge Elimination System (NPDES) Construction General Permits will be required for grading activities of 1 acre or larger. Since the project would disturb more than 1 acre of soil, the applicant must file a Notice of Intent with the Santa Ana Regional Water Quality Control Board (RWQCB) and obtain a General Construction Activity Stormwater Permit, pursuant to the NPDES regulations established under the Clean Water Act. This permit requires preparation and implementation of a stormwater pollution prevention plan, which is intended to prevent degradation of surface and groundwater during the grading and construction process. A report of waste discharge shall be submitted to the Santa Ana RWQCB to obtain either a waste discharge requirement or a waiver for any impacts to waters of the state.

### ES.6.3 South Coast Air Quality Management District

A fugitive dust control plan submitted to the South Coast Air Quality Management District for approval will be required prior to issuance of grading permits (SCAQMD Rule 403). Permits for stationary sources, such as those proposed to be installed in the Energy Center (e.g., emergency generators), will be required prior to project approval.

### ES.6.4 Office of Statewide Health Planning and Development

The Office of Statewide Health Planning and Development's Facilities Development Division will review and approve the plans and specifications of the proposed hospital building, medical office buildings, and related hospital facilities to ensure compliance with the provisions of the CBC, Title 24, California Code of Regulations (OSHPD 2011).

## ES.7 IMPACTS DETERMINED TO BE SIGNIFICANT

Table ES-2 provides a summary of the impact analysis related to the project. The table identifies a summary of the significant environmental impacts resulting from the project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Chapter 4 of this document. Table ES-2 also lists the applicable mitigation measures related to identified significant impacts, as well as the level of significance after mitigation is identified. Impacts associated with air quality and transportation were identified as being significant and unavoidable. Cumulative impacts associated with air quality and transportation were also identified as being significant and unavoidable.

## ES.8 EFFECTS NOT FOUND TO BE SIGNIFICANT

As stated in Chapter 5 of the EIR, the Effects Found Not to be Significant subsection concluded that the project would not result in significant impacts to agriculture and forestry resources and mineral resources; therefore, these topics are not addressed in the EIR as a separate environmental impact analysis section and not summarized in Table ES-2. Although aesthetics, energy, greenhouse gas emissions, land use and planning, population and housing, public services, recreation and utilities and service systems were found to be less than significant with no mitigation required, each is addressed in Chapter 4 as stand-alone sections due to their lengthy discussions.

Several environmental topics were not found to be significant with mitigation incorporated as described in this EIR, including: biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and tribal cultural resources.

## ES.9 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-2 provides a summary of the impact analysis related to the project. Table ES-2 identifies a summary of the significant environmental impacts resulting from the project pursuant to the CEQA Guidelines Section 15123(b)(1). For more detailed discussion, please see Chapter 4 of this Draft EIR. Table ES-2 lists the applicable mitigation measures related to potentially significant impacts, as well as the level of significance after mitigation.

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | *Aesthetics* | |
| **AES-1**. Would the project have a substantial adverse effect on a scenic vista? | Less than Significant | N/A | N/A |
| **AES-2**. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? | No Impact | N/A | N/A |
| **AES-3**. In a non-urbanized area, would the project substantially degrade the existing visual character or quality of public views the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | Less than Significant | N/A | N/A |
| **AES-4**. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | Less than Significant | N/A | N/A |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| *Air Quality* | | | |
| **AQ-1**. Would the project conflict with or obstruct implementation of the applicable air quality plan? | Potentially Significant | No feasible measures available | Significant and Unavoidable |
| **AQ-2**. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard? | Potentially Significant | No feasible measures available | Significant and Unavoidable |
| **AQ-3**. Would the project expose sensitive receptors to substantial pollutant concentrations? | Potentially Significant | No feasible measures available | Significant and Unavoidable |
| **AQ-4**. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | Less than Significant | N/A | N/A |
| *Biological Resources* | | | |
| **BIO-1**. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | Potentially Significant | **MM-BIO-1**. To avoid potential direct impacts to burrowing owl, a burrowing owl preconstruction survey shall be conducted by a qualified biologist no more than 30 days prior to ground-disturbing project activities. If burrowing owls are present, occupied burrows shall be avoided. The preconstruction survey, avoidance, and any relocation of burrowing owls, if present, shall be conducted in accordance with current MSHCP survey guidelines and protocols.<br><br>**MM-BIO-2**. All vegetation removal and ground-disturbance activities shall be planned outside the nesting season for raptors (February 1 to August 15) and outside the peak nesting season for birds (March 1 to August 15) if practicable. If | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | vegetation removal would occur during those time periods, a preconstruction survey for active nests shall be conducted by a qualified biologist no more than one week prior to the onset of ground-disturbance activities. If active nests are found on the site, disturbance or removal of the nest shall be avoided until the young have fledged and the nest is no longer active. Depending on the species, site conditions, and proposed construction activities near the active nest, a buffer distance may be prescribed, as determined by a qualified biologist. | |
| **BIO-2**. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | Less than Significant | N/A | N/A |
| **BIO-3**. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | Potentially Significant | **MM-BIO-3**. Consultation with the resource agencies shall be conducted prior to implementing Phases II and II of the project to determine the RWQCB and/or CDFW will indeed take jurisdiction over the existing detention basin. If jurisdiction is determined, the Applicant will mitigate for the loss of 0.51-acre of waters of the state subject to RWQCB and CDFW jurisdiction, and an additional 0.54-acre of streambed under CDFW jurisdiction only. The project applicant will apply for A Waste Discharge Requirement (WDR) from the RWQCB and a Streambed Alteration Agreement from CDFW prior to the start of construction of Phases II and III of the project. Mitigation required for these permits would include compensatory habitat-based mitigation at a minimum 2:1 ratio for impacts to non-wetland waters of the state and CDFW streambed. Mitigation may include on-site restoration of waters through implementation of an approved Habitat Mitigation Monitoring Plan or purchase of off-site credits through an agency-approved mitigation bank such as the Soquel Canyon Mitigation Bank. Coordination with the resource agencies will determine the final mitigation ratio and strategy. Documentation shall be provided to the City. | Less than Significant |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **BIO-4**. Would the project interfere substantially with the movement of any native 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? | No Impact | N/A | N/A |
| **BIO-5**. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance | No Impact | N/A | N/A |
| **BIO-6**. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | Less than Significant | N/A | N/A |
| *Cultural Resources* | | | |
| **CUL-1**. Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? | Less than Significant | N/A | N/A |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **CUL-2**. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? | Potentially Significant | **MM-CUL-1.** The applicant shall ensure that all ground-disturbing activities are ceased and treatment plans are implemented if archaeological resources are encountered. In the event that archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals should be contacted and consulted and Native American construction monitoring should be initiated. The Applicant and City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis.<br><br>In the event that a cultural resource is encountered during ground-disturbing activities, the landowner(s) shall relinquish ownership of all such resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains. The artifacts shall be relinquished through one or more of the following methods and evidence of such shall be provided to the City of Moreno Valley Planning Department:<br>1. Accommodate the process for Preservation-In-Place/Onsite reburial of the discovered items with the consulting Native American tribes or bands, as detailed in the treatment plan prepared by the professional archaeologist. This shall include measures and provisions to protect the | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;<br>2. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79; therefore, the resources would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and/or<br>3. For purposes of conflict resolution, if more than one Native American tribe or band is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.<br><br>Once artifact analysis is completed, a final written report detailing the results of all research procedures and interpretation of the site shall be submitted to the lead agency for review and approval. | |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **CUL-3**. Would the project disturb any human remains, including those interred outside of dedicated cemeteries? | Potentially Significant | **MM-CUL-2.** In the event that any human remains are unearthed during project construction, the City of Moreno Valley and the Applicant shall comply with State Health and Safety Code Section 7050.5. The City of Moreno Valley and the Applicant shall immediately notify the Riverside County Coroner's office and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition. If remains are determined to be of Native American descent, the coroner has 24-hours to notify the Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely Descendant (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment or disposal, with appropriate dignity, of the human remains and any associated funerary objects. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD all reasonable options regarding the MLDs preferences for treatment.<br><br>If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| *Energy* | | | |
| **ENR-1**. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | Less than Significant | N/A | N/A |
| **ENR-2**. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | Less than Significant | N/A | N/A |
| *Geology and Soils* | | | |
| **GEO-1**. Would the project directly or indirectly cause potential substantial adverse effects, including the 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 based on other substantial evidence of as known fault. (Refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides? | Potentially Significant | **MM-GEO-1**. Kaiser Permanente shall include in the Phase I project design all recommendations provided in the site-specific geotechnical investigations prepared for the proposed Diagnostic and Treatment Building and proposed Energy Center (Appendices E-1 and E-2). These recommendations include but are not limited to those related to ground improvements, drainage improvements, foundation design, and pavement design. Recommendations for remedial actions related to geotechnical concerns shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.<br><br>**MM-GEO-2**. A geotechnical study shall be prepared during the design phases for Phases II and III of the program. Recommendations for remedial actions related to geotechnical concerns, provided by the geotechnical consultant, shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.<br><br>**MM-GEO-3**. The Office of Statewide Health Planning and Development's (OSHPD's) Facilities Development Division shall review and approve the plans and specifications of the proposed medical office building, hospital, and related hospital facilities. | Less than Significant |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **GEO-2**. Would the project result in substantial soil erosion or the loss of topsoil? | Less than Significant | N/A | N/A |
| **GEO-3**. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | Potentially Significant | **MM-GEO-1**. Kaiser Permanente shall include in the Phase I project design all recommendations provided in the site-specific geotechnical investigations prepared for the proposed Diagnostic and Treatment Building and proposed Energy Center (Appendices E-1 and E-2). These recommendations include but are not limited to those related to ground improvements, drainage improvements, foundation design, and pavement design. Recommendations for remedial actions related to geotechnical concerns shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.<br><br>**MM-GEO-2**. A geotechnical study shall be prepared during the design phases for Phases II and III of the program. Recommendations for remedial actions related to geotechnical concerns, provided by the geotechnical consultant, shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.<br><br>**MM-GEO-3**. The Office of Statewide Health Planning and Development's (OSHPD's) Facilities Development Division shall review and approve the plans and specifications of the proposed medical office building, hospital, and related hospital facilities. | Less than Significant |
| **GEO-4**. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **GEO-5**. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | No Impact | N/A | N/A |
| **GEO-6**. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | Potentially Significant | **MM-GEO-4**. Prior to the issuance of a grading permit, the Applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. Prior to commencement of excavation activities, the paleontologist shall conduct a Paleontological Sensitivity Training for all construction personnel that will conduct earthwork or grading activities. The training shall include a handout and shall focus on how to identify paleontological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event, including who to contact and the appropriate avoidance measures that need to be undertaken until the find(s) can be properly evaluated; the duties of paleontological monitors; notification and other procedures to follow upon discovery of resources; and the general steps a qualified professional paleontologist would follow in conducting a salvage investigation if one is necessary. All new construction personnel that will conduct earthwork or grading activities must take the Paleontological Sensitivity Training prior to beginning work on the project and the professional paleontologist shall make themselves available to provide the training on an as-needed basis.<br><br>**MM-GEO-5**. The applicant shall ensure the monitoring of construction excavations for paleontological resources is required for all excavations in older Quaternary alluvial fan deposits. Prior to the issuance of a grading permit, the Applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, and who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall have the authority to temporarily redirect earthmoving activities in the event that suspected paleontological | Less than Significant |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | resources are unearthed during project construction. The paleontological monitor shall be present during all construction excavations including, but not limited to grading, trenching, boring, and clearing/grubbing. Multiple earth-moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading. Monitoring may be reduced if potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by the professional paleontologist to have a low potential to contain or yield fossil resources.<br><br>**MM-GEO-6**. The applicant shall ensure that in the event that paleontological resources and/7or unique geological features are unearthed during ground-disturbing activities, all ground-disturbing activities shall be halted or diverted away from the vicinity of the find in order to evaluate the resource. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until appropriate paleontological treatment plan has been approved by the Applicant and the City of Moreno Valley. Work shall be allowed to continue outside of the buffer area. The Applicant and City of Moreno Valley shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing. Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage is required for significant discoveries. | |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **MM-GEO-7**. The applicant shall ensure that a professional paleontologist prepares a report summarizing the results of the monitoring and any salvaging efforts, the methodology used in these efforts, as well as a description of any fossils collected and their significance, as well as any necessary maps and graphics to accurately record the original location of any such resources. The report shall be submitted to the Applicant, the City of Moreno Valley, the San Bernardino County Natural History Museum, Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the required mitigation measures. | |
| *Greenhouse Gas Emissions* | | | |
| **GHG-1**. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | Less than Significant | N/A | N/A |
| **GHG-2**. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | Less than Significant | N/A | N/A |
| *Hazards and Hazardous Materials* | | | |
| **HAZ-1**. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **HAZ-2**. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | Less than Significant | N/A | N/A |
| **HAZ-3**. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | Less than Significant | N/A | N/A |
| **HAZ-4**. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would is create a significant hazard to the public or the environment? | No Impact | N/A | N/A |
| **HAZ-5**. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | No Impact | N/A | N/A |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **HAZ-6**. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | Less than Significant | N/A | N/A |
| **HAZ-7**.Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | Less than Significant | N/A | N/A |
| *Hydrology/Water Quality* | | | |
| **HYD-1**. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | Potentially Significant | **MM-HYD-1**. Treatment control Best Management Practice (BMP) features proposed for the northeastern project area, including an underground storage vault and an underground storage pipe system (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase I of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.<br><br>**MM-HYD-2**. Treatment control BMP features proposed for the southern project area, including multiple sand-filled detention basins (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase II of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.<br><br>**MM-HYD-3**. Consistent with the Design Handbook for Low Impact Development Best Management Practices (Riverside County Flood Control Water Conservation District 2011), Section 3.7 - Sand Filter Basins, Table 1-Recommended Inspection and Maintenance Activities for Sand Filter Basins, the following inspection and maintenance activities shall be implemented following basin construction: | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | 1. Semi-monthly, including just before the annual storm season and following rainfall events, the applicant shall:<br>a. Complete routine maintenance and inspection.<br>b. Remove debris and litter from the entire basin to minimize filter clogging and to improve aesthetics.<br>c. Check for obvious problems, especially filter clogging and signs of long-term ponding. Repair as needed. Address odor, insects, and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding of water.<br>d. Check for erosion and sediment laden areas in the basin. Repair as needed. Clean forebay if needed.<br>e. Revegetate side slopes where needed.<br>2. Annually, if possible, schedule inspections within 72 hours after a significant rainfall, including:<br>a. Inspection of hydraulic and structural facilities. Examine the overflow outlet for clogging, the embankment and spillway integrity, and damage to any structural element.<br>b. Check side slopes and embankments for erosion, slumping, and overgrowth.<br>c. Inspect the sand media at the filter drain to verify it is allowing acceptable infiltration. Annually scarify the top 3 inches by raking the filter drain's sand surface.<br>d. Check the filter drain underdrains for damage or clogging. Repair as needed.<br>e. Repair basin inlets, outlets, forebays, and energy dissipaters whenever damage is discovered.<br>f. No water should be present 72 hours after an event. No long-term standing water should be present at all. No algae formation should be visible. Correct problems as needed. | |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **HYD-2**. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | Less than Significant | N/A | N/A |
| **HYD-3**. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **HYD-4**. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? | No Impacts | N/A | N/A |
| **HYD-5**. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | Potentially Significant | **MM-HYD-1**. Treatment control Best Management Practice (BMP) features proposed for the northeastern project area, including an underground storage vault and an underground storage pipe system (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase I of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.<br><br>**MM-HYD-2**. Treatment control BMP features proposed for the southern project area, including multiple sand-filled detention basins (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase II of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.<br><br>**MM-HYD-3**. Consistent with the Design Handbook for Low Impact Development Best Management Practices (Riverside County Flood Control Water Conservation District 2011), Section 3.7 - Sand Filter Basins, Table 1-Recommended Inspection and Maintenance Activities for Sand Filter Basins, the following inspection and maintenance activities shall be implemented following basin construction:<br>3. Semi-monthly, including just before the annual storm season and following rainfall events, the applicant shall:<br>a. Complete routine maintenance and inspection.<br>b. Remove debris and litter from the entire basin to minimize filter clogging and to improve aesthetics.<br>c. Check for obvious problems, especially filter clogging and signs of long-term ponding. Repair as needed. Address odor, insects, | Less than Significant |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding of water.<br>d. Check for erosion and sediment laden areas in the basin. Repair as needed. Clean forebay if needed.<br>e. Revegetate side slopes where needed.<br>4. Annually, if possible, schedule inspections within 72 hours after a significant rainfall, including:<br>a. Inspection of hydraulic and structural facilities. Examine the overflow outlet for clogging, the embankment and spillway integrity, and damage to any structural element.<br>b. Check side slopes and embankments for erosion, slumping, and overgrowth.<br>c. Inspect the sand media at the filter drain to verify it is allowing acceptable infiltration. Annually scarify the top 3 inches by raking the filter drain's sand surface.<br>d. Check the filter drain underdrains for damage or clogging. Repair as needed.<br>e. Repair basin inlets, outlets, forebays, and energy dissipaters whenever damage is discovered.<br>f. No water should be present 72 hours after an event. No long-term standing water should be present at all. No algae formation should be visible. Correct problems as needed. | |
| *Land Use and Planning* | | | |
| **LU-1**. Would the project physically divide an established community? | No Impacts | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **LU-2**. Would the project conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | Less than Significant | N/A | N/A |
| *Noise* | | | |
| **NOI-1**. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | Potentially Significant | **MM-NOI-1**. Prior to grading permit issuance, and to help ensure construction noise levels at community noise-sensitive receptors (e.g., residences) are compliant with City of Moreno Valley (City) requirements and adopted Federal Transit Administration guidance, the applicant or its construction contractor(s) shall implement the following:<br>• Construction noise reduction methods such as shutting off idling equipment, and usage of electric-driven air compressors and similar power tools in lieu of diesel-powered equipment, shall be applied where feasible.<br>• During construction, stationary operating construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors. When increased distance cannot be used to help reduce noise exposure at a sensitive receptor due to loud operation of stationary equipment, apply feasible on-site noise attenuation measures that may include temporary noise barriers (e.g., acoustical blankets or field-erected wooden walls) or the placement of on-site tanks, containers, or trailers so that direct noise source-to-receptor path(s) are occluded.<br>• During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors while being located on the project site or on existing developed areas. | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | • Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary. In the event the City receives a complaint, appropriate response (that may include corrective actions, as warranted by investigation of the received complaint and determination of noise exceedance) shall be implemented and a report of the response and/or action provided to the reporting party in a reasonable timeframe.<br><br>**MM-NOI-2**. The construction contractor shall require that all construction equipment be operated with original factory-installed or factory-approved noise control equipment (e.g., exhaust mufflers and silencers, intake filters, and engine shrouds as appropriate) that is properly installed and in good working order. Enforcement shall be accomplished via field inspections by applicant or third-party personnel during construction activities to the satisfaction of the City of Moreno Valley Engineering Department.<br><br>**MM-NOI-3**. The applicant shall require that the combined outdoor noise emission from operation of the two emergency generators (i.e., 1 x 1-MW and 1 x 2-MW gensets), including sound attenuated exhaust and casing radiated (and any air intakes or heat discharge) would not exceed 55 dBA Leq at a distance of 200 feet. Achievement of this acoustical performance metric shall be demonstrated either by on-site field noise testing or via engineering specifications (e.g., expected sound pressure levels at a defined distance from the equipment) provided by the equipment supplier and/or manufacturer and disclosed as part of the final project design (and reviewed by a qualified acoustical consultant) prior to equipment submittal approval and project construction.<br><br>**MM-NOI-4**. The applicant shall require that when project design details are finalized, and prior to submission of the final project design to the City, an acoustical analysis of aggregate project operation noise from expected stationary | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | sources of sound emission (e.g., HVAC systems) shall be conducted or reviewed by a qualified acoustical consultant (e.g., Institute of Noise Control Engineering [INCE] Board Certified Member or as otherwise approved by the City of Moreno Valley). Using reference sound level data provided by (and thus the responsibility of) equipment suppliers as part of the modeling input parameters, this predictive analysis shall evaluate aggregate noise levels from these stationary sound sources at the same assessment positions per each of three project phases as appearing in Table 4.11-9. The results of this acoustical analysis shall be summarized in a concise report, and include descriptions of equipment noise control, sound transmission path abatement, and other conditions as reflected by the final project design submitted to the City that contribute to expected attainment of noise levels that are compliant with applicable daytime and nighttime thresholds at these positions. This analysis shall be performed to include two operation noise scenarios per phase: with and without operation of the proposed emergency generators. | |
| **NOI-2**. Would the project result in exposure to or generation of excessive groundborne vibration or groundborne noise levels? | Less than Significant | N/A | N/A |
| **NOI-3**. Would the project expose people residing or working in the project area to excessive noise levels (for a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport)? | No Impact | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| *Population and Housing* | | | |
| **POP-1**. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | Less than Significant | N/A | N/A |
| **POP-2**. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | No Impact | N/A | N/A |
| *Public Services and Recreation* | | | |
| **PUB-1**. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire/life safety protection; police protection; schools; parks, or other public facilities? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **PUB-2**. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | Less than Significant | N/A | N/A |
| **PUB-3**. Would the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | Less than Significant | N/A | N/A |
| *Transportation* | | | |
| **TRA-1**. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | Potentially Significant | **Phase I Completion Year (2023) with Project Traffic Conditions**<br><br>***Intersections***<br>**MM-TRA-1**. Intersection No. 29 – Lasselle Street/Alessandro Boulevard: Pay TUMF fee for the following improvements: add eastbound through (EBT) and westbound through (WBT) lanes.<br><br>**MM-TRA-2**. Intersection No. 39 – Evans Road/Ramona Expressway: Pay fair-share (1.6%) for the following improvements: add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) turn lanes.<br><br>**MM-TRA-3**. Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Pay fair-share (26.8%) for the following improvements: add southbound left (SBL) turn lane. | Significant and Unavoidable |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **MM-TRA-4**. Intersection No. 50 – Pearl Lane - Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the following improvement: install traffic signal.<br><br>**MM-TRA-5**. Intersection No. 56 – Pearl Lane - Moreno Beach Drive/SR-60 Eastbound Ramps: Pay TUMF fee for the following improvements: add second southbound through (SBT) lane and eastbound right (EBR) turn lane.<br><br>**MM-TRA-6**. Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay fair-share (8.0%) for the following improvements: add second southbound through (SBT) lane and northbound through (NBT) lane. | |
| | | **MM-TRA-7**. Intersection No. 30 – Lasselle Street/Cactus Avenue: Pay fair-share (16.3%) for the following improvement: add right-turn overlap phasing for westbound right (WBR) turn lane.<br><br>**MM-TRA-8**. Intersection No. 33 – Lasselle Street/Cactus Avenue: Pay fair-share (9.2%) for the following improvement: add westbound right (WBR) turn lane. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Intersection No. 8 – Elsworth Street/Cactus Avenue<br>• Intersection No. 17 – Indian Street/Cactus Avenue<br>• Intersection No. 27 – Kitching Street/Cactus Avenue<br>• Intersection No. 28 – Kitching Street/Iris Avenue<br>• Intersection No. 33 – Lasselle Street/Cactus Avenue: Pay fair-share (9.2%) for the following improvement: add westbound right turn lane<br>• Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School | Significant and Unavoidable |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | ***Roadway Segments***<br>**MM-TRA-9**. Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard: Pay fair-share (17.3%) to improve the roadway segment to the classification of four-lane divided arterial.<br><br>**MM-TRA-10**. Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue: Pay fair-share (15.2%) to improve the roadway segment to the classification of four-lane divided arterial.<br><br>**MM-TRA-11**. Alessandro Boulevard between Kitching Street and Lasselle Street: Pay TUMF fee to improve the roadway segment to the classification of four-lane divided arterial.<br><br>**MM-TRA-12**. Alessandro Boulevard between Lasselle Street and Nason Street: Pay TUMF fee to improve the roadway segment to the classification of four-lane divided arterial.<br><br>**MM-TRA-13**. Alessandro Boulevard between Nason Street and Moreno Beach Drive: Pay TUMF fee to improve the roadway segment to the classification of a four-lane divided arterial. | Significant and Unavoidable |
| | | **MM-TRA-14**. Alessandro Boulevard between Nason Street and Moreno Beach Drive: Pay TUMF fee to improve the roadway segment to the classification of a four-lane divided arterial. | Significant and Unavoidable |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **Phase II Completion Year (2032) with Project Traffic Conditions** | |
| | | ***Intersections***<br>**MM-TRA-15**. Intersection No. 5 – I-215 northbound ramps - Old 215 Frontage Road/Cactus Avenue: Pay TUMF fee for the following improvements: interchange redesign and widening of the bridge to 6 lanes. Add second northbound left (NBL) and northbound through (NBT), second southbound left (SBL), dedicated southbound right (SBR) with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing. | Significant and Unavoidable |
| | | **MM-TRA-16**. Intersection No. 6 – Day Street/Alessandro Boulevard: Pay TUMF fee for the addition of a westbound through (WBT) lane. Pay fair-share (1.0%) for the following improvements: convert north-south movement to protected phasing, add second southbound left (SBL), southbound right (SBR) with overlap phasing, second eastbound left (EBL) turn lane, add overlap phasing to westbound right (WBR). | |
| | | **MM-TRA-17**. Intersection No. 11 – Graham Street/Alessandro Boulevard: Pay TUMF fee for the addition of an eastbound through (EBT) lane. | |
| | | **MM-TRA-18**. Intersection No. 25 – Perris Boulevard/Harley Knox Boulevard: Pay fair-share (1.3%) for the following improvements: add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) movements. | |
| | | **MM-TRA-19**. Intersection No. 29 – Lasselle Street/Alessandro Boulevard: Pay fair-share (4.3%) for the addition of a southbound through (SBT) lane. | |
| | | **MM-TRA-20**. Intersection No. 45 – Nason Street/Eucalyptus Avenue: Pay fair-share (6.1%) for the following improvements: add eastbound right (EBR) turn lane, northbound right (NBR) turn lane, and southbound right (SBR) turn lanes. | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | Add right-turn overlap phasing for eastbound right (EBR), northbound right (NBR), and southbound right (SBR) movements.<br><br>**MM-TRA-21**. Intersection No. 56 – Pearl Lane – Moreno Beach Drive/SR-60 Eastbound Ramps: Pay TUMF fee for the following improvements: add second northbound through (NBT), add second southbound through (SBT), restripe southbound through left to southbound left and restripe eastbound through left through to eastbound left-through-right.<br><br>**MM-TRA-22**. Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay TUMF fee for the addition of second eastbound through (EBT) lane and second westbound through (WBT) lane, second northbound through (NBT) lane, second southbound through (SBT) lane and northbound right (NBR) lane. Pay fair-share (8.0%) for northbound right overlap phasing. | |
| | | **MM-TRA-23**. Intersection No. 19 – Perris Boulevard/Alessandro Boulevard: Pay fair-share (2.7%) for the following improvements: add eastbound through (EBT) by removing the center median along both east and west leg approaches and shifting the left-turn lanes to accommodate the through lane. Add right-turn overlap phasing for the NBR, SBR, and EBR. No further mitigations feasible due to right-of-way constraints.<br><br>**MM-TRA-24**. Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Pay fair-share (26.8%) for the following improvements: a second southbound right (SBR). No further mitigations feasible due to right-of-way constraints. | Significant and Unavoidable |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | No feasible mitigation measures available for:<br>• Intersection No. 7 – Elsworth Street/Alessandro Boulevard<br>• Intersection No. 8 – Elsworth Street/Cactus Avenue<br>• Intersection No. 12 – Graham Street-Riverside Drive/Cactus Avenue<br>• Intersection No. 17 – Indian Street/Cactus Avenue<br>• Intersection No. 27 – Kitching Street/ Cactus Avenue<br>• Intersection No. 28 – Kitching Street/Iris Avenue<br>• Intersection No. 30 – Lasselle Street/Cactus Avenue<br>• Intersection No. 32 – Lasselle Street/Iris Avenue<br>• Intersection No. 33 – Lasselle Street/Krameria Avenue<br>• Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School | Significant and Unavoidable |
| | | ***Roadway Segments***<br>**MM-TRA-25**. Lasselle Street-Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway: Pay fair-share (4.0%) to improve the roadway segment to the classification of a six-lane arterial.<br><br>**MM-TRA-26**. Nason Street-Evans Road between Eucalyptus Avenue and Cottonwood Avenue: Pay fair-share (6.7%) to improve the roadway segment to the classification of a six-lane arterial.<br><br>**MM-TRA-27**. Nason Street-Evans Road between Cottonwood Avenue and Alessandro Boulevard: Pay fair-share (9.0%) to improve the roadway segment to the classification of a six-lane arterial.<br><br>**MM-TRA-28**. Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue: Pay fair-share (7.4%) to improve the roadway segment to the classification of a six-lane divided arterial. | Significant and Unavoidable |

## Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **MM-TRA-29**. Alessandro Boulevard between Day Street and Elsworth Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.<br><br>**MM-TRA-30**. Alessandro Boulevard between Frederick Street and Graham Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.<br><br>**MM-TRA-31**. Alessandro Boulevard between Graham Street and Heacock Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.<br><br>**MM-TRA-32**. Alessandro Boulevard between Kitching Street and Lasselle Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial. | |
| | | **MM-TRA-33**. Alessandro Boulevard between I-215 northbound ramps and Day Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Lasselle Street between Iris Avenue and Krameria Avenue<br>• Lasselle Street between Krameria Avenue and Via Xavier Lane<br>• Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra<br>• Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata<br>• Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive<br>• Cactus Avenue between I-215 northbound ramps – Old Frontage Road and Elsworth Street | Significant and Unavoidable |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **Phase III Completion Year (2038) with Project Traffic Conditions**<br><br>***Intersections***<br>**MM-TRA-34**. Intersection No. 9: Frederick Street/Alessandro Boulevard: Pay TUMF fee for the addition of an eastbound through (EBT) lane.<br><br>**MM-TRA-35**. Intersection No. 11: Graham Street/Alessandro Boulevard: Pay TUMF fee for the addition of second eastbound through (EBT) lane and a second westbound through (WBT) lane.<br><br>**MM-TRA-36**. Intersection No. 13: Heacock Street/Alessandro Boulevard: Pay fair-share (2.6%) for the following improvements: add second eastbound left (EBL) turn lane.<br><br>**MM-TRA-37**. Intersection No. 22: Perris Boulevard/Krameria Avenue: Pay fair-share (1.5%) to restripe westbound approach to westbound left (WBL) and shared westbound through-right (WBTR).<br><br>**MM-TRA-38**. Intersection No. 25: Perris Boulevard/Harley Knox Boulevard: Pay fair-share (1.3%) for the addition of an eastbound left (EBL) turn lane and add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) movements.<br><br>**MM-TRA-39**. Intersection No. 29: Lasselle Street/Alessandro Boulevard: Pay TUMF fee for the addition of a second westbound through (WBT) and a second eastbound through (EBT) lane.<br><br>**MM-TRA-40**. Intersection No. 47: Nason Street/Alessandro Boulevard: Pay TUMF fee for the addition of a westbound through (WBT) lane. | Significant and Unavoidable |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **MM-TRA-41**. Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue; pay fair-share (26.8%) for the addition of a southbound right (SBR) turn lane.<br><br>**MM-TRA-42**. Intersection No. 50: Peal Lane-Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the addition of an eastbound left (EBL) turn lane.<br><br>**MM-TRA-43**. Intersection No. 58: Moreno Beach Drive/Cottonwood Avenue: Pay fair-share (9.4%) for the following improvements: add westbound left (WBL), and restripe westbound approach as westbound left (WBL) and shared westbound through-right (WBTR). Change the split phasing for the east-west approach to permitted phasing.<br><br>**MM-TRA-44**. Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay fair-share (8.0%) for addition of second westbound left (WBL) turn-lane. | |
| | | **MM-TRA-45**. Intersection No. 21: Perris Boulevard/Iris Avenue: Pay fair-share (3.1%) to add overlap phasing to northbound right (NBR).<br><br>**MM-TRA-46**. Intersection No. 39 – Evans Road/Ramona Expressway: Pay TUMF fee for addition of westbound through (WBT) lane. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Intersection No. 6 – Day Street/Alessandro Boulevard<br>• Intersection No. 7 – Elsworth Street/Alessandro Boulevard<br>• Intersection No. 8 – Elsworth Street/Cactus Avenue<br>• Intersection No. 12 – Graham Street-Riverside Drive/Cactus Avenue<br>• Intersection No. 17 – Indian Street/Cactus Avenue<br>• Intersection No. 19 – Perris Boulevard/Alessandro Boulevard<br>• Intersection No. 27 – Kitching Street/ Cactus Avenue<br>• Intersection No. 28 – Kitching Street/Iris Avenue | Significant and Unavoidable |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | • Intersection No. 30 – Lasselle Street/Cactus Avenue<br>• Intersection No. 32 – Lasselle Street/Iris Avenue<br>• Intersection No. 33 – Lasselle Street/Krameria Avenue<br>• Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School<br>• Intersection No. 57 – Moreno Beach Drive/Eucalyptus Avenue | |
| | | ***Roadway Segments***<br>**MM-TRA-47**. Alessandro Boulevard between Perris Boulevard and Kitching Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Perris Boulevard between Krameria Avenue to San Michele Road<br>• Perris Boulevard between San Michele Road to Nandina Avenue<br>• Perris Boulevard between Nandina Avenue to Harley Knox Boulevard<br>• Lasselle Street between Iris Avenue and Krameria Avenue<br>• Lasselle Street between Krameria Avenue and Via Xavier Lane<br>• Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra<br>• Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata<br>• Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive<br>• Lasselle Street between Avenida Classica – Kentucky Derby Drive and Via De Anza-Rancho Verde High School<br>• Nason Street between Eucalyptus Avenue and Cottonwood Avenue<br>• Alessandro Boulevard between I-215 northbound ramps and Day Street<br>• Alessandro Boulevard between Graham Street and Heacock Street<br>• Alessandro Boulevard between Heacock Street and Indian Street | Significant and Unavoidable |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | • Cactus Avenue between I-215 northbound ramps – Old Frontage Road and Elsworth Street<br>• Cactus Avenue between Elsworth Street and Frederick Street<br>• Cactus Avenue between Frederick Street and Graham Street – Riverside Drive<br>• Iris Avenue between Perris Boulevard and Kitching Street<br>• Iris Avenue between Lasselle Street and Camino Flores<br>• Iris Avenue between Camino Flores and Coachlight Court – Avenida De Circo<br>• Iris Avenue between Coachlight Court – Avenida De Circo and Grade Vista Drive<br>• Iris Avenue between Grande Vista Drive and Nason Street – Hillrose Lane | |
| | | **General Plan Buildout (2040) with Project Traffic Conditions**<br><br>***Intersections***<br>**MM-TRA-48.** Intersection No. 47: Nason Street/Alessandro Boulevard: Pay fair-share (9.6%) fee for the addition of a northbound left (NBL) turn-lane.<br><br>**MM-TRA-49.** Intersection No. 50: Pearl Lane-Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the addition of a westbound left (WBL) turn lane. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Intersection No. 6: Day Street/Alessandro Boulevard:<br>• Intersection No. 7 – Elsworth Street/Alessandro Boulevard<br>• Intersection No. 8 – Elsworth Street/Cactus Avenue<br>• Intersection No. 12 – Graham Street-Riverside Drive/Cactus Avenue<br>• Intersection No. 13 - Heacock Street/Alessandro Boulevard<br>• Intersection No. 17 – Indian Street/Cactus Avenue<br>• Intersection No. 19 – Perris Boulevard/Alessandro Boulevard | Significant and Unavoidable |

# Table ES-2
## Summary of Environmental Impacts and Mitigation Measures

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | • Intersection No. 20 – Perris Boulevard/Cactus Avenue<br>• Intersection No. 21- Perris Boulevard/Iris Avenue<br>• Intersection No. 27 – Kitching Street/ Cactus Avenue<br>• Intersection No. 28 – Kitching Street/Iris Avenue<br>• Intersection No. 30 – Lasselle Street/Cactus Avenue<br>• Intersection No. 32 – Lasselle Street/Iris Avenue<br>• Intersection No. 33 – Lasselle Street/Krameria Avenue<br>• Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School<br>• Intersection No. 39 – Evans Road/Ramona Expressway<br>• Intersection No. 45 - Nason Street/Eucalyptus Avenue<br>• Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue<br>• Intersection No. 57 – Moreno Beach Drive/Eucalyptus Avenue | |
| | | ***Roadway Segments***<br>**MM-TRA-50** Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue: Pay fair-share (15.18%) to improve the roadway segment to the classification of a six-lane divided arterial.<br><br>**MM-TRA-51** Alessandro Boulevard between Lasselle Street and Nason Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial. | Significant and Unavoidable |
| | | No feasible mitigation measures available for:<br>• Perris Boulevard between Iris Avenue and Krameria Avenue<br>• Perris Boulevard between Krameria Avenue to San Michele Road<br>• Perris Boulevard between San Michele Road to Nandina Avenue<br>• Perris Boulevard between Nandina Avenue to Harley Knox Boulevard<br>• Lasselle Street between Iris Avenue and Krameria Avenue<br>• Lasselle Street between Krameria Avenue and Via Xavier Lane | Significant and Unavoidable |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | • Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra<br>• Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata<br>• Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive<br>• Lasselle Street between Avenida Classica – Kentucky Derby Drive and Via De Anza-Rancho Verde High School<br>• Nason Street between Eucalyptus Avenue and Cottonwood Avenue<br>• Alessandro Boulevard between I-215 northbound ramps and Day Street<br>• Alessandro Boulevard between Day Street and Elsworth Street<br>• Alessandro Boulevard between Frederick Street and Graham Street<br>• Alessandro Boulevard between Graham Street and Heacock Street<br>• Alessandro Boulevard between Heacock Street and Indian Street<br>• Alessandro Boulevard between Indian Street and Perris Boulevard<br>• Cactus Avenue between I-215 northbound ramps – Old<br>• Cactus Avenue between Elsworth Street and Frederick Street<br>• Cactus Avenue between Frederick Street and Graham Street – Riverside Drive<br>• Iris Avenue between Perris Boulevard and Kitching Street<br>• Iris Avenue between Lasselle Street and Camino Flores<br>• Iris Avenue between Camino Flores and Coachlight Court – Avenida De Circo<br>• Iris Avenue between Coachlight Court – Avenida De Circo and Grade Vista Drive<br>• Iris Avenue between Grande Vista Drive and Nason Street – Hillrose Lane<br>• Iris Avenue between Nason Street-Hillrose Lane and Driveway 1 | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **TRA-2**. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | Less than Significant | N/A | N/A |
| **TRA-3**. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | Less than Significant | N/A | N/A |
| **TRA-4**. Would the project result in inadequate emergency access? | Less than Significant | N/A | N/A |
| *Tribal Cultural Resources* | | | |
| **TCR-1**. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? (In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.) | Potentially Significant | **MM-TCR-1.** Prior to the issuance of a grading permit, the Applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards. The project archaeologist, in consultation with the Consulting Tribe(s), the construction manager, and any contractors (hereafter referred to as "Native American Tribal Representatives") will conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session will include a handout and will focus on how to identify archaeological and Tribal Cultural Resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, including who to contact and the appropriate avoidance measures that need to be undertaken until the find(s) can be properly evaluated; the duties of archaeological and Native American monitors; and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation if one is necessary. All new construction personnel that will conduct earthwork or grading activities must take the Archaeological Sensitivity Training prior to beginning work on the project and the professional archaeologist shall make themselves available to provide the training on an as-needed basis. A sign-in sheet shall be compiled to track attendance and shall be submitted to the City of Moreno Valley with the Phase IV Archaeological Monitoring Report.<br><br>**MM-TCR-2.** Preconstruction Notification of Native American Tribal Representatives. Prior to the issuance of a grading permit, the Applicant shall provide evidence to the City of Moreno Valley that the Native American Tribal Representatives received a minimum of 30 days advance notice of all mass grading and trenching activities, and provide evidence of monitoring agreements between the Applicant and the Tribes. The Native American Tribal Representatives shall be notified a minimum of 48 hours in advance and allowed to attend the pre-grading meeting with the City and project construction contractors and/or monitor all project mass grading and trenching activities. | Less than Significant |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | **MM-TCR-3.** Prior to grading permit issuance, the Applicant and the City of Moreno Valley shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the archaeological monitor or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Native American Tribal Representatives to the site to assess the significance of the find."<br><br>**MM-TCR-4.** Prior to the issuance of a grading permit, the Applicant shall retain a qualified archaeological monitor. The archaeological monitor will work under the direction and guidance of the qualified professional archaeologist and will meet the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archeological monitor shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. Archaeological monitoring is required at all depths and strata. The archaeological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to any known archaeological resources, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the qualified professional archaeologist.<br><br>**MM-TCR-5.** The applicant shall ensure that all ground-disturbing activities are ceased and treatment plans are implemented if tribal cultural resources (TCRs) are encountered. In the event that TCRs are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | vicinity of the find so that the find can be evaluated. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All TCRs unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards.<br><br>In the event that a TCR is encountered during ground-disturbing activities, the landowner(s) shall relinquish ownership of all such resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains. The artifacts shall be relinquished through one or more of the following methods and evidence of such shall be provided to the City of Moreno Valley Planning Department:<br>1. Accommodate the process for Preservation-In-Place/Onsite reburial of the discovered items with the consulting Native American tribes or bands, as detailed in the treatment plan prepared by the professional archaeologist. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;<br>2. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79; therefore, the resources would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and/or | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | 3. For purposes of conflict resolution, if more than one Native American tribe or band is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.<br><br>**MM-TCR-6.** Prior to building permit issuance, the project archaeologist shall prepare a final Phase IV Monitoring Report as outlined in the Cultural Resources Monitoring Program (CRMP), which shall be submitted to the City of Moreno Valley Planning Division, the appropriate Native American tribe(s), and the Eastern Information Center at the University of California, Riverside. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and CEQA, and treatment of these resources. All cultural material, excluding sacred, ceremonial, grave goods and human remains, collected during the grading monitoring program and from any previous archaeological studies or excavations on the project site shall be curated in a Riverside County repository according to the current professional repository standards and may include the Pechanga Band's curatorial facility in Temecula, California, the Western Science Center or other federally approved repository.<br><br>**MM-TCR-7.** In the event that any human remains are unearthed during project construction, the City of Moreno Valley and the Applicant shall comply with State Health and Safety Code Section 7050.5 The City of Moreno Valley and the Applicant shall immediately notify the Riverside County Coroner's office and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition. If remains are determined to be of Native American descent, the coroner has 24-hours to notify the Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely Descendant (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment or disposal, with appropriate dignity, of the human remains and any associated funerary objects. The MLD shall complete their inspection and make their | |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| | | recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD all reasonable options regarding the MLDs preferences for treatment.<br><br>If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. | |
| *Utilities and Service Systems* | | | |
| **UTL-1**. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | Less than Significant | N/A | N/A |

**Table ES-2**
**Summary of Environmental Impacts and Mitigation Measures**

| Environmental Topic | Impact Before Mitigation | Mitigation Measure(s) | Level of Significance After Mitigation |
|---|---|---|---|
| **UTL-2**. Would the project require sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | Less than Significant | N/A | N/A |
| **UTL-3**. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | Less than Significant | N/A | N/A |
| **UTL-4**. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | Less than Significant | N/A | N/A |
| **UTL-5**. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | Less than Significant | N/A | N/A |

N/A = not applicable

# ES.10 SUMMARY OF PROJECT ALTERNATIVES

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the project. Each alternative should be capable of avoiding or substantially lessening any significant impacts of the project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per Section 15126.6.

## ES.10.1 Alternatives Evaluated

This section discusses the alternatives to the project, including the No Project Alternative, under consideration. The No Project (No Development) Alternative, which is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines, examines the environmental impacts that would occur if the project were not to proceed and no development activities were to occur. The other alternatives are discussed as part of the "reasonable range of alternatives." The alternatives addressed in this section are listed below, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – Medical Office Buildings
- Alternative 3 – Reduced Project

**Alternative 1 – No Project**

Under Alternative 1, expansion and redevelopment of the existing Medical Center would not occur as discussed in Chapter 3, Project Description, of this EIR. The project site would remain unchanged. As no new development would occur on the project site, no discretionary actions would be triggered.

**Alternative 2 – Distributed Services**

Under Alternative 2, improvements would occur at the existing Medical Center, however to a lesser degree than those outlined in Chapter 3. Specifically, under Alternative 2, the existing hospital building would remain unchanged with 99 beds, the existing Medical Office Building (MOB) No. 1 would remain on the Medical Center site, and two new medical office buildings (MOB No. 3 and MOB No. 4) would be constructed. To accommodate the increased demand for parking associated with the four medical office buildings, three new above-ground parking structures would be constructed to provide a total of 1,510 parking spaces on the Medical Center site. One new parking structure would be located north of the existing hospital building, one new parking structure would be located in the western portion of the project site to provide access to

MOB No. 2 and MOB No. 3, and the third new parking structure would be located in the southeastern corner of the project site adjacent to MOB No. 4.

**Alternative 3 – Reduced Project**

Under Alternative 3, improvements would occur at the existing Medical Center, however to a lesser degree that those outlined in Chapter 3. Specifically, under Alternative 3, a new 95,000 square foot D&T Building, a 30,000 square foot Energy Center, two new hospital towers with a total of 200 beds, and one new parking structure would be constructed in a total of two phases. Under Phase I, the following would be constructed:

- **D&T Building**: The proposed approximately 95,000 square foot expansion of the existing hospital would allow for a D&T Building wing, which would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices. The D&T Building would be two stories in height, approximately 38 feet tall, and located east of the existing hospital and accessed via a new temporary entrance and covered drop-off canopy. Surface parking would be provided to the south and include seven new accessible surface parking spaces south of the new covered drop-off canopy.
- **Energy Center**: The hospital is currently serviced by an existing Central Utility Plant (CUP), located in the northwestern corner of the existing hospital building. As part of Phase I, an Energy Center, which would be approximately 22,000 square feet in size, would be constructed to replace the existing CUP. The Energy Center would include three emergency generators, bulk oxygen, and two cooling towers. The Energy Center would contain all of the major mechanical and electrical equipment for the existing hospital facility, which includes electric-centrifugal water cooler chillers, cooling towers, water boilers and steam boilers, and microturbines. Upon completion and operation of the Energy Center, the existing CUP would be decommissioned but remain on site until Phase II.
- **Temporary Parking**: During Phase I, a total 45 parking temporary surface parking spaces would be provided.

Under Phase II, the following would be constructed:

- **Hospital and D&T Expansion**: North of the existing hospital, two new hospital tower wings, the North Tower and the East Tower, would be constructed. Collectively, these two new towers would be approximately 380,000 square feet and have approximately 220 new patient beds. The new towers would include seven stories and be approximately 137 feet in height. Access to the new hospital towers would be provided via the main Medical Center driveway accessed via Iris Avenue. A new main hospital entrance with a circular turnaround area would be constructed in the northern portion of the site adjacent to the new North Tower. Connected to, and south of the East Tower, would be an approximately 95,000 square foot expansion of the D&T Building. Additionally, connected to, and north of, the North Tower would be a new hospital loading dock and service yard.

- **Energy Center Expansion**: The Energy Center constructed under Phase I would be expanded during Phase II to accommodate ultimate buildout of the Master Plan. The expansion of the Energy Center under Phase II would include the addition of approximately 8,000 square feet with an additional cooling tower and additional mechanical, electrical and plumbing equipment would be added.
- **Parking Structure**: During Phase II, one new multilevel aboveground parking structure would be constructed. Parking Structure No. 2 would be located in the most western portion of the project site and be approximately 61.5 feet in height. This multilevel aboveground parking structure would include approximately 1,400 parking spaces. Internal access roads would be constructed throughout the Medical Center to connect the existing and new buildings to the existing surface parking lots and new parking structures.

At ultimate buildout of Alternative 3, the Medical Center would include a newly constructed approximately 400,000 square foot hospital building with two new towers, the existing hospital building, a new Emergency Department and a D&T Building, an Energy Center totaling approximately 30,000 square feet, and a total of 1,550 parking spaces provided in one multilevel aboveground parking structures and surface parking lots.

The new hospital would include full-service general acute care facilities and would accommodate approximately 320 beds. In addition to the inpatient nursing functions, the hospital buildings would include ancillary services, such as medical imaging/radiology, clinical laboratory and blood bank, operating rooms and associated recovery spaces, inpatient pharmacies, and an emergency department, which would have associated treatment rooms. The hospital buildings would also include administrative offices and conference rooms, as well as general building support departments such as environmental and material services, cafeteria and inpatient food services, communication, linen, and biomedical engineering.

The approximately 475,000 square foot D&T Building of the hospital would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices. The D&T Building would also provide member services departments including a business office, health education, and conference rooms.

## ES.10.2 Environmentally Superior Alternative

Table ES-3 provides a summary of the alternatives impact analysis considered in the EIR and compares each impact of the areas of potential environmental effects to the proposed project per CEQA.

**Table ES-3**
**Comparison of Project and Alternatives Impacts**

| Environmental Issue Area | Proposed Project | Alternative 1 No Project | Alternative 2 Distributed Services | Alternative 3 Reduced Project |
|---|---|---|---|---|
| Aesthetics | Less than Significant | ▼ | ▼ | ▼ |
| Air Quality | Significant and Unavoidable | ▼ | ▼ | ▼ |
| Biological Resources | Less than Significant with Mitigation | ▼ | = | = |
| Cultural Resources | Less than Significant with Mitigation | ▼ | = | ▼ |
| Energy | Less than Significant | ▼ | ▼ | ▼ |
| Geology and Soils | Less than Significant with Mitigation | ▼ | = | ▼ |
| Greenhouse Gas Emissions | Less than Significant | ▼ | ▼ | ▼ |
| Hazards/Hazardous Materials | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Hydrology/Water Quality | Less than Significant with Mitigation | ▼ | = | ▼ |
| Land Use and Planning | Less than Significant | ▼ | = | ▼ |
| Noise | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Population/Housing | Less than Significant | ▼ | ▼ | ▼ |
| Public Services/Recreation | Less than Significant | ▼ | ▼ | ▼ |
| Transportation | Significant and Unavoidable | ▼ | ▼ | ▼ |
| Tribal Cultural Resources | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Utilities/Service Systems | Less than Significant | ▼ | ▼ | ▼ |

**Notes:** **=** = Alternative is likely to result in similar impacts to issue when compared to project; ▼ = Alternative is likely to result in reduced impacts to issue when compared to project; ▲ = Alternative is likely to result in greater impacts to issue when compared to project.

As indicated in Table ES-3, Alternative 1, the No Project Alternative, would result in the least environmental impacts, and therefore would be considered the Environmentally Superior Alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the Environmentally Superior Alternative is the No Project Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Of the alternatives previously evaluated, Alternative 3 was found to be environmentally superior over the proposed project (see Table ES-3) because it had the most reductions in impacts from the proposed project. Alternative 3 was found to result in fewer aesthetic, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and recreation, transportation, tribal cultural resources, and utilities and service systems impacts. Alternative 3 would also result in fewer significant and unavoidable air quality and transportation impacts through the reduction in over 10,000 daily vehicle trips. Under Alternative 3, comparable impacts to biological resources would occur when compared to the proposed project because the same resources would be potentially disturbed by project construction activities. While Alternative 3 would be the Environmentally Superior Alternative, this alternative would not achieve all primary objectives of the proposed project and would not fully develop available and unused land on site, which the City has planned for medical center uses. Alternative 3 would not provide new state-of-the-art medical facilities to the same extent as the proposed project and would not accommodate the needs of the existing and projected future Kaiser Permanente membership.

## ES.11 REFERENCES CITED

City of Moreno Valley. 2017a. City of Moreno Valley, Figure 202, Land Use Map. Accessed November 12, 2018. http://www.moval.org/city_hall/general-plan/landuse-map.pdf.

City of Moreno Valley. 2017b. City of Moreno Valley, Zoning Map. Accessed November 12, 2018. http://www.moval.org/cdd/pdfs/ZoningMap.pdf.

CO Architects. 2019. *Kaiser Permanente Moreno Valley Medical Center Master Plot Plan & Phase I Plot Plan*. March 12, 2019.

Secor. 2007. Phase I Environmental Site Assessment for Kaiser Foundation Health Plan Inc., Moreno Valley Community Hospital, 27300 Iris Avenue, Moreno Valley, California 92555. April 11.

# CHAPTER 1
# INTRODUCTION

## 1.1 PURPOSE AND SCOPE

The purpose of this environmental impact report (EIR) is to disclose the potential environmental impacts of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The proposed project constitutes a “project” as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15378. The City of Moreno Valley (City) is the lead agency in preparing this EIR in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and implementing the CEQA Guidelines (14 CCR 15000 et seq.). The analysis within this EIR includes both project- and programmatic-level analyses.

Kaiser Foundation Hospitals, also known as Kaiser Permanente, is a California nonprofit public benefit corporation and is proposing to expand and redevelop the existing Moreno Valley Medical Center on the project site. Kaiser Permanente intends to provide a comprehensive range of state-of-the-art health care services to Kaiser Permanente members in the City and surrounding communities. Kaiser Permanente is requesting the approval of a Master Plot Plan for Phase I of the project, approval of a Plot Plan for the proposed Diagnostic and Treatment Building within Phase I, and approval of a Plot Plan for the proposed Energy Center within Phase I. The project would be constructed in three phases, Phases I through III. Details of each phase of the project are described in Chapter 3, Project Description. At full buildout, the redeveloped Medical Center would include an approximately 460-bed hospital, hospital support buildings, outpatient medical office buildings, an energy center, and surface and structured parking. As discussed in detail throughout this EIR, Phase I is being evaluated at a project-level and Phase II and Phase III are being evaluated at a programmatic-level.

EIRs are informational documents “which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.” (14 CCR 15121). The purpose of this EIR is to present the evaluation of the anticipated environmental effects of the project.

This EIR is intended for use by City decision makers (i.e., City Planning Commission and City Council), other public agencies, and the general public. It provides relevant information concerning the potential environmental effects associated with the construction and operation of the project.

# 1.2 CEQA REQUIREMENTS

## 1.2.1 CEQA Compliance

CEQA (California Public Resources Code, Section 21000 et seq.) requires the preparation of an EIR for any project that a lead agency determines may have a significant impact on the environment. According to Section 21002.1(a) of the CEQA statutes, "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." CEQA also establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed, and the extent and types of impacts that the project and its alternatives would have on the environment if they were to be implemented. This EIR has been prepared to comply with all criteria, standards, and procedures of the CEQA Guidelines (14 CCR 15000 et seq.). This document includes project-level analysis of Phase I, as well as program-level analysis of Phases II and III pursuant to Section 15168 of the CEQA Guidelines. This EIR represents the independent judgment of the City as lead agency.

## 1.2.2 Environmental Procedures

The basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways that environmental damage can be avoided or significantly reduced;
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved (14 CCR 15002).

The EIR process typically consists of three parts: (1) the notice of preparation (NOP), (2) draft EIR, and (3) final EIR. Since the City has determined that an EIR is required for the project, pursuant to Section 15060(d) of the CEQA Statute and Guidelines, preparation of an initial study was not required. The NOP was intended to encourage interagency communication concerning the proposed action and provide sufficient background information about the proposed action so that agencies and organizations could respond with specific comments and questions on the scope and content of the EIR. Based upon the findings contained within the NOP, the City concluded that an EIR should be prepared.

The NOP for the EIR was distributed to the State Clearinghouse, interested agencies, groups, and individuals on November 26, 2018. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. The 30-day NOP public review period ended December 31, 2018. During the 30-day public review period of the NOP, the City held a scoping meeting within the City Council Chambers at 6:00 p.m. on December 12, 2018, to gather additional public input on the project. Comments received during the NOP public review period were considered during the preparation of this EIR. The NOP/scoping letter, distribution list, and comments are included in Appendix A of this EIR. Based on the scope of analysis for this EIR, the following issues were determined to be potentially significant and are therefore addressed in Chapter 4, Environmental Impact Analysis, of this document:

- Aesthetics
- Air Quality
- Biological resources
- Cultural resources
- Energy
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials (including wildfires)
- Hydrology and water quality
- Land use and planning
- Noise
- Population and housing
- Public services and recreation
- Transportation
- Tribal cultural resources
- Utilities and service systems

Additional CEQA-mandated environmental topics, such as agricultural and forestry resources, mineral resources, and wildfire were not found to be significant based on the nature and location of the proposed project as well as the scoping results. These issues are addressed in Chapter 5, Mandatory CEQA Discussion Topics, of the EIR.

As the lead agency for the project, the City has assumed responsibility for preparing this document. The decision to consider the project is within the purview of the City Planning Commission and City Council. The City will use the information included in this EIR to consider potential impacts to the physical environment associated with the project when considering approval of the project. As set forth in Section 15021 of the CEQA Guidelines, the City, as lead agency, has the duty to avoid or minimize environmental damage where feasible. Furthermore, 14 CCR 15021(d) states that:

> CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public

> objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.

In accordance with CEQA, the lead agency will be required to make findings for any environmental impact of the project that cannot be mitigated to a less than significant level. If the lead agency determines that the benefits of the project outweigh any unmitigated, significant environmental effects, the agency will be required to adopt a statement of overriding considerations stating the reasons supporting their action notwithstanding the project's significant environmental effects.

The EIR will be made available for review to the public and public agencies for 45 days to provide comments on the "sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (14 CCR 15204).

### 1.2.3 Environmental Impact Report Format

An executive summary of this EIR is provided at the beginning of this document. The summary includes the conclusions of the environmental analysis and a comparative summary of the project with the alternatives analyzed in this EIR. Chapter 1, Introduction, describes the project in light of the required environmental review procedures. Chapter 2, Environmental Setting, describes the project location and physical environmental setting. Chapter 3 provides the project description, the purpose and objectives of the project, required discretionary approvals, and a brief description of project changes in response to environmental issues. Chapter 4 consists of the environmental analysis, which examines the potentially significant environmental issues. Chapter 5 addresses mandatory CEQA topics, effects found not to be significant, and growth-inducing impacts. Chapter 6, Cumulative Impact Analysis, addresses cumulative impacts associated with the proposed project and related projects. Chapter 7, Alternatives, addresses a reasonable range of alternatives to the proposed project. Chapter 8 lists EIR preparers. The remaining EIR sections and appendices are provided as set forth in the table of contents.

# CHAPTER 2
# ENVIRONMENTAL SETTING

This chapter provides a description of existing site conditions for the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) site. The chapter also provides an overview of the local and regional environmental setting of the project, per Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. More details regarding the setting specifically pertaining to each environmental issue are provided at the beginning of each impact area addressed in Chapter 4, Environmental Impact Analysis, of this environmental impact report (EIR).

## 2.1 LOCATION

Regionally, the project site, which is the existing Kaiser Permanente Moreno Valley Medical Center, is located east of Interstate 215, south of State Route 60, and north of Lake Perris within the City of Moreno Valley (City). More specifically, the project site is located on the north side of Iris Avenue, west of Oliver Street, and east of Nason Street at 27300 Iris Avenue, Moreno Valley California, 92555 (see Figure 2-1, Project Location). The project site is composed of two Assessor's Parcel Numbers: 486-310-033 and 486-310-034. The project site is comprised of 30 acres, approximately two-thirds of which is developed with a 130,000 square-foot 100-bed hospital, two medical office buildings totaling approximately 89,500 square feet, a central energy center, modular trailers/conference rooms, and surface parking. The project site has a General Plan land use designation of Commercial and Office/Residential, has two zoning designations, of Office Commercial and Community Commercial, and is within the Medical Use Overlay district. The Medical Use Overlay district is designed to create a medical corridor by limiting land uses to those that are supportive of and compatible with the City's two existing hospitals.

The latitude and longitude of the approximate center of the project site is 33°53′49.704″ North and 117°11′12.379″ West. The project site is included within the southwest and southeast quarters of the northwest quarter of Section 22 of Township 3 South, Range 3 West of the Sunnymead 7.5-minute quadrangle, as mapped by the U.S. Geological Survey.

## 2.2 PHYSICAL CHARACTERISTICS

### 2.2.1 Existing Developed Site Conditions

The project site is composed of 30 acres and approximately two-thirds of the site is currently developed with an existing Kaiser Medical Center. The project site was historically used for agricultural purposes from at least 1938 until 1989. In 1989 the project site was developed with the current Kaiser Medical Center building and ancillary facilities. The project site contains improvements that involve the use, handling and storage of chemical materials, including a backup generator, chillers, on-site x-ray film processing, and a laboratory.

### 2.2.2 Existing Undeveloped Site Conditions

The project site and surrounding area is predominantly developed for the existing Kaiser Moreno Valley Medical Center campus and associated paved parking lots. Restored native scrub vegetation is located within the western portion of the project site, associated with a water quality detention basin and adjacent undeveloped land to the south of the detention basin. Non-native grasses and compacted bare ground, with a temporary construction yard, characterize the northern portion of the project site. Scattered ornamental landscaped trees and grass sod occur throughout the developed portions of the project site associated with the Medical Center.

Iris Avenue borders the project site to the south, and undeveloped grassland fields occur to the north, east, and west of the project site. Land use in the vicinity of the project site includes residential development to the south across Iris Avenue, to the east across Oliver Street, and to the west across Nason Street. A concrete-lined flood control channel is located north of the project site, and several water quality basins have been previously installed between the project site and the flood control channel.

## 2.3 SURROUNDING LAND USES

The general vicinity surrounding the project site is developed with a mix of residential and undeveloped vacant land. Single family residential development generally occurs to the south, east, and west of the existing hospital. Iris Avenue forms the southern site boundary, and undeveloped disturbed lots surround the hospital on the northern, eastern, and western boundaries. Undeveloped areas that are a part of the approved AquaBella Specific Plan also occur to the northwest and immediately east of the project site. Landmark Middle School is located to the northeast, on the eastern side of Oliver Street. Three parks are located within the general vicinity of the project site, Celebration Park and Fairway Park, both of which are located approximately one mile northeast of the project site, and Vista Lomas Park located approximately 0.8 miles west of the project site. Lake Perris Recreational Area is located approximately 2.5 miles to the south of the project site.

## 2.4 APPLICABLE LAND USE PLANS

Section 15125(d) of the CEQA Guidelines requires that a discussion of any inconsistencies between the project and applicable general plans and regional plans be provided. The consistency analysis for the project with applicable plans, policies, and regulations is provided in Section 4.10, Land Use and Planning, and Section 4.9, Hydrology and Water Quality, of this EIR. The following sections describe the plans, policies, and regulations that are applicable to the project.

### 2.4.1 City of Moreno Valley General Plan

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The state also mandates that the plan be updated periodically to ensure relevance and utility. The City General Plan was adopted by the City Council on July 11, 2006 (City of Moreno Valley 2006). The General Plan identifies the City's land use, circulation, environmental, economic and social goals and policies as they relate to land use and development.

The project site's General Plan land use designation is Commercial and Residential/Office (R/O).

### 2.4.2 City of Moreno Valley Municipal Code

Title 9 of the City Municipal Code contains the Development Code for the City, and includes regulations for site planning and development. As identified in the Municipal Code, the project site includes two zoning designations: OC – Office Commercial and CC – Community Commercial district. All zoning designations permit the development of inpatient and urgent care clinics while the OC and CC zones permit the development of hospitals with the approval of a Conditional Use Permit when the project is located within 300 feet of residential zones or uses. The project site is located within a Medical Use Overlay (MUO) district of the General Plan which specifically allows the development of Medical Centers.

### 2.4.3 Regional Plans

**SCAG 2016 Regional Transportation Plan/Sustainable Communities Plan**

Southern California Association of Governments (SCAG) is responsible for developing long-range regional transportation plans, including sustainable communities' strategy and growth forecast components, regional transportation improvement programs, and a portion of the South Coast Air Quality Management Plans. SCAG provides the framework for coordinating local and regional decisions regarding projected growth and development. The 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) aims to plan, build, and connect communities within Southern California by providing expanded, and environmentally sustainable, transit options, including bus and rail service (SCAG 2016). SCAG, serving as a Regional Transportation Planning Agency, represents both the City of Moreno Valley and Riverside County.

The RTP/SCS includes the following goals:

- Align plan investments and policies with improving regional economic development and competitiveness.
- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.

- Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
- Actively encourage and create incentives for energy efficiency, where possible.
- Encourage land use and growth patterns that facilitate transit and active transportation.
- Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

**SCAG Regional Comprehensive Plan**

SCAG's 2008 Regional Comprehensive Plan addresses regional issues such as housing, traffic/transportation, water, and air quality. It serves as an advisory document to local agencies for preparing local plans and addressing local issues of regional importance.

**SCAQMD Air Quality Management Plan**

The City is located within the South Coast Air Basin, which falls under the South Coast Air Quality Management District's (SCAQMD) jurisdiction. SCAQMD's Air Quality Management Plan was implemented to ensure that air quality goals would be met while continuing to foster and grow the regional economy. The plan aims to eliminate reliance on future technologies by providing specific control measures with quantifiable emissions reductions and associated costs, as well as develop a strategy with fair-share emission reductions at the federal, state, and local levels (SCAQMD 2017).

**Water Quality Control Plan for the Santa Ana River Basin**

The U.S. Environmental Protection Agency has delegated responsibility for implementation of portions of the Clean Water Act to the State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs), including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System program. This program is a set of permits designed to implement the Clean Water Act that apply to various activities that generate pollutants with potential to impact water quality.

The Santa Ana RWQCB has adopted and periodically amends the Water Quality Control Plan for the Santa Ana River Basin. The Santa Ana RWQCB Basin Plan must conform to the policies set forth in the Porter-Cologne Act as established by the SWRCB in its state water policy. The Porter-Cologne Act also provides the RWQCBs with authority to include within their basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements from the RWQCB. During both construction and operation, private and public development projects are required to include stormwater best management practices to reduce pollutants discharged from the project site to the maximum extent practicable. See Section 4.9 for further details.

## 2.5 EMERGENCY SERVICES

### 2.5.1 Fire Protection and Emergency Medical Services

The Moreno Valley Fire Department is the primary response agency for fires, emergency medical service, hazardous materials incidents, traffic accidents, terrorist acts, catastrophic weather events, and technical rescues for the City. The fire department also provides a full range of fire prevention services including public education, code enforcement, plan check and inspection services for new and existing construction, and fire investigation. Additionally, the City's Office of Emergency Management is located within the fire department allowing for a well-coordinated response to both natural and human-made disasters. The Moreno Valley Fire Department is part of the California Department of Forestry and Fire Protection/Riverside County Fire Department's regional, integrated, cooperative fire protection organization. Additional information is provided in Section 4.13, Public Services and Recreation.

### 2.5.2 Police Protection

Protection and prevention services provided by the Moreno Valley Police Department include, but are not limited to, general law enforcement, investigations, routine support services such as communications, evidence collection, analysis and preservation, training, administration, and records (City of Moreno Valley 2006). Additional information is provided in Section 4.13.

## 2.6 REFERENCES CITED

City of Moreno Valley. 2006. *City of Moreno Valley General Plan*. July 11, 2006.

SCAG (Southern California Association of Governments). 2016. *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*. April 2016.

SCAQMD (Southern California Air Quality Management District). 2017. *Final 2016 Air Quality Management Plan*. March 2017.

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SOURCE: Bing Maps 2019

DUDEK

0 250 500 Feet

**FIGURE 2-1**

Project Location

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# CHAPTER 3
# PROJECT DESCRIPTION

This chapter describes the location, background, objectives, characteristics, design features, and discretionary actions for the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) in the City of Moreno Valley (City).

## 3.1 INTRODUCTION

The proposed project would redevelop, modernize and expand the existing Kaiser Permanente Moreno Valley Medical Center (Medical Center) campus to create a state-of-the-art medical center with approximately 1,125,000 square feet of medical services facilities and ancillary uses. The proposed project would proceed in up to three phases, with Phase I being carried out via to Plot Plans and ultimate buildout under a Master Plot Plan for the Medical Center.

Phase I is evaluated in this environmental impact report (EIR) on a project level. Phases II and III are analyzed in this EIR at a programmatic level because they would be developed at a later date and because they are more conceptual due to several factors that are presently unknown, including the future growth of Kaiser Permanente membership within the City and surrounding communities, the future regional demand for the project's services, the evolution of healthcare technology, the portability of the healthcare environment, legislative and regulatory changes required by healthcare reform, the business and healthcare needs of Kaiser Permanente and other factors.

Phase I would include the removal of the existing Medical Office Building No. 1 and the Facilities Services and Education Trailers and the relocation of the existing hospital and emergency room entrances to facilitate an expansion of the existing hospital for a Diagnostic and Treatment building and the construction of a new Energy Center. Phase II would include the construction of a new hospital tower and expansion of the Diagnostic and Treatment building, construction of one new outpatient medical office building, and the construction of two multilevel parking structures. Phase III would include the demolition, replacement and expansion of the existing hospital tower, construction of an additional outpatient medical office building, expansion of the Energy Center, and construction of a third multilevel parking structure.

The project site, surrounding land uses, and applicable land use designations of the project site are characterized in Chapter 2, Environmental Setting. This chapter characterizes the proposed project development, including the objectives for the project and the required approvals.

## 3.2 PROJECT LOCATION

The project site is comprised of 30 acres and a portion of the site, approximately two-thirds, is developed with a 130,000 square-foot 100-bed hospital building, two medical office buildings totaling approximately 89,500 square feet, a central utility plant, modular trailers/conference rooms, and surface parking. The project site has a General Plan land use designation of Commercial and Residential/Office, is zoned Community Commercial and Office Commercial, and is within the Medical Use Overlay (MOU) district.

Regionally, the project site, which is the existing Kaiser Medical Center, is located east of Interstate 215, south of State Route 60, and north of Lake Perris within the City. More specifically, the project site is located on the north side of Iris Avenue, west of Oliver Street, and east of Nason Street at 27300 Iris Avenue, Moreno Valley California, 92555 (see Figure 2-1, Project Location). The project site is composed of two Assessor's Parcel Numbers: 486-310-033 and 486-310-034. The latitude and longitude of the approximate center of the project site is 33°53′49.704″ North and 117°11′12.379″ West. The project site is included within the southwest and southeast quarters of the northwest quarter of Section 22 of Township 3 South, Range 3 West of the Sunnymead 7.5-minute quadrangle, as mapped by the U.S. Geological Survey.

The general vicinity surrounding the project site is developed with a mix of residential and rural residential uses. Single family residential development occurs to the south, east, and west of the existing hospital. Iris Avenue forms the southern site boundary, and undeveloped disturbed lots surround the hospital on the northern, eastern, and western boundaries. Undeveloped open space occurs to the northwest. Located north and east of the project site, on the eastern side of Oliver Street, is Landmark Middle School.

## 3.3 PROJECT BACKGROUND

Kaiser Foundation Hospitals, also known as Kaiser Permanente, purchased the existing Moreno Valley Medical Center, formerly known as the Moreno Valley Community Hospital, in 2007 and has continuously operated as a Kaiser Permanente facility since the purchase. Prior to the construction of the Moreno Valley Medical Center, the project site was utilized for agricultural purposes from at least 1938 until approximately 1989. The existing hospital building was constructed in 1989 (Secor 2007).

The City of Moreno Valley General Plan Land Use Map (City of Moreno Valley 2017a) designates the project site as Residential/Office and Commercial uses, and the City's Zoning Map (City of Moreno Valley 2017b) includes two zoning designations on the collective project site: OC – Office Commercial district and CC – Community Commercial district. Per the City Municipal Code, the primary purpose of the Office Commercial (OC) district is to provide for the establishment of business, corporate and administrative office, as well as commercial services which are supportive to major business developments, and the primary purpose of the Community Commercial (CC) district is to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services. The site is within the MOU district. The specific intent of the MOU district is to implement the General Plan concept of creating a medical corridor for uses that support and are compatible with the area hospitals.

## 3.4 PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines states that the project description shall contain “a statement of the objectives sought by the proposed project.” Section 15124(b) further states that “the statement of objectives should include the underlying purpose of the project and may discuss the project benefits.” The underlying purpose of the proposed project is to accommodate both existing deficits and future demand for medical office, diagnostic, and treatment space, including emergency services, in the Moreno Valley Medical Center service area by improving and expanding existing campus facilities on the current Medical Center site. As set forth in the CEQA Guidelines, The project’s specific objectives are provided below.

- Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus.
- Reduce the need for Kaiser members to travel outside the City for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus.
- Develop underutilized land located within the Medical Use Overlay district consistent with the City’s objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital.
- Provide for the long-range development capacity on the project site’s undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses.
- Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region.
- Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety.
- Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region.

- Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area.
- Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand.
- Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing.
- Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies.

## 3.5 PROJECT CHARACTERISTICS

### 3.5.1 California Environmental Quality Act Baseline

The baseline for a project is generally the physical condition that exists when the Notice of Preparation (NOP) is published, unless the project circumstances require reference to historical and/or future conditions in order to provide a more accurate picture of the project's impacts. CEQA Guideline Section 15125(a)(1). The NOP for the project was published on November 26, 2018. For purposes of this Environmental Impact Report (EIR), the baseline for the analysis is late 2018, which corresponds to when the NOP was published.

### 3.5.2 Project, Project Phasing, and Project Elements

Kaiser Permanente is proposing to redevelop and expand the existing Kaiser Permanente Moreno Valley Medical Center campus into a state-of-the-art medical center consisting of approximately 1,125,000 square feet of medical services facilities and ancillary uses. These facilities and uses would include an approximately 460-bed hospital, hospital support buildings, outpatient medical office buildings, an Energy Center, and surface and structured parking. Kaiser Permanente intends to provide a comprehensive range of health care services to Kaiser Permanente members in the City and surrounding communities within western Riverside County. A summary of the various project elements, by phase, is shown in Table 3-1.

**Table 3-1**
**Project Components**

| Project Components | Size |
|---|---|
| *Phase I* | |
| Diagnostic and Treatment (D&T) Building | 95,000 square feet |
| Energy Center | 22,000 square feet |
| Temporary Parking (to be removed in Phase III) | 45 spaces |
| *Phase II* | |
| North and East Patient Bed Tower and D&T Expansion | 380,000 square feet |
| Medical Office Building No. 3 | 65,000 square feet |
| Energy Center Expansion | 8,000 square feet |
| Parking Structure No. 1 | 400 spaces |
| Parking Structure No. 2 | 1,400 spaces |
| *Phase III* | |
| West and South Patient Bed Tower | 375,000 square feet |
| Medical Office Building No. 4 | 95,000 square feet |
| Parking Structure No. 3 | 600 spaces |
| *Existing to Remain* | |
| Medical Office Building No. 2 | 75,000 square feet |
| Surface Parking | 150 spaces |
| *Total Buildout* | |
| Hospital Building with Four Towers and D&T | 850,000 square feet |
| Medical Office Buildings (3) | 235,000 square feet |
| Energy Center | 28,000 square feet |
| Parking | 2,550 spaces |

**Source:** CO Architects 2019.

The project would be developed in three phases, with the first phase (Phase I) evaluated at the project level in this EIR. Phases II and III are analyzed in this EIR at a programmatic level because they would be developed at a later date and because they are more conceptual due to several factors that could change over time, including the anticipated future growth of Kaiser Permanente membership within the City and surrounding communities, the anticipated future regional demand for the project's services, the evolution of healthcare technology, the portability of the health care environment, legislative and regulatory changes required by health care reform, the business and health care needs of Kaiser Permanente, and other factors. For Phases II and III, the EIR will provide a general assessment of potential impacts and provide a framework of how impacts and mitigation would be addressed in the future when the components of these phases, being considered in this EIR under a Master Plot Plan, are submitted to the City for individual Plot Plan entitlements. For all phases of the project, worst-case assumptions are used to evaluate potential effects.

The project would be constructed in three phases. The project's phased development would occur between 2020 and 2038. The following sections describe each of the project phases, and Table 3-2 provides a summary of what would be demolished and constructed within each of the three phases.

**Table 3-2**
**Demolition and Construction by Phase**

| Project Component | Phase I | | Phase II | | Phase III | |
|---|---|---|---|---|---|---|
| | *Demolished* | *Constructed* | *Demolished* | *Constructed* | *Demolished* | *Constructed* |
| Facility Service Trailers | 3,700 sf | | | | | |
| Education Trailers | 2,900 sf | | | | | |
| Medical Office Building No. 1 | 7,600 sf | | | | | |
| D&T Building | | 95,000 sf | | | | |
| Energy Center | | 22,000 sf | | 8,000 sf | | |
| North & East Patient Bed Tower and D&T Expansion | | | | 380,000 sf | | |
| Medical Office Building No. 3 | | | | 65,000 sf | | |
| Patient Tower, Hospital and Central Utility Plant | | | | | 133,000 sf | |
| West and South Patient Bed Tower | | | | | | 375,000 sf |
| Medical Office Building No. 4 | | | | | | 95,000 sf |
| **Total** | **14,200 sf** | **117,000 sf** | **0** | **453,000 sf** | **133,000 sf** | **470,000 sf** |

**Note:**
sf = square feet

### Phase I

Construction of Phase I would commence in 2020 and be complete in approximately 2023. Phase I, which is being evaluated at a project-level within this EIR, would include the following components (see Figure 3-1, Phase I Site Plan):

- Demolition of facilities services and educational services trailers, and the existing Medical Office Building No.1 (7,600 square feet);
- Construction of an approximately 95,000-square-foot expansion wing of the existing hospital for a Diagnostic and Treatment building;
- Construction of an approximately 22,000-square-foot Energy Center; and
- Construction of a new temporary surface parking lot with 45 new parking spaces.

The following summarizes the two new project elements being implemented under Phase I, which is being evaluated at a project-level within this EIR.

### *Demolition*

Located north of the existing hospital are trailers used by Facilities Services and for educational purposes. At the outset of Phase I, these trailers would be removed from the project site. A total of 6,600 square feet of trailers (3,700 square feet used by Facilities Services and 2,900 square feet used for educational purposes) would be removed from the site. Additionally, the existing approximately 7,600-square foot Medical Office Building No. 1, also located north of the existing hospital, would be demolished.

### *Diagnostic and Treatment Building*

The proposed approximately 95,000 square foot expansion of the existing hospital would allow for a Diagnostic and Treatment Building (D&T Building), which would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices, as shown in Figure 3-2, Diagnostic and Treatment Building. The D&T Building would be two stories in height, approximately 38 feet tall, and located east of the existing hospital and accessed via a new temporary entrance and covered drop-off canopy. Surface parking would be provided to the south and include seven new accessible surface parking spaces south of the new covered drop-off canopy.

### *Energy Center*

The hospital is currently serviced by an existing Central Utility Plant (CUP), located in the northwestern corner of the existing hospital building. As part of Phase I, an Energy Center, which would be approximately 22,000 square feet in size, would be constructed to replace the existing CUP. The Energy Center would include three emergency generators (two new generators and one existing generator relocated to the Energy Center), bulk oxygen, and two cooling towers. The Energy Center would contain all of the major mechanical and electrical equipment for the existing hospital facility, which includes electric-centrifugal water cooler chillers, cooling towers, water boilers and steam boilers, and microturbines, as shown in Figure 3-3, Energy Center. Upon completion and operation of the Energy Center in Phase I, the existing CUP would be decommissioned but remain on site until it is removed in Phase III.

### *Construction*

Construction of Phase I would begin in mid-2020, last approximately 24 months, and be complete in mid-2023. Construction would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities and stormwater drainage facilities, an architectural coating phase, and a paving phase. Construction staging would occur on site, in the most northwestern portion of the project site. Construction equipment would include tractors, backhoes, loaders, graders, excavators, cranes, forklifts, welders, a boring rig, aerial lifts, and rollers. During Phase I, approximately 6,000 cubic yards of fill would be imported to the site.

### Phase II

Construction of Phase II would commence in 2026 and be complete in approximately 2032. Phase II is being evaluated at a program-level within this EIR and would include the following components (see Figure 3-4, Phase II Site Plan):

- Construction of two new hospital towers with a total of approximately 220 beds;
- Expansion of the D&T Building constructed in Phase I;
- Construction of a new 65,000 square foot outpatient Medical Office Building No. 3;
- Expansion of the Energy Center constructed in Phase I; and
- Construction of two new multilevel parking structures with a total of 1,800 parking spaces

#### *Hospital and D&T Building Expansion*

North of the existing hospital, two new hospital tower wings, the North Tower and the East Tower, would be constructed. Collectively, these two new towers would be approximately 380,000 square feet and have approximately 220 new patient beds. The new towers would include seven stories and be approximately 137 feet in height. Access to the new hospital towers would be provided via the main Medical Center driveway accessed via Iris Avenue. A new main hospital entrance with a circular turnaround area would be constructed in the northern portion of the site adjacent to the new North Tower. Connected to, and south of the East Tower, would be an approximately 95,000 square foot expansion of the D&T Building. Additionally, connected to, and north of, the North Tower would be a new hospital loading dock and service yard.

#### *Medical Office Building No. 3*

Immediately west of the main Medical Center entrance at Iris Avenue, a new approximately 65,000-square foot Medical Office Building No. 3 would be constructed. The building would include four stories and be approximately 68 feet in height.

#### *Energy Center Expansion*

The Energy Center constructed under Phase I would be expanded during Phase II to accommodate ultimate buildout of the Master Plan. The expansion of the Energy Center under Phase II would include the addition of approximately 8,000 square feet with an additional cooling tower and additional mechanical, electrical and plumbing equipment would be added.

### *Parking*

During Phase II, two new multilevel parking structures would be constructed. Parking Structure No. 1 would be located in the northern portion of the project site, north of the new North Tower of the hospital. This new parking structure would include approximately 400 parking spaces and be approximately 50 feet in height. Parking Structure No. 2 would be located in the most western portion of the project site and be approximately 61.5 feet in height. This multilevel aboveground parking structure would include approximately 1,400 parking spaces. Internal access roads would be constructed throughout the Medical Center to connect the existing and new buildings to the existing surface parking lots and new parking structures.

### *Construction*

Construction of Phase II would begin in 2026 and be complete by 2032. Construction would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities and stormwater drainage facilities, an architectural coating phase, and a paving phase. Construction equipment would include tractors, backhoes, loaders, graders, excavators, cranes, forklifts, welders, a boring rig, aerial lifts, and rollers. During Phase II, cut and fill of soil would be required; however, the amount of cut and fill would be balanced on site so that no soil import or export would be required.

## Phase III

Construction of Phase III would commence in 2032 and be complete in approximately 2038. Phase III is being evaluated at a program-level within this EIR and would include the following components (see Figure 3-5, Phase III Site Plan):

- Demolition of the original hospital building and the (previously decommissioned) Central Utility Plant (CUP);
- Construction of two new hospital towers and a new emergency department;
- Construction of a new approximately 95,000 square foot outpatient medical office building; and
- Construction of a third multilevel parking structure with approximately 600 parking spaces.

### *Demolition*

At the outset of Phase III, the existing hospital tower and CUP (which would have been decommissioned in Phase I), totaling 133,000 square feet, would be demolished. During the demolition phase, all other buildings and uses constructed during Phases I and II would remain open and available to provide medical services at the Medical Center.

### *Hospital, Emergency and D&T Building Expansion*

During Phase III, two new hospital towers a new emergency department, and an expanded area of the D&T Building, totaling approximately 375,000, would be constructed. The new hospital towers would include a West Tower and a South Tower with a total of 240 new patient beds. Upon completion of Phase III's two new towers, the hospital would have a total of approximately 460 beds.

Southwest of the new West and South Towers would be a new D&T expansion, and south of the D&T expansion would be a new Emergency Department. A new entrance to the Emergency Department would be located on the south side of the building with access available through the surface parking lot. The complete building size, with inclusion of the four hospital towers, the D&T Building and expansion area, and the new Emergency Department would be approximately 850,000 square feet.

### *Medical Office Building No. 4*

Immediately east of the main Medical Center entrance at Iris Avenue, a new approximately 95,000-square foot Medical Office Building No. 4 would be constructed. The building would include a total of five stories and be approximately 78 feet in height.

### *Parking*

Immediately east of the new Medical Office Building No. 4, a new Parking Structure No. 3 would be constructed. This multilevel aboveground parking structure would include approximately 600 parking spaces. Access to the new parking structure would be available via internal circulation accessed via the main Medical Center driveway along Iris Avenue.

### *Construction*

Construction of Phase III would begin in 2032 and be complete by 2038. Construction would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities and stormwater drainage facilities, an architectural coating phase, and a paving phase. Construction equipment would include tractors, backhoes, loaders, graders, excavators, cranes, forklifts, welders, a boring rig, aerial lifts, and rollers. During Phase III, cut and fill of soil would be required; however, the amount of cut and fill would be balanced on site so that no soil import or export would be required.

## Project Buildout

As shown in Table 3-1, upon full buildout of the Master Plan, the Medical Center would include a newly constructed approximately 850,000 square foot hospital building with four towers, a new

Emergency Department and a D&T Building; a total of three medical office buildings totaling approximately 235,000 square feet, an Energy Center totaling approximately 28,000 square feet, and a total of 2,550 parking spaces provided in three multilevel aboveground parking structures and surface parking lots.

The new hospital would include full-service general acute care facilities and would accommodate approximately 460 beds. In addition to the inpatient nursing functions, the hospital buildings would include ancillary services, such as medical imaging/radiology, clinical laboratory and blood bank, operating rooms and associated recovery spaces, inpatient pharmacies, and an emergency department, which would have associated treatment rooms. The hospital buildings would also include administrative offices and conference rooms, as well as general building support departments such as environmental and material services, cafeteria and inpatient food services, communication, linen, and biomedical engineering.

The approximately 475,000 square foot D&T Building of the hospital would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices. The D&T Building would also provide member services departments including a business office, health education, and conference rooms.

The operation of the medical office buildings would be consistent with other medical office buildings in the project vicinity. The medical office buildings would include ambulatory surgery, operating rooms, exam rooms, physician offices, outpatient pharmacy, laboratories, imaging/radiology, administrative offices, and storage. Although there may be outpatient surgeries, the medical office buildings would not be a hospital building, nor would it trigger Office of Statewide Health Planning Department (OSHPD) permitting.

**Access, Circulation, and Parking**

Primary access to the Medical Center is currently provided via a main access driveway along Iris Avenue. A bus stop is located along Iris Avenue, east of the main driveway, and pedestrian paths connect the bus stop and sidewalk along Iris Avenue with the Medical Center. Vehicular access to the project site would continue to be provided via the main access driveway along Iris Avenue. In addition to vehicular access, enhanced pedestrian and bicycle access would be provided throughout the project site. Pedestrians could access the site at three different points along Iris Avenue and follow internal pedestrian walkways throughout the site. Similarly, bicycles could access the site at the easternmost access road and travel north across the site or utilize the shared vehicular access driveway accessed via Iris Avenue in the central portion of the project site.

At buildout, the Medical Center would include a total of approximately 2,550 parking spaces. The project would include the construction of three new multilevel parking structures. During Phase

II, two multilevel parking structures would be constructed with one accommodating approximately 1,800 parking spaces, and during Phase III, a third multilevel parking structure would be completed providing approximately 600 parking spaces. Approximately 150 surface spaces would also be included at buildout, which would be a reduction in the number of surface parking spaces; however, there would be an overall increase in the number of available parking spaces throughout the Medical Center. Bicycle parking would be available in two locations during Phase I (near the Energy Center and the entrance to the D&T Building), and in three locations upon completion of Phase II (Energy Center, D&T Building, and at the North Tower).

### Landscaping, Signage, and Sustainability Features

#### *Landscaping and Open Space*

As part of Phase I of the proposed project, a comprehensive landscaping plan would be implemented, as shown in Figure 3-6, Phase I Landscape Plan. Vegetation included within the landscaping plan would be drought-tolerant and consistent with existing mature vegetation at the site. Trees would be planted and serve as visual screens around the parking structures and medical office buildings located along the site perimeters. Additionally, pedestrian friendly landscaped pathways would be constructed throughout the campus to facilitate movement between the buildings and parking structures at the site. The landscaping would create a pleasant environment for employees, patients and visitors guests of the Medical Center. Kaiser Permanente would also pursue LEED Gold certification or the equivalent for the hospital and medical office buildings. Additionally, the landscaping plans would include screening trees along the northern perimeter of the site as well as extensive landscaping along Iris Avenue. At full buildout of the Master Plan, an enlarged and more comprehensive landscape plan would be implemented, as shown in Figure 3-7, Master Landscape Plan.

#### *Sustainability Features*

The project would incorporate Kaiser Permanente's leading sustainable building standards and green initiatives. Kaiser Permanente will pursue LEED Gold certification or equivalent for the hospital and medical office buildings. The project would be developed to embrace technology and the environment, as well as to incorporate reduced energy demand systems (e.g., solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction.

### 3.5.3 Project Design Features

Kaiser Permanente has incorporated project design features (PDFs) into the project to reduce the potential for environmental effects. The following PDFs are incorporated into the analysis in applicable subsections throughout Chapter 4.0, Environmental Impact Analysis.

**Air Quality**

**PDF-AQ-1** Kaiser will prepare and implement a Construction Management Plan, which will include best available control measures among others. Such control measures may include but not be limited to:

- Minimizing simultaneous operation of multiple construction equipment units.
- Require that off-road diesel powered vehicles used for construction should be new low-emission vehicles, or use retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by California Air Resources Board.
- Minimizing idling time by construction vehicles per California Air Resources Board regulations.

**PDF-AQ-2** The following measures shall be adhered to during all phases of construction activities of the project to reduce $PM_{10}$ to the satisfaction of the City of Moreno Valley Planning Department:

- All construction equipment shall be equipped with Tier 4 Final diesel engines or better.
- The engine size of construction equipment shall be the minimum size suitable for the required job.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest number is operating at any one time.
- Construction equipment shall be maintained in tune per the manufacturer's specifications.

**Energy and Greenhouse Gas Emissions**

**PDF-GHG-1** As part of Kaiser's green and sustainability initiatives, the project would incorporate Kaiser's sustainable building standards and green initiatives. Kaiser will obtain LEED Gold certification or equivalent for the buildings that it develops on the project site. The project's design will embrace technology and the environment, incorporate reduced energy demand systems (e.g., solar, thermal insulation), and utilize rainwater, recycling of waste, systems with energy recovery options, prefabrication elements across the project to minimize waste, and local materials for both landscape and construction. To attain this goal, Kaiser would implement many of its current green strategies in the project. These strategies include using:

- polyvinyl chloride–free materials (such as resilient flooring, carpet and roofs)
- low–volatile organic compound or volatile organic compound–free paints
- chlorofluorocarbon-free refrigerants
- innovative construction waste diversion programs to keep harmful materials out of landfills
- formaldehyde-free casework
- high efficiency heating, ventilation, and air conditioning systems
- cogeneration electricity production and heat recovery
- infrared, hands-free faucets
- permeable paving to reduce stormwater runoff in parking areas
- cool roofs for solar reflectivity and building cooling
- turf-free and indigenous native planting for low irrigation demand, and
- water conservation efforts.

Kaiser's future green strategies for the project includes one or more of the following:

- solar power/photovoltaics
- electric vehicle charging stations
- transportation demand management
- fuel-cell technology
- displacement ventilation
- toxin-free furniture, and
- green cement.

## 3.6 DISCRETIONARY ACTIONS

Implementation of the project may require permits or other forms of approval from public agencies or other entities prior to construction of the project. They include, but are not limited to, the following.

**City of Moreno Valley**

The City will consider the following actions:

- Certification of the EIR (PEN18-0217);
- Approval of a Master Plot Plan (PEN18-0228)
- Approval of a Plot Plan for the Diagnostic and Treatment Building (PEN18-0229)
- Approval of a Plot Plan for the Energy Center (PEN18-0230)

Future programmatic-level components evaluated within this EIR will require future approvals from the City under Phases II and III.

**Regional Water Quality Control Board, Santa Ana Region**

National Pollutant Discharge Elimination System (NPDES) Construction General Permits will be required for grading activities of 1 acre or larger. Since the project would disturb more than 1 acre of soil, the applicant must file a Notice of Intent with the Santa Ana Regional Water Quality Control Board (RWQCB) and obtain a General Construction Activity Stormwater Permit, pursuant to the NPDES regulations established under the Clean Water Act. This permit requires preparation and implementation of a stormwater pollution prevention plan, which is intended to prevent degradation of surface and groundwater during the grading and construction process. A report of waste discharge shall be submitted to the Santa Ana RWQCB to obtain either a waste discharge requirement or a waiver for any impacts to waters of the state.

**South Coast Air Quality Management District**

A fugitive dust control plan submitted to the South Coast Air Quality Management District for approval will be required prior to issuance of grading permits (SCAQMD Rule 403). Permits for stationary sources, such as those proposed to be installed in the Energy Center (e.g., emergency generators), will be required prior to project approval.

**Office of Statewide Health Planning and Development**

The Office of Statewide Health Planning and Development's Facilities Development Division will review and approve the plans and specifications of the proposed hospital building, medical office buildings, and related hospital facilities to ensure compliance with the provisions of the CBC, Title 24, California Code of Regulations.

## 3.7 REFERENCES CITED

City of Moreno Valley. 2017a. City of Moreno Valley, Figure 202, Land Use Map. Accessed November 12, 2018. http://www.moval.org/city_hall/general-plan/landuse-map.pdf.

City of Moreno Valley. 2017b. City of Moreno Valley, Zoning Map. Accessed November 12, 2018. http://www.moval.org/cdd/pdfs/ZoningMap.pdf.

CO Architects. 2019. *Kaiser Permanente Moreno Valley Medical Center Master Plot Plan & Phase I Plot Plan*. March 12, 2019.

Secor. 2007. Phase I Environmental Site Assessment for Kaiser Foundation Health Plan Inc., Moreno Valley Community Hospital, 27300 Iris Avenue, Moreno Valley, California 92555. April 11.

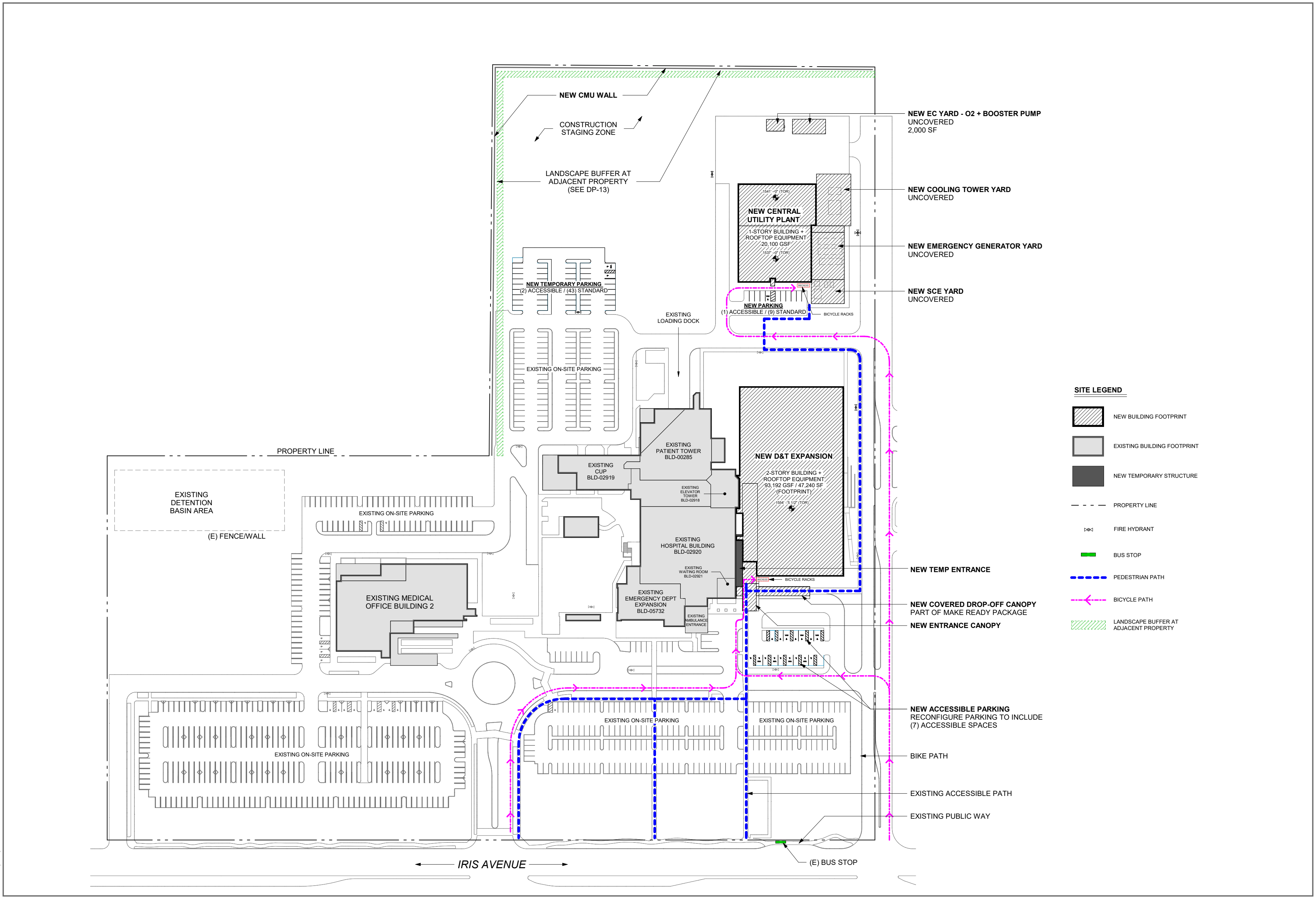


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**FIGURE 3-1**

Phase I Site Plan

Kaiser Permanente Moreno Valley Medical Center Project EIR

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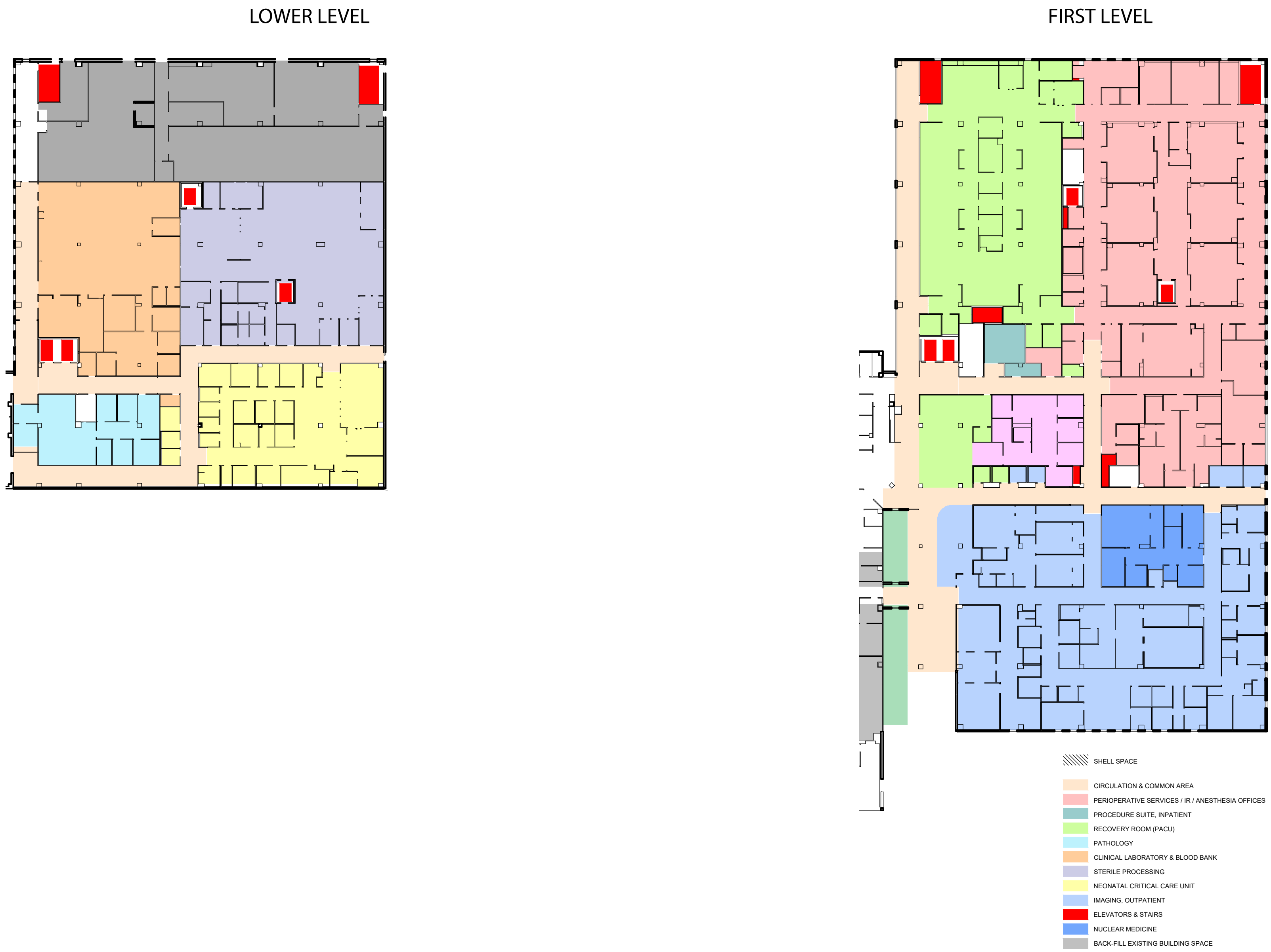


**FIGURE 3-2**

Diagnostics and Treatment Building

Kaiser Permanente Moreno Valley Medical Center Project EIR

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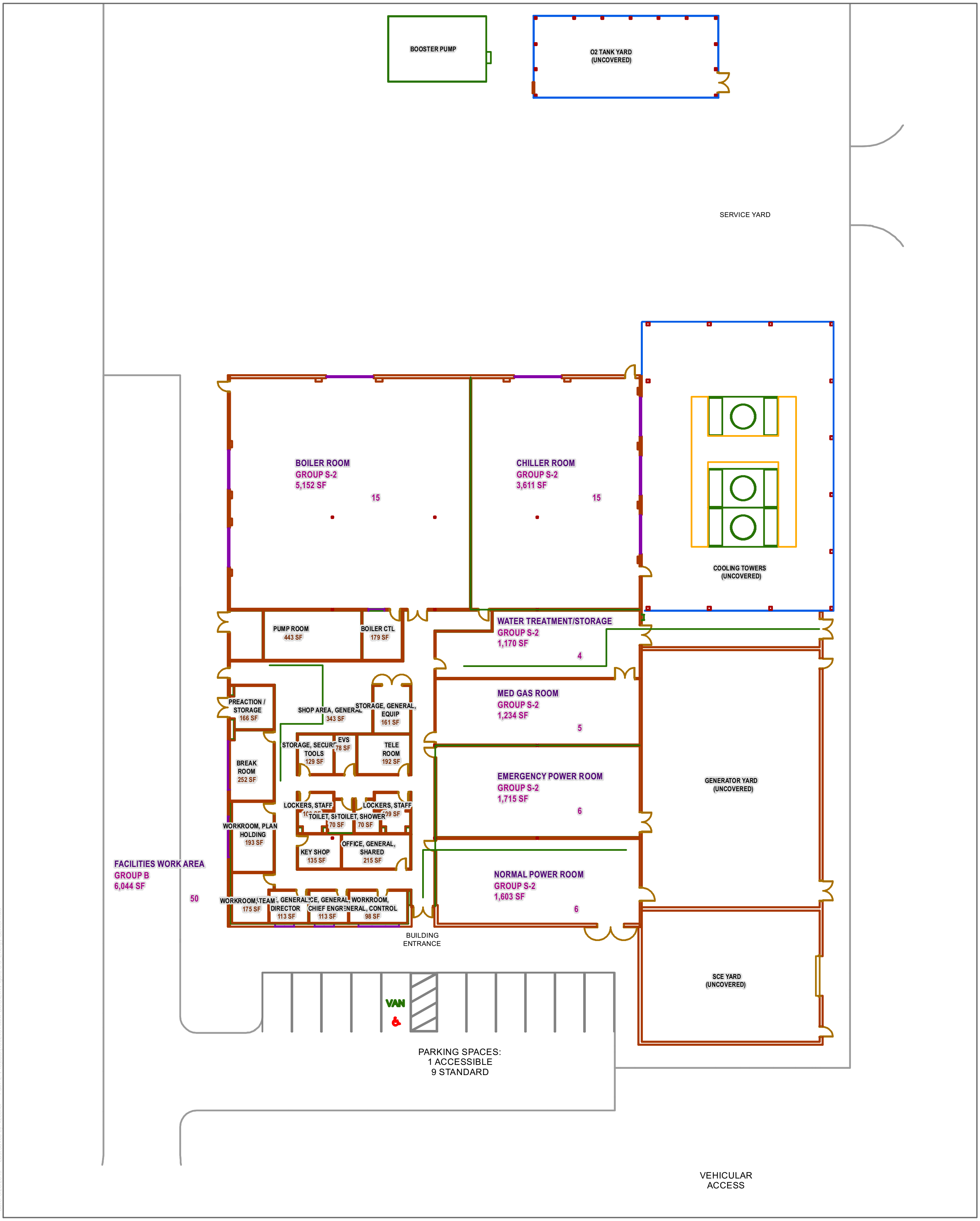


SOURCE: CO Architects 2019

0 335 670 Feet

**FIGURE 3-3**

Energy Center

Kaiser Permanente Moreno Valley Medical Center Project EIR

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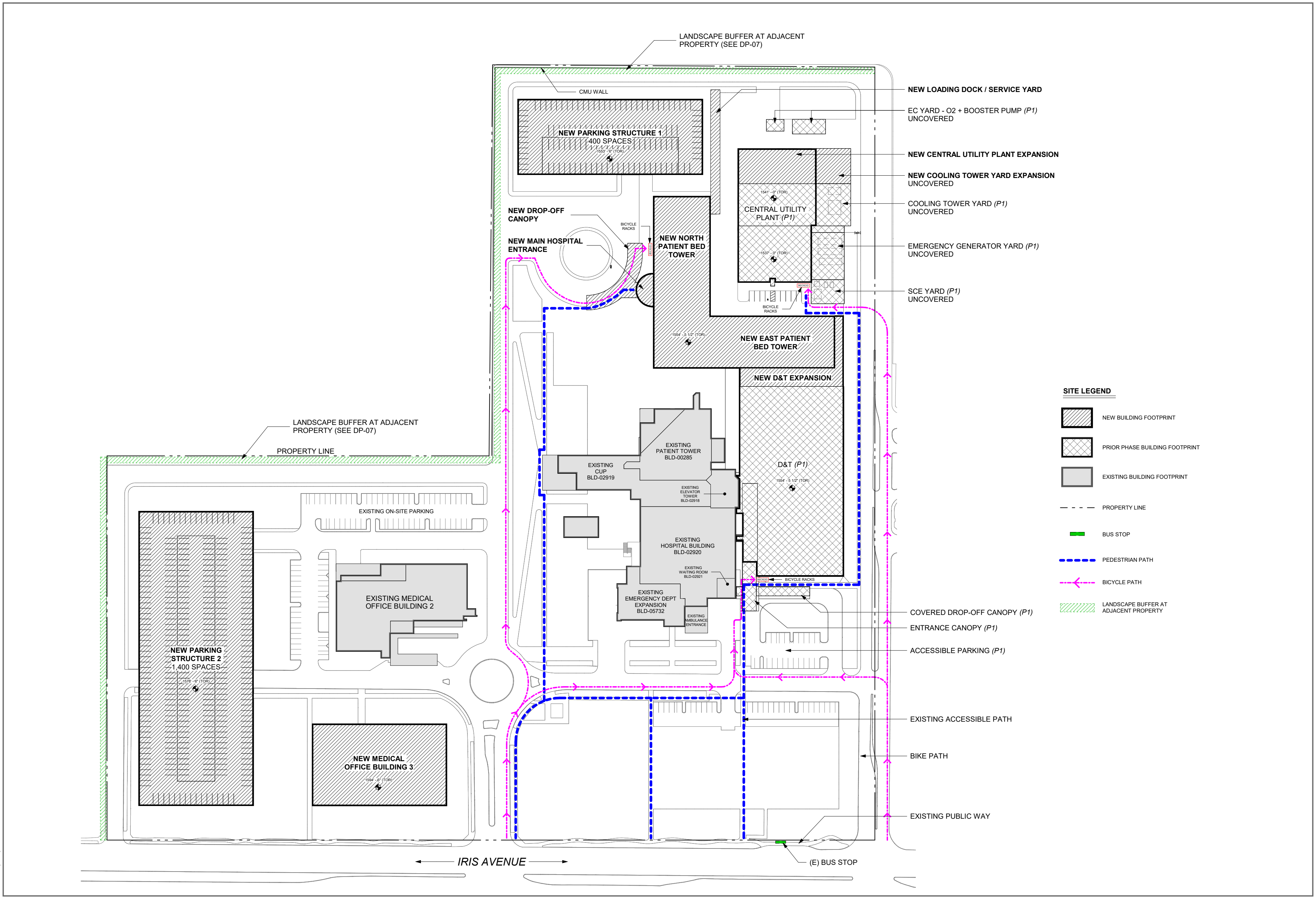


**FIGURE 3-4**

Phase II Site Plan

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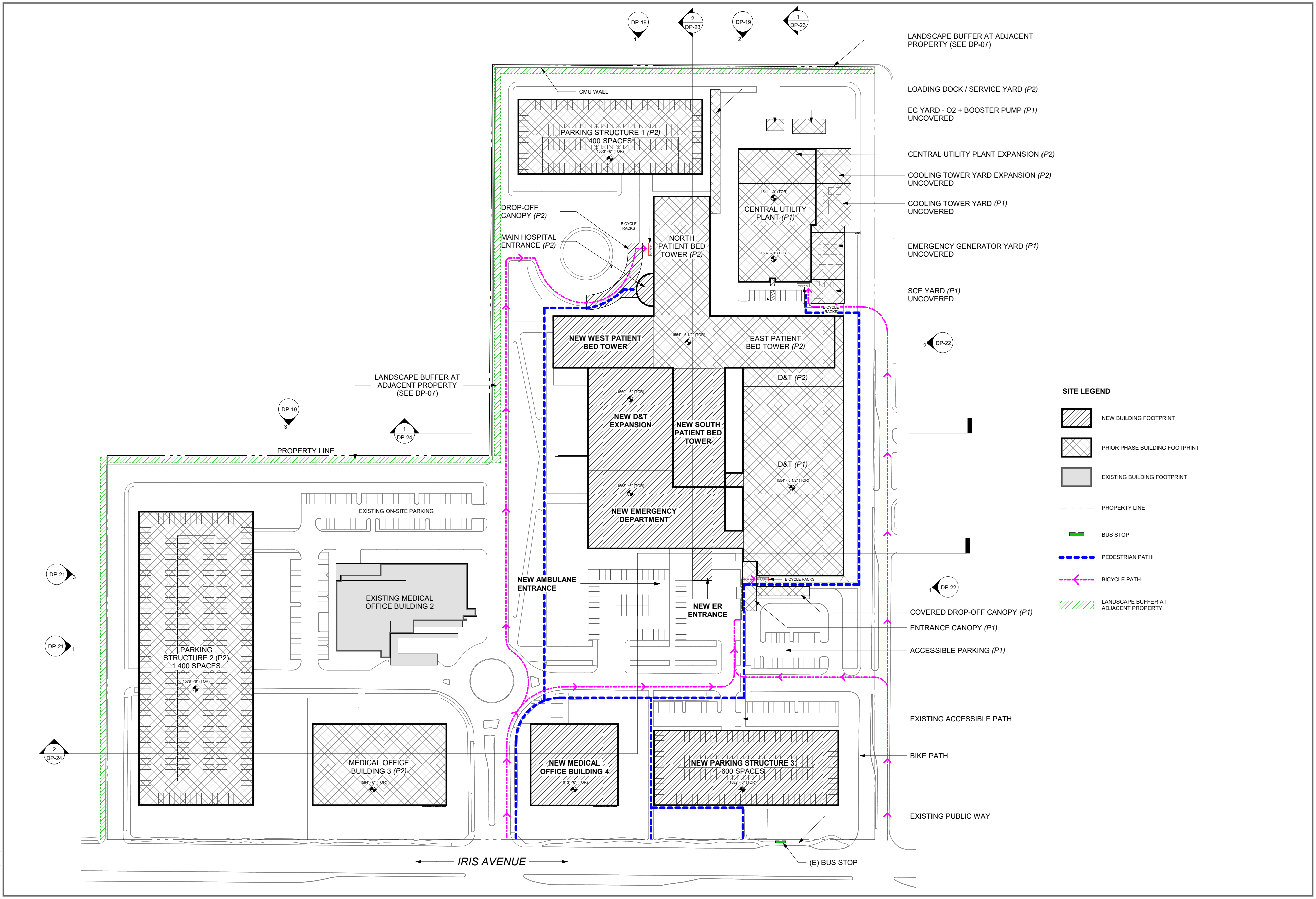


**FIGURE 3-5**

Phase III Site Plan

Kaiser Permanente Moreno Valley Medical Center Project EIR

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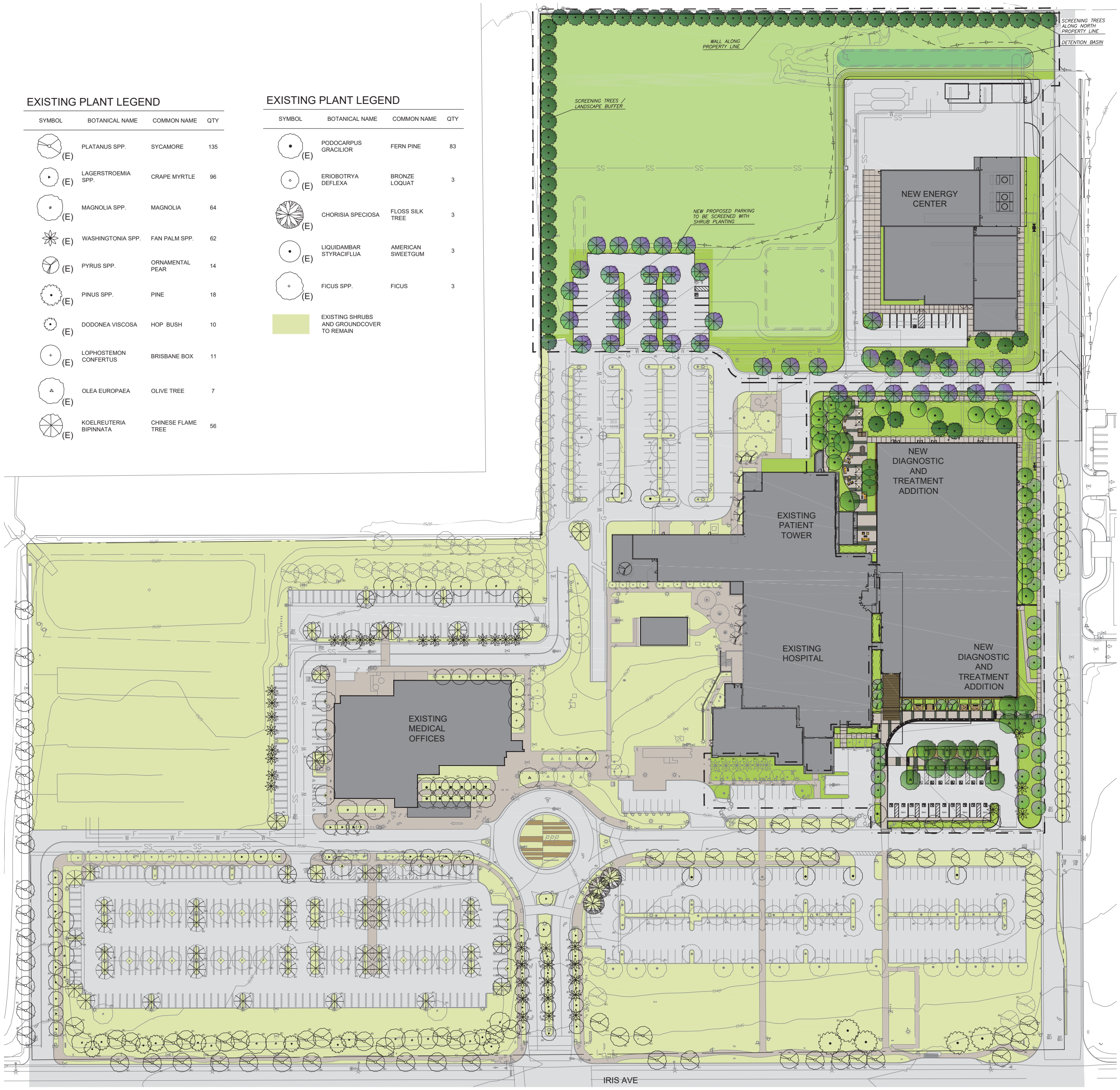


EXISTING PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | QTY |
|---|---|---|---|
| (E) | PLATANUS SPP. | SYCAMORE | 135 |
| (E) | LAGERSTROEMIA SPP. | CRAPE MYRTLE | 96 |
| (E) | MAGNOLIA SPP. | MAGNOLIA | 64 |
| (E) | WASHINGTONIA SPP. | FAN PALM SPP. | 62 |
| (E) | PYRUS SPP. | ORNAMENTAL PEAR | 14 |
| (E) | PINUS SPP. | PINE | 18 |
| (E) | DODONEA VISCOSA | HOP BUSH | 10 |
| (E) | LOPHOSTEMON CONFERTUS | BRISBANE BOX | 11 |
| (E) | OLEA EUROPAEA | OLIVE TREE | 7 |
| (E) | KOELREUTERIA BIPINNATA | CHINESE FLAME TREE | 56 |

EXISTING PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | QTY |
|---|---|---|---|
| (E) | PODOCARPUS GRACILIOR | FERN PINE | 83 |
| (E) | ERIOBOTRYA DEFLEXA | BRONZE LOQUAT | 3 |
| (E) | CHORISIA SPECIOSA | FLOSS SILK TREE | 3 |
| (E) | LIQUIDAMBAR STYRACIFLUA | AMERICAN SWEETGUM | 3 |
| (E) | FICUS SPP. | FICUS | 3 |
| | EXISTING SHRUBS AND GROUNDCOVER TO REMAIN | | |

PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|
| *TREES* | | | |
| | OLEA EUROPAEA 'WILSONII' | FRUITLESS OLIVE | 36" BOX |
| | WASHINGTONIA FILIFERA | CALIFORNIA FAN PALM TO MATCH EXISTING | 25' BTH |
| | LAGERSTROEMIA INDICA 'MUSKOGEE' | CRAPE MYRTLE MULTI-TRUNK | 24" BOX STD. FORM |
| | CERCIS OCCIDENTALIS | WESTERN REDBUD | 24" BOX |
| | HYMENOSPORUM FLAVUM | SWEETSHADE | 24" BOX |
| | LOPHOSTEMON CONFERTUS | BRISBANE BOX | 24" BOX |
| | PINUS ELDARICA | MONDELL PINE | 24" BOX |
| | KOELREUTERIA BIPINNATA | CHINESE FLAME TREE | 24" BOX |

*SHRUBS, VINES & GROUNDCOVERS*

| SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|
| | HESPERALOE PARVIFLORA 'YELLOW SUN' | YELLOW YUCCA | 5 GAL. |
| | ALOE STRIATA | CORAL ALOE | 5 GAL. |
| | ANIGOZANTHOS 'GOLD VELVET' | GOLD VELVET KANGAROO PAW | 5 GAL. |
| | CAREX DIVULSA | BERKELEY SEDGE | 1 GAL. |
| | CALLISTEMON 'LITTLE JOHN' | LITTLE JOHN CALLISTEMON | 5 GAL. |
| | COTONEASTER DAMMERI 'LOWFAST' | BEARBERRY COTONEASTER | 1 GAL. |
| | DIANELLA 'LITTLE REV' | LITTLE REV FLAX LILY | 1 GAL. |
| | DIANELLA TASMANICA 'VARIEGATA' | VARIEGATED FLAX LILY | 5 GAL. |
| | FICUS PUMILA | CREEPING FIG | 5 GAL. |
| | FESTUCA MAIREI | ATLAS FESCUE | 1 GAL. |
| | HESPERALOE PARVIFOLIA 'BRAKE LIGHTS' | BRAKE LIGHT RED YUCCA | 5 GAL. |
| | JUNCUS PATENS 'ELK BLUE' | ELK BLUE CALIFORNIA GRAY RUSH | 1 GAL. |
| | ROSA 'FLOWER CARPET YELLOW' | YELLOW GROUND COVER ROSE | 2 GAL. |
| | MACFADYENA UNGUIS-CATI | CAT'S CLAW | 5 GAL. |
| | MUHLENBERGIA CAPILLARIS 'REGAL MIST' | REGAL MIST PINK MUHLY GRASS | 1 GAL. |
| | LEUCOPHYLLUM F. 'COMPACTA' | COMPACT TEXAS RANGER | 5 GAL. |
| | DIANELLA TASMANICA VARIEGATA | VARIEGATED FLAX LILLY | 5 GAL. |
| | PODOCARPUS 'ICEE BLUE' | ICEE BLUE PODOCARPUS | 15 GAL. |
| | ROSMARINUS PROSTRATUS | PROSTRATE ROSEMARY | 1 GAL. |
| | WESTRINGIA FRUTICOSA | COAST ROSEMARY | 5 GAL. |
| | CAREX PANSA | CALIFORNIA MEADOW SEDGE | PLUGS |
| | TEUCRIUM X LUCIDRYS | GERMANDER | 1 GAL. |
| | TEMPORARY IRRIGATED HYDROSEED | | |

SOURCE: CO Architects, 2019

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FIGURE 3-6

## Phase I Landscape Plan

Kaiser Permanente Moreno Valley Medical Center Project EIR

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SOURCE: CO Architects, 2019

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FIGURE 3-7

Master Landscape Plan

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# CHAPTER 4
# ENVIRONMENTAL IMPACT ANALYSIS

The purpose of this environmental impact report (EIR) is to evaluate the potential environmental effects of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The City of Moreno Valley (City) circulated a notice of preparation (NOP) beginning on November 26, 2018, with the public review period ending on December 31, 2018. The NOP was transmitted to the State Clearinghouse, agencies, and organizations to solicit issues and concerns related to the project. The NOP, NOP distribution list, and comment letters are contained in Appendix A of this EIR.

The project is divided into three phases. Phase I will be analyzed at a project level in this EIR. At this time, the general location of Phase II and Phase III is known; however, the specific project details for Phase II and Phase III are not. Because specific development plans for Phase II and Phase III are not available at this time, the analysis for Phase II and Phase III in the EIR is at a program level.

Sections 4.1 through 4.16 of the EIR contain the potential environmental impacts analysis associated with implementation of the project and focus on the following issues:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Energy
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Noise
- Population and housing
- Public services and recreation
- Transportation
- Tribal cultural resources
- Utilities and service systems

**Technical Studies**

Technical studies were prepared in order to accurately analyze biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and traffic impacts and were used in the preparation of this EIR. These documents are identified in the discussions for the individual environmental issues and included as technical appendices on a CD attached to the EIR. Hard copies are available at the City Planning Department office.

### Analysis Format

The EIR assesses how the project would impact the issue areas. Each environmental issue addressed in this EIR is presented in terms of the following subsections:

- **Relevant Plans, Policies, and Ordinances**: Provides applicable federal, state, and/or local plans, policies, and/or ordinances pertaining to the environmental issue.
- **Existing Conditions**: Provides information describing the existing setting on or surrounding the project site that may be subject to change as a result of the implementation of the project. This setting described the conditions that existed when the NOP was sent to the State Clearinghouse, agencies, and organizations.
- **Thresholds of Significance**: Provides criteria for determining the significance of project impacts for each environmental issue.
- **Project Design Features**: Provides applicable project design features which the project will implement in order to reduce potential for environmental effects.
- **Impacts Analysis**: Provides a discussion of the characteristics of the project that may have an effect on the environment, analyzes the nature and extent to which the project is expected to change the existing environment, and indicates whether the project impacts meet or exceed the levels of significance thresholds. As stated previously, this EIR will analyze the project on both a project level and on a programmatic level. This section of each EIR section will differentiate between these two levels of analysis.
- **Mitigation Measures**: Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Level of Significance After Mitigation**: Provides a discussion of the level of impact after mitigation, such as significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.
- **References Cited:** References cited throughout the EIR section are included at the end of each chapter and section.

# 4.1 AESTHETICS

This section identifies relevant regulatory plans, policies and ordinances; describes the existing visual setting of the project site and vicinity; evaluates potential aesthetic impacts to scenic vistas, scenic resources within a state scenic highway, the existing visual character or quality of the site and its surroundings, and existing day and nighttime views in the area as a result of new sources of substantial light or glare associated with implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project).

## 4.1.1 Relevant Plans, Policies, and Ordinances

**Federal**

***Federal Aviation Administration***

The Federal Aviation Administration (FAA) requires that any temporary or permanent structures exceeding an overall height of 200 feet above ground level be marked and/or lighted (FAA 2007). While development associated with the project is not anticipated to exceed 200 feet in height, the FAA may also recommend marking and/or lighting of a structure that does not exceed 200 feet above ground level because of the particular location of a structure. The March Air Reserve Base airstrip is located approximately 3.35 miles west of the project site and may trigger necessary notification of the FAA to ensure that proposed structures do not affect navigable airspace.

**State**

***The California Scenic Highway Program***

California's Scenic Highway Program was created by the state legislature in 1963. This program's purpose is to "preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways" (Caltrans 2017). The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The California Scenic Highway System includes a list of highways that are officially designated as scenic highways or eligible for designation as scenic highways. There are no state-designated or eligible scenic highways in the project area. The closest eligible state scenic highway, State Route 74, is located approximately 8 miles south of the project site, while the nearest segment of officially designated state scenic highway, State Route 74, is approximately 20 miles southeast of the project site (Caltrans 2017). The project site is not visible from these segments of roadway due to the distance as well as intervening development and terrain.

### *California Building Standards Code*

Title 24 of the California Building Standards Code serves as the basis for the design and construction of buildings in California. In addition to safety, sustainability, new technology and reliability, the California Building Standards Code addresses light pollution and glare hazards through the establishment of maximum allowable backlight, uplight, and glare (BUG) ratings (State of California 2011).

## Local

### *City of Moreno Valley General Plan 2035*

The Community Development and Conservation Elements of the City of Moreno Valley (City) General Plan 2035 contain objectives and policies relevant to the built environment, aesthetics, and the protection of views and scenic resources. Additionally, Figure 7-2 in the Conservation Element of the General Plan identifies major scenic resources and view corridors in the City. Relevant objectives and policies of the Community Development Element are listed below (City of Moreno Valley 2006).

- **Objective 2.10.** Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design.
- **Policy 2.10.1.** Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.
- **Policy 2.10.2.** Screen trash storage and loading areas, ground and roof mounted mechanical equipment, and outdoor storage areas from public view as appropriate.
- **Policy 2.10.3.** Require exterior elevations of buildings to have architectural treatments that enhance their appearance. a. A design theme, with compatible materials and styles should be evident within a development project; b. Secondary accent materials, colors and lighting should be used to highlight building features; c. Variations in roofline and setbacks (projections and recesses) should be used to break up the building mass. d. Industrial buildings shall include architectural treatments on visible facades that are aesthetically pleasing.
- **Policy 2.10.4.** Landscaping and open spaces should be provided as an integral part of project design to enhance building design, public views, and interior spaces; provide buffers and transitions as needed; and facilitate energy and resource conservation.
- **Policy 2.10.6.** Buildings should be designed with a plan for adequate signage. Signs should be highly compatible with the building and site design relative to size, color, material, and placement.

- **Policy 2.10.7.** On-site lighting should not cause nuisance levels of light or glare on adjacent properties.
- **Policy 2.10.8.** Lighting should improve the visual identification of structures. Within commercial areas, lighting should also help create a festive atmosphere by outlining buildings and encouraging nighttime use of areas by pedestrians.
- **Policy 2.10.9.** Fences and walls should incorporate landscape elements and changes in materials or texture to deter graffiti and add visual interest.
- **Policy 2.10.10.** Minimize the use and visibility of reverse frontage walls along streets and freeways by such treatments as landscaping, berming, and "side-on" cul-de-sacs.
- **Policy 2.10.11.** Screen and buffer nonresidential projects from adjacent residential property and other sensitive land uses when necessary to mitigate noise, glare and other adverse effects on adjacent uses.

Relevant objectives and policies of the Conservation Element are listed below (City of Moreno Valley 2006).

- **Objective 7.7.** Where practical, preserve significant visual features, significant views and vistas.
- **Policy 7.7.1.** Discourage development directly upon a prominent ridgeline.
- **Policy 7.7.2.** Require new electrical and communication lines to be placed underground.
- **Policy 7.7.3.** Implement reasonable controls on the size, number and design of signs to minimize degradation of visual quality.
- **Policy 7.7.4.** Gilman Springs Road, Moreno Beach Drive, and State Route 60 shall be designated as local scenic roads.
- **Policy 7.7.5.** Require development along scenic roadways to be visually attractive and to allow for scenic views of the surrounding mountains and Mystic Lake.

***City of Moreno Valley Municipal Code***

The Municipal Code contains design guidelines that regulate the aesthetic quality of new development with respect to structures, signs, walls, landscaping and other improvements. Existing regulations also require night lighting for non-residential developments to be shielded where appropriate to reduce the intensity of light that spills on neighboring properties.

## 4.1.2 Existing Conditions

### Scenic Vistas and Scenic Resources

As indicated in the Conservation Element of the General Plan, scenic resources in the City include views of the mountains and southerly views of the valley (City of Moreno Valley 2006). In particular, scenic vistas considered to be of high scenic quality include views of the Box Springs Mountains, the Russell Mountains (including a prominent peak near the project site, Mount Russell), and Moreno Peak, including the surrounding foothills, rock outcroppings and boulders; and views of the Badlands area, a range of hills characterized by steep, eroded hillsides (City of Moreno Valley 2006). Relative to the project site, these landforms are located approximately 6.8 miles to the northwest, 0.85 miles to the east, 2.2 miles to the north, and 4.3 miles to the northeast, respectively. These scenic resources are visible from certain public roads, parks and other public vantage points throughout the City. Panoramic views of the valley are also visually attractive and are offered from elevated segments of some local roads and from hillside residences. Additionally, distant views of the rugged San Bernardino Mountains to the northeast and San Gabriel Mountains to the northwest are available from some parts of the City. Views of agricultural uses such as citrus groves are also considered visually pleasing features in the City. As indicated in the General Plan, these scenic resources are particularly evident from SR-60, Gilman Springs Road and Moreno Beach Drive, which constitute the only designated scenic routes in the City (City of Moreno Valley 2006).

As identified in Figure 7-2 of the General Plan, available view corridors near the project site include southerly views of the Russell Mountains and northerly views of Moreno Peak (City of Moreno Valley 2006). Views to the more distant San Gabriel Mountains to the northwest and San Bernardino Mountains to the northeast, including Anderson Peak and Mount San Gorgonio, are also visible from the view corridors near the project site. In the project area, views to these landforms are available from Iris Avenue, Moreno Beach Drive, Nason Street, Oliver Street, other public roads, parks, and private residences.

A site visit was conducted to identify locations or viewpoints from which to assess the potential for project implementation to impact scenic vistas. After visiting the site and examining the availability of existing views to local visually prominent features and area mountains, six viewpoints were identified for visual analysis, as depicted on Figure 4.1-1, Viewpoint Key Map. These viewpoints look toward the project site from public vantage points, and comprise existing available views of the project site within the aforementioned scenic corridors. These viewpoints are (1) Vista Loma Park (Figure 4.1-2, Photo A), (2) Iris Avenue, approximately 175 feet east of Grande Vista Drive (Figure 4.1-3, Photo A) (3) the Nason Street and Iris Avenue intersection (Figure 4.1-4, Photo A), (3) the Iris Avenue and Hammet Court intersection (Figure 4.1-5, Photo A), (5) Celebration Park (Figure 4.1-6, Photo A), and (6) the Nason Street and Delphinium Avenue intersection (Figure 4.1-7, Photo A). The existing views available and visual qualities of each of these viewpoints are described below.

***Viewpoint No. 1 (Looking east toward the project site from Vista Loma Park)***

Viewpoint No. 1 (Figure 4.1-2, Photo A) is located within Vista Loma Park and provides an easterly view toward the project site. Viewpoint No. 1 is representative of publicly available views toward the project site available to recreational users of the park. As illustrated in Figure 4.1-2, Photo A, eastward views available from the park include views to the prominent, rugged Mount Russell and surrounding foothills, the Badlands, and distant San Bernardino Mountains.

From Viewpoint No. 1, park amenities including a basketball court, light posts, turf, benches, a drinking fountain, a trash receptacle, landscaping and fencing are visible in the immediate foreground and an approximately 4 to 5 foot off-white stucco wall encloses the east side of the park. Iris Avenue forms the southern boundary of the park and extends to the east toward the project site. Vertical elements such as light posts, street signs, and trees line the road. The large, boxy, off-white and grey/beige hospital and medical office buildings that currently occupy the project site are visible to the east (approximately 0.60 miles away) and are in line with the rugged foothills of Mount Russell. While largely screened from view by the wall that bounds the eastern perimeter of the park, the land between the project site and the park is vacant and generally covered with small shrubs and grasses.

***Viewpoint No. 2 (Looking east toward the project site from Iris Avenue, approximately 175 feet east of Grande Vista Drive)***

Viewpoint No. 2 (Figure 4.1-3, Photo A) is located on Iris Avenue, approximately 175 east of the intersection with Grande Vista Drive, and provides an easterly view toward the project site. Viewpoint No. 2 is representative of views of eastbound motorists traveling on Iris Avenue. As illustrated in Figure 4.1-3, Photo A, scenic resources visible from Viewpoint No. 2 include views of Mount Russell and the surrounding rocky foothills, and the Badlands to the northeast. While obscured by clouds in the photograph presented in Figure 4.1-3, Photo A, under clear atmospheric conditions the distant San Bernardino Mountains are also visible to the east and northeast from Viewpoint No. 2.

As Viewpoint No. 2 is representative of the view of eastbound motorists traveling on Iris Avenue, the six-lane roadway, raised center median, streetlights, signs and street trees are visible as the road extends to the east toward the project site and Mount Russell. An area of relatively flat, open space covered with grasses and shrubs is visible north of the roadway. The large, boxy, off-white and grey/beige hospital and medical office buildings that currently occupy the project site are visible to the east (approximately 0.33 miles away) and are situated in front of the lower-elevation foothills that surround Mount Russell.

***Viewpoint No. 3 (Looking east toward the project site from the Nason Street and Iris Avenue intersection)***

Viewpoint No. 3 (Figure 4.1-4, Photo A) is located at the intersection of Nason Street and Iris Avenue and offers an open, easterly view toward the project site (situated approximately 0.2 miles away). Viewpoint No. 3 is representative of easterly views toward the project site available to motorists traveling on Nason Street and Iris Avenue. Additionally, multiple residences are located to the west of this viewpoint and these receptors are offered similar, albeit slightly more distant, easterly views toward the project site. As illustrated in Figure 4.1-4, Photo A, the wide, flat valley floor is visible in the foreground and extends east to the project site and northeast to the rugged Badlands and Reche Mountains. The tall, wide and visually prominent San Bernardino Mountains rise beyond the lower Badlands terrain to the northeast. Mount Russell and the surrounding rocky foothills provide a craggy background to the existing Kaiser Permanente Medical Campus buildings. While some lower elevation foothills are blocked from view by Medical Campus buildings, unobstructed views to Mount Russell and its surrounding foothills are offered at Viewpoint No. 3. The mountainous terrain of the San Bernardino Mountains and Mount Russell and associated foothills are prominent at Viewpoint No. 3.

***Viewpoint No. 4 (Looking northeast toward the project site from the Iris Avenue and Hammet Court intersection)***

Viewpoint No. 4 (Figure 4.1-5, Photo A) is located at the intersection of Iris Avenue and Hammet Court and provides a northeasterly view toward the project site (approximately 500 feet away). Viewpoint No. 4 is representative of views toward the project site available to motorists turning onto Iris Avenue from Hammet Court. The tall, rugged San Bernardino Mountains (including Anderson Peak and Mount San Gorgonio, two prominent peaks within the mountain range) and the lower lying topography of the Badlands and Reche Mountains are visible to the northeast. The rocky foothills of Mount Russell are visible to the east from Viewpoint No. 4 but are generally screened from view at Viewpoint No. 4 by median street trees. The cyclical (and seasonal) growth of foliage on median street trees would result in enhanced screening of views to the rocky foothills of Mount Russell from Viewpoint No. 4. Views to the valley floor are offered at Viewpoint No. 4 to the northeast beyond chain-link fencing that parallels Iris Avenue.

From Viewpoint No. 4, the three eastbound lanes of Iris Avenue and the landscaped center median densely planted with low, green shrubs and 20- to 30-foot-tall deciduous street trees occupy the immediate foreground of the view. A chain link fence separates the road from vacant land that consists of green and tan grasses. Residential development and the crowns of trees are visible in the distance. The residences are generally tan in color and tend to blend into the landscape. The large, boxy form of the existing hospital buildings is a prominent feature in the view, and blocks foothills and slopes of the San Bernardino Mountains from view.

***Viewpoint No. 5 (Looking southwest toward the project site from Celebration Park)***

Viewpoint No. 5 (Figure 4.1-6, Photo A) is located within the main picnic area of Celebration Park and provides a southwesterly view toward the project site. Celebration Park is located at the intersection of Oliver Street and John F. Kennedy Road, north of Landmark Middle School and approximately 0.3 miles from the project site. Viewpoint No. 5 is representative of views available to recreational users of the park toward development on the project site which is detectable through a gap in landscaping installed on the adjacent middle school property. The rugged Mount Russell foothills are partially visible. There are no other distinct landforms visible.

The foreground from Viewpoint No. 5 consists of park amenities including an approximately 3-foot tall, black, metal fence that surrounds the picnic area; landscaping; a walking path; a turf open space area; and tall light posts and mature trees that add vertical elements to the view. Open green space and mature trees within the park dominate the scene. John F. Kennedy Drive, additional landscaping and chain link fencing separate the park from Landmark Middle School. Athletic fields, basketball courts and school buildings are partially visible. Street lights and road signs along John F. Kennedy Drive are visible. The vertical, boxy form of the existing hospital and medical buildings are partially visible and located approximately 0.50 miles away, and the Mount Russell foothills rise above the hospital buildings. Mature trees and features within the park and school effectively screen much of the project site buildings and the rugged landforms from view.

***Viewpoint No. 6 (Looking southeast toward the project site from the Nason Street and Delphinium Avenue intersection)***

Viewpoint No. 6 (Figure 4.1-7, Photo A) is located at the southeast corner of the Nason Street and Delphinium Avenue intersection, and provides a southeasterly view toward the project site. Viewpoint No. 6 is representative of views of pedestrians turning left onto Nason Street from Delphinium Avenue. Motorists traveling on Nason Street and Delphinium Avenue and residential properties that face Delphinium Avenue are afforded similar views of the project site and surrounding area. The wide valley floor is visible as it extends to the southeast toward the rise in topography that encompasses the Russel Mountains and its surrounding rocky foothills.

The foreground consists of flat, open space covered with grasses and short vegetation. The open space area is surrounded by an approximately 6-foot-tall chain link fence and extends along Nason Street as the road stretches to the south toward Iris Avenue. Streetlights that line the roadway create tall, vertical elements in the view. Development that sits as the base of the Russell Mountains is visible, including the large hospital and medical office buildings that currently occupy the project site, as well as residential development that is situated between the project site and the Russell Mountains. The tall, rugged and rocky Mount Russell, a prominent peak within the Russell Mountains, rises above the developed area, creating a scenic backdrop. Lower elevation landforms and more distant mountainous terrain within the Russell Mountains are also visible.

### Scenic Highways

While I-215 is identified by the County of Riverside General Plan as a County Eligible Scenic Highway, there are no state-designated or eligible scenic highways in the project area. As discussed in Section 4.1.1, the closest eligible state scenic highway, State Route 74, is located approximately 8 miles south of the project site, while the nearest segment of officially designated state scenic highway, State Route 74, is approximately 20 miles southeast of the project site (Caltrans 2017). Due to the distance and intervening development and terrain, the project site is not visible from any eligible or designated state scenic highways.

### Existing Visual Character and Quality

The 30-acre project site is situated within a relatively flat and primarily developed valley that is surrounded by rugged hills and mountains. Similar to the project site, the City and surrounding area is surrounded by rugged terrain including the Box Springs Mountains and Reche Canyon area to the north, the Badlands to the east, and the Mount Russell area to the south.

The project site is an existing, modern medical campus comprised of a central, 4 to 5 story, beige, off-white, and grey hospital building and a detached 3 story medical office building. The medical office building is finished with a similar combination of colors and textures as the hospital building. Both the hospital and medical office buildings display a vertical, boxy form. A detached single-story building is located northeast of the hospital and a series of trailers are located nearby. Surface parking lots including drop off and emergency access areas, and tree, shrub, and turf-landscaped grounds surround the hospital and medical office buildings. Primary access to the campus is off Iris Avenue and a large roundabout directs visitors to the hospital (located in the eastern portion of the site) or the medical office building (located in the western portion of the site). The northern and northwestern portions of the project site are primarily vacant and undeveloped however; an existing detention basin is constructed northwest of the medical office building.

The area surrounding the project site includes residential and rural residential uses, neighborhood parks and recreational uses, a middle school, and undeveloped lands. Iris Avenue, a six-lane, tree-lined road with a landscaped center median, sidewalks and a bike lane forms the southern site boundary, and primarily undeveloped yet disturbed land surrounds the hospital to the north, east and west. The vacant land is covered by exposed bare soils and low and mounded weedy species. The land has been visibly disturbed, and slightly dips and rises in elevation as the open space continues to the northwest. A channelized creek also occurs to the north of the project site and bisects the vacant land. While primarily undeveloped, the property to the immediate east of the project site includes a single-story medical office building, small surface parking lot and site landscaping.

Residential development consisting of earth-toned one- and two- story single-family homes are located atop elevated building pads directly to the south of the project site across Iris Avenue. Due to the elevated building pads, homes are situated at an elevation approximately 20 feet greater than the elevation of the roadway. In addition to park and school uses, similar residential development occurs to the east and west beyond the vacant land that surrounds the project site.

Prominent landforms visible or partially visible from the immediate project area include the Mount Russell foothills, the Box Spring Mountains to the north, the wide expanse of the valley floor, the Badlands and the more distant San Bernardino Mountain to the northeast and the Santa Ana Mountains to the west.

**Light and Glare**

The project site is located in an area where nighttime lighting is a relatively common feature. Existing light sources in the area include streetlights, landscape lighting, parking lot and park lighting, and exterior and interior building lighting associated with the Medical Campus, the adjacent medical office to the east and nearby residential uses.

Glare is the result of sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces such as window glass or brightly colored surfaces, and the direct view of a bright, unshielded light source. Glare can be uncomfortable (discomfort glare) and/or disabling (disability glare). Glare decreases visibility but the level of receptors' sensitivity to glare can vary widely. With the exception of windows associated with the exterior of the existing hospital and medical office buildings and the windows of development in the surrounding area, potential sources of glare in the project area are limited. Under existing conditions, the project site is landscaped with multiple mature trees that aid in shielding the hospital and medical office buildings (and potential glare generated by building windows) as well as glare from the windshields or parked vehicles from view of nearby motorists and residents.

## 4.1.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if, except as provided in Public Resources Code Section 21099, the project would:

AES-1. Have a substantial adverse effect on a scenic vista.

AES-2. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

AES-3. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

AES-4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

## 4.1.4 Impacts Analysis

***Threshold AES-1. Would the project have a substantial adverse effect on a scenic vista?***

**Project- and Program-Level Elements: Construction**

Construction during all phases of the project would introduce the use of heavy machinery such as large trucks, cranes, bulldozers, and other equipment needed for construction activities. The presence of this equipment, especially tall cranes that would exceed the heights of the buildings under construction, would add vertical elements to the view. Large construction equipment would be visible from surrounding areas looking toward the project site. Construction activities would also require the presence of construction workers and vehicles on the project site; however, these activities would not be permanent. While construction activities would occupy large portions of the project site, surrounding foothills and more distant mountains would remain visible from much of the project site and surrounding area. Further, view obstruction associated with vertical construction equipment and vehicles would not result in permanent blockage of existing views of scenic landforms in the area. Temporary construction activities would not have substantial adverse impacts on scenic vistas, and impacts are considered **less than significant**, and no mitigation is required.

**Project-Level Elements: Operation**

As proposed, Phase I would consist of the construction of a 95,000-square-foot Diagnostics and Treatment (D&T) Building and a 22,000-square-foot Energy Center. The new two-story (approximately 18 feet high) D&T Building and one-story (approximately 23 feet high) Energy Center would be located to the immediate east and to the north of the existing hospital building. To demonstrate anticipated visual change associated with implementation of the project and expansion of the existing hospital campus, photo simulations from identified viewpoints near the project site were prepared and have been included in Figures 4.1-2 through 4.1-7 as Photos B and C. The six figures consider and depict Existing Conditions, Phase I development (Photo B) and Phase III development (Photo C). As shown in Photo B on Figures 4.1-2 through 4.1-7, new development on the project site to be completed during Phase I consists of buildings that are compatible with the existing on-site and surrounding development. While the proposed Phase I structures would be visible from many of the identified viewpoints, their one- to two-story scale and low vertical profile relative to the existing hospital and medical office building located on site would not substantially block or screen views of scenic resources, including the Russell Mountains, Mount Russell and its surrounding foothills, or the distant San Bernardino Mountains as viewed by area motorists, residents, pedestrians or park users. Interruption of existing views associated with the introduction of the one- and two-story Phase I structures would be minimal. As such, impacts from project level elements (Phase I) are considered **less than significant**, and no mitigation is required.

### Program-Level Elements: Operation

As proposed, Kaiser Permanente would redevelop and expand the existing Medical Center in up to three phases of development that would occur between 2020 and 2038. Phase I elements are described and analyzed above under Project-Level Elements. New or expanded Program-Level Elements include an expanded and reconstructed hospital towers (Phases II and III, up to 137 feet high), an expanded D&T Building (Phase II, up to 54 feet high), medical office buildings (MOBs) 3 and 4 (Phases II and III, up to 68 and 78 feet high, respectively), a new Emergency Department building (Phases II and III) (up to 24 feet high), and three parking structures (Phases II and III, up to 78 feet, which may include solar panels at an undetermined point in the future).

Proposed buildout of the site with several structures ranging from approximately 20 feet to over 130 feet high would alter the existing layout of the site and existing views across the site to scenic resources including local foothills, peaks, the valley and more distant mountains. The building exteriors would be tan in color and parking structures would be designed with vegetated walls, which would soften the contrast with the surrounding landscape. As previously discussed, photo simulations from identified viewpoints near the project site were prepared and have been included in Figures 4.1-2 through 4.1-7. Phase III development from each viewpoint is depicted on each figure as Photo C. Anticipated effects to existing views resulting from program-level development as viewed from each of the identified viewpoints is described below.

#### *Viewpoint No. 1 (Looking east toward the project site from Vista Loma Park)*

While existing hospital buildings and park amenities/features partially obstruct the eastward view to Mount Russell from Viewpoint No. 1, the majority of the landform is visible above existing structures and park amenities/features. As shown in Photo C in Figure 4.1-2, the development of several tall and wide structures including the proposed south, west (Phase III) and north (Phase II) hospital towers (approximately 137 feet high including elevator towers) and Parking Structure 2 (over 500 feet long and 60 feet high as measured to top of roof mounted solar panels) (Phase II) on the project site would block a larger portion of the Mount Russell foothills from view. Located north of the proposed hospital towers, Parking Structure 1 (approximately 50 feet high at the top of roof mounted solar panels) (Phase II) would be visible but would be comparatively low in the landscape and would not substantially block foothill features from view. The majority of remaining project development would be blocked from view by the proposed hospital towers and Parking Structure 2.

Proposed development would horizontally and vertically expand the existing footprint of buildings on the Medical Center campus. As depicted on Figure 4.1-2, Photo C, proposed hospital towers and parking structures would increase existing view blockage to the lower elevation terrain of Mount Russell, however; the upper elevation terrain and wide bulk of Mount Russell would remain visible and would continue to dominate the view. Project development would increase building bulk and scale on the project site however, as viewed from Viewpoint No.1; proposed structures would not visually break or obscure the rugged ridgeline of Mount Russell. In addition, views to the Badlands and more distant mountains to the northeast would not be obstructed by proposed development. Because the majority of Mount Russell would remain visible and views to the Badlands and distant San Bernardino Mountains would be unchanged, scenic vista impacts associated with program-level elements from Viewpoint No. 1 would be less than significant, and no mitigation is required.

***Viewpoint No. 2 (Looking east toward the project site from Iris Avenue, approximately 175 feet east of Grande Vista Drive)***

Viewpoint No. 2 provides an easterly view toward the project site from Iris Avenue, approximately 175 feet east of the intersection of Grande Vista Drive. While existing hospital and medical buildings partially block views to the lower elevation foothills that surround Mount Russell, the majority of the scenic resource including the upper elevation terrain and wide bulk of Mount Russell are visible. As shown in Photo C in Figure 4.1-3, the proposed development of several tall and wide structures would result in greater view blockage than under existing conditions. The proposed Parking Structure 2 (over 500 feet long and 60 feet high as measured to top of potential future roof mounted solar panels) (Phase II), MOB 3 (approximately 230 feet long and 68 feet tall) (Phase II), MOB 4 (approximately 150 feet long and 78 feet tall) (Phase III) and Parking Structure 3 (317 feet wide and up to 54 feet tall) would front Iris Avenue. The addition of these structures to the project site along Iris Avenue would block a larger portion of the Mount Russell foothills from view. The proposed south, west (Phase III) and north (Phase II) hospital towers (approximately 137 feet high including elevator towers), and Parking Structure 1 (approximately 50 feet high at the top of roof mounted solar panels) (Phase II) would also be visible farther north within the project site and would block a small portion of background hills and the Badlands area from view.

Proposed development would horizontally and vertically expand the existing footprint of buildings on the project site. As depicted on Figure 4.1-3, Photo C, the proposed hospital towers, parking structures and MOBs would increase existing view blockage to the lower elevation terrain of Mount Russell. However, the upper elevation terrain and wide bulk of Mount Russell would remain visible. A portion of the background hills within the Badlands would be blocked from view by the proposed hospital towers and Parking Structure 1. However, the majority of the scenic background terrain would remain visible. Additionally, traveling at prevailing speeds on Iris Avenue (the posted speed limit is 50 miles per hour) (City of Moreno Valley 2017a), motorists would have mobile eastward views to multistory programmatic elements (Parking Structures 2 and 3, MOBs 3 and 4, and hospital towers). Programmatic elements would front Iris Avenue over an approximate length of 1,000 feet. These programmatic elements would noticeably shorten the length of existing eastward/northeastward views of motorists as they approach and parallel the project property. However, the duration of view blockage experienced by motorists along the project frontage would generally be brief (i.e., approximately 13 seconds along the project frontage assuming travel at 50 miles per hour) and views of scenic landforms would be restored as motorist pass the project site and proceed east to Oliver Street. Further, when considered in the context of available views from Iris Avenue on the approach to the project site from the west, the brief blockage of views would not fundamentally alter the availability of views to these scenic resources from Iris Avenue. While project development would increase building bulk and scale on the project site, as viewed from Viewpoint No. 2, proposed structures would not visually break or obscure the available landscape views. The rugged ridgeline of Mount Russell and the more distant views to the Badlands and mountains to the northeast would remain visible despite partial obstruction by proposed development. Because the majority of views to Mount Russell, the Badlands and distant San Bernardino Mountains would remain visible, scenic vista impacts associated with program-level elements from Viewpoint No. 2 would be less than significant, and no mitigation is required.

***Viewpoint No. 3 (Looking east toward the project site from the Nason Street and Iris Avenue Intersection)***

While existing hospital buildings partially obstruct the view to Mount Russell in eastward views from Viewpoint No. 3, the majority of the landform is visible above existing structures. As shown in Photo C in Figure 4.1-4, the development of several tall and wide structures including the proposed south, west (Phase III) and north (Phase II) hospital towers (approximately 137 feet high including elevator towers) and Parking Structure 2 (over 500 feet long and 60 feet high as measured to top of roof mounted solar panels) (Phase II) on the project site would block a larger portion of the Mount Russell foothills from view as well as a portion of the more distant San Bernardino Mountains. Located north of the proposed hospital towers, Parking Structure 1 (approximately 50 feet high at the top of roof mounted solar panels) (Phase II) would be visible but would be comparatively low in the landscape and would not substantially block foothill features from view. The majority of remaining project- and program-level development would be blocked from view by the proposed hospital towers and Parking Structure 2.

Proposed development would horizontally and vertically expand the existing footprint of buildings on the Medical Center campus. As depicted on Figure 4.1-4, Photo C, proposed hospital towers and parking structures would increase existing view blockage to the lower elevation terrain of Mount Russell. However, the upper elevation terrain and wide bulk of Mount Russell would remain visible. A portion of the San Bernardino Mountain range would be blocked from view by the proposed hospital towers, however, the most prominent peaks visible from Viewpoint No. 3, Anderson Peak and San Gorgonio Mountain, and the majority of the mountainous terrain would remain visible. Project development would increase building bulk and scale on the project site however, as viewed from Viewpoint No. 3, proposed structures would not visually break or obscure the rugged ridgeline of Mount Russell. In addition, views to the Badlands and more distant mountains to the northeast would remain visible despite partial obstruction by proposed development. Because the majority of views to Mount Russell, the Badlands and distant San Bernardino Mountains would remain visible, scenic vista impacts associated with program-level elements from Viewpoint No. 3 would be less than significant, and no mitigation is required.

***Viewpoint No. 4 (Looking northeast toward the project site from the Iris Avenue and Hammet Court intersection)***

As shown in Photo C in Figure 4.1-5, Parking Structure 2 (Phase II), MOB 3 (Phase II), MOB 4 (Phase III), and Parking Structure 3 (Phase III) would be visible from this viewpoint and would front Iris Avenue. Other proposed development on the project site would be blocked from view by the proposed parking structures and MOBs.

As shown in Figure 4.1-5, Photo C, the scale and mass of proposed development would block existing views across the project site to a portion of the Mount Russell foothills, the Badlands, Reche Mountains and San Bernardino Mountains including Anderson Peak and Mount San Gorgonio. In addition to motorists at Viewpoint No. 4, residential receptors located south of the viewpoint are currently offered views of these landforms to the northeast and east. While under existing conditions Viewpoint No. 4 offers a long and generally clear northeastward view to the San Bernardino Mountains and other scenic landforms, existing street trees in the Iris Avenue median regularly interrupt the view. In particular, existing street trees block the majority of the Mount Russell foothills from view at this location. Further, the existing Medical Campus buildings screen a portion of the background landscape from view, including the distant mountain terrain and hills within the Badlands area. However, prominent peaks including Anderson Peak and San Gorgonio Mountain are visible to the northeast (see Figure 4.1-5, Photo A, Existing Conditions).

Scenic landforms including the distant San Bernardino Mountains, the Badlands and the Mount Russell foothills would be blocked from view at Viewpoint No. 3 by proposed program-level development. However, under existing conditions, these views are intermittent and are available as motorists travel through the landscape at prevailing speeds. The Moreno Valley General Plan identifies scenic roads and major view corridors within the City. These view corridors are not specifically tied to stationary viewpoints or viewing locations, but identify the direction of views toward important scenic resources.

As depicted in Figure 4.1-5, Photo C, Parking Structure 2 (approximately 60'-6" high and over 500 feet long on its west elevation) would entirely block Anderson Peak and San Gorgonio Mountain from view from Viewpoint No. 4 (i.e., Hammett Court at Iris Avenue). As viewed from this stationary point, the proposed structure would also obstruct or restrict northeastward views that currently extend to the valley and less prominent mountain terrain, the Badlands and Reche Mountains. As previously discussed under Viewpoint No. 2, traveling at prevailing speeds motorists would have mobile north/northeastward views to multistory programmatic elements (Parking Structures 2 and 3, and MOBs 3 and 4) that would front Iris Avenue over an approximate length of 1,000 feet. These programmatic elements would noticeably shorten the length of existing northeastward views of motorists as they approach and parallel the project property. However, the duration of view blockage experienced by motorists along the project frontage would generally be brief (i.e., approximately 13 seconds along the project frontage assuming travel at 50 miles per hour) and views of scenic landforms would be restored as motorist pass the project site and proceed east to Oliver Street. Further, when considered in the context of available views from Iris Avenue on the approach to the project site from the west, the brief blockage of views to the San Bernardino Mountains would not fundamentally alter the availability of views to these scenic resources from Iris Avenue.

While proposed programmatic elements would result in view obstruction for approximately 1,000 feet and would noticeably shorten the length of the northeastward view offered at Viewpoint No. 4, the obstruction of this scenic vista would primarily be experienced by motorists. Expansive scenic views would remain intact along the Iris Avenue corridor approaching the Medical Center campus, as demonstrated in Viewpoint Nos. 1, 2 and 3. Additionally, no zoning or General Plan restrictions designed to protect scenic vistas are in place specific to the project site, and Iris Avenue is not a designated scenic route. While view obstruction would occur at Viewpoint No. 4, this would be experienced on a short-term basis primarily by motorists turning eastbound onto Iris Avenue. Further, existing median trees and existing hospital buildings partially obstruct existing views, resulting in intermittent views to surrounding scenic resources. Therefore, impacts associated with the proposed program-level development would be less than significant, and no mitigation is required.

***Viewpoint No. 5 (Looking southwest toward the project site from Celebration Park)***

Figure 4.1-6, Photo C, depicts the project site upon build-out of Phase III as visible from Viewpoint No. 5. Upon full build-out of Phase III, project- and program-level elements would add noticeable bulk and scale to the visual scene. In particular, the proposed hospital towers (approximately 137 feet high at top of tower elevator shaft) would further block the lower level elevations of the rocky foothills of Mount Russell from view. However, the upper elevations of the Mount Russell foothills would remain partially visible beyond the intervening park elements. Further, existing buildings on the project site partially block the lower level elevations of the Mount Russell foothills under existing conditions.

The primary viewer group from Viewpoint No. 5 is park users enjoying the recreational atmosphere and surrounding scenery. The surrounding park elements, such as mature trees, would partially obscure views of new buildings on the project site. Since the project site does not dominate the scene from Viewpoint No. 5, and new development would not substantially obstruct views to visual resources, the project- and program-level development would result in less than significant impacts, and no mitigation is required.

***Viewpoint No. 6 (Looking southeast toward the project site from the Nason Street and Delphinium Avenue intersection)***

Existing development visible from Viewpoint No. 6 sits at the base of the Russell Mountains and does not obstruct the southeastward view to Mount Russell. As shown in the existing conditions image (Photo A) in Figure 4.1-7, the majority of the landform is visible and rises above existing structures in the surrounding area. The development of several tall and wide structures on the project site would block a larger portion of the lower elevation terrain of the Russell Mountain foothills from view (see Figure 4.1-7, Photo C). Proposed programmatic elements visible from Viewpoint No. 6 include Parking Structure 1 (approximately 50 feet high at the top of roof mounted solar panels) (Phase II), the hospital towers (approximately 137 feet tall at top of tower elevator shaft) (Phase II and III), a portion of Parking Structure 3 (approximately 53 feet tall) (Phase III), MOBs 3 and 4 (approximately 68 feet and 78 feet tall, respectively) (Phase II and III), and Parking Structure 2 (approximately 60 feet tall) (Phase II). The existing hospital building would also remain visible.

Proposed development would horizontally and vertically expand the existing footprint of buildings on the Medical Center campus. As depicted on Figure 4.1-7, Photo C, proposed hospital towers would block lower elevation terrain of the Russell Mountain foothills. However, the higher elevation terrain and wide form of Mount Russell would remain visible. Other proposed development would primarily block views to residential development at the base of the Russell Mountains, and would be comparatively low in the landscape. These structures would not substantially block foothill features from view and the rocky foothill terrain would remain visible. Project development would increase building bulk and scale on the project site however, as viewed from Viewpoint No. 6, proposed structures would not visually break or obscure the rugged ridgeline of Mount Russell or the more distant landscape. Because the majority of the background landscape would remain visible and proposed hospital towers would generally screen developed areas of the foothill terrain from view, scenic vista impacts associated with program-level elements from Viewpoint No. 6 would be less than significant, and no mitigation is required.

Based on the analysis above, scenic vista impacts associated with program-level elements from all viewpoints analyzed would be **less than significant**, and no mitigation is required.

***Threshold AES-2. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?***

**Project- and Program-Level Elements**

No state-designated or eligible scenic highways are located in the project area. The closest eligible state scenic highway, State Route 74, is located approximately 8 miles south of the project site, and the nearest segment of officially designated state scenic highway, State Route 74, is approximately 20 miles southeast of the project site (Caltrans 2017). Due to distance and intervening development and terrain, the project site is not visible from the eligible scenic and state-designated scenic segments of State Route 74. Therefore, implementation of the project would not substantially damage scenic resources within a state scenic highway. **No impacts** would occur.

***Threshold AES-3. In a non-urbanized area, would the project substantially degrade the existing visual character or quality of public views the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

The project involves expanding the existing Medical Center by replacing facilities and adding new buildings and parking structures. The project is located in an urbanized area that is primarily developed with residential uses, as well as educational institutions, medical and health institutions and recreational uses.

**Project- and Program-Level Elements**

As proposed, the project would be developed in up to three phases of development that would occur between 2020 and 2038. The proposed site plans for Phase I, II, and III are included as Figures 3-1, 3-4, and 3-5 and building elevations are included as Figures 4.1-8 through 4.1-11. In addition to new and expanded hospital towers, medical office buildings, and ancillary structures, a conceptual landscape master plan has been developed for the entire development. The conceptual landscape master plan is included as Figure 4.1-12.

Scenic quality of new development is governed by the City's Zoning Ordinance as well as goals and policies from the City General Plan**.** The project site's General Plan land use designation is currently Commercial and Office, and includes two zoning designations: OC – Office Commercial district and CC – Community Commercial district (City of Moreno Valley 2006, 2017b). Further, the project site is located within the Medical Use Overlay (MUO) district of the Zoning Ordinance, which specifically allows the development of Medical Centers. Section 9.07.040 of the Moreno Valley Municipal Code provides that property within the MUO with an underlying zoning of office or office commercial, the development standards (Chapter 9.04, Commercial Districts) of the office commercial designation apply (City of Moreno Valley 2018). Since the project is composed of two zoning designations, Table 4.1-1 shows consistency with the most stringent zoning requirements for all of the commercial zoning designations on site.

**Table 4.1-1**
**Consistency with Zoning Ordinance**

| Standard | MUO/Commercial | Project Design |
|---|---|---|
| Minimum lot area, width and depth | ***OC district:***<br>Area: 10,000 square feet<br>Width: 100 feet<br>Depth: 100 feet<br>***CC district:***<br>Area: 1 acre<br>Width: 200 feet<br>Depth: 175 feet | The project site is comprised of 30-acres. This would be consistent with the minimum site area, width, and depth. |
| Minimum Building Setbacks (front and side streets) | ***OC district***: 20 feet<br>***CC district:*** 10 feet<br><br>Building areas above 30 feet shall be setback an additional five feet for every 10 feet of additional structure height unless otherwise approved by the planning commission. | The buildings that front Iris Avenue include MOB 3 (up to 68 feet tall) and MOB 4 (up to 78 feet tall). These buildings would be setback approximately 58 feet from the front property line along Iris Avenue. This would be consistent with the 20 foot setback requirement, as well as the additional setback requirement for buildings above 30 feet.<br>The north, east and west project boundaries abut vacant land (with the exception of an internal access road and an existing medical office building to the east). Because the building setback requirements are measured from the property line after dedications for public right of way (for front and side streets), the setback requirement would not apply to the eastern, northern or western property boundaries. Nonetheless, structures would be set back between approximately 40 to 60 feet from the north, east and south property lines. |

**Table 4.1-1**
**Consistency with Zoning Ordinance**

| Standard | MUO/Commercial | Project Design |
|---|---|---|
| Minimum Parking Setbacks | ***OC district***:<br>Front street setback: 20 feet<br>Side street setback: 15 feet<br>***CC district:***<br>Front street setback: 10 feet<br>Side street setback: 20 feet | Parking structure 2 (up to 61'-6" tall) and parking structure 3 (up to 78' tall) would be setback approximately 58 feet from the front property line along Iris Avenue. Parking structure 2 would be setback approximately 53 feet from the westerly property line. Parking structure 3 would be setback approximately 61 feet from the easterly property line. This would be consistent with the parking setback requirements. Parking structure 1 would be located in the northwest corner of the site, and there are no existing side or rear streets abutting the northern or western property boundary. Nonetheless, parking structure 1 would be setback approximately 42 feet and 54 feet from the western and northern property lines, respectively. |
| Lot coverage, maximum | ***OC district:*** 60%<br>***CC district:*** N/A | All buildings (existing + proposed) would result in approximately 39.23% lot coverage. This would be consistent with the lot coverage maximum requirements. |
| Setback landscaping | All setbacks exclusive of required walkways and driveways will be landscaped planting areas. | As shown in Figure 4.1-12, all setbacks would be landscaped with trees, shrubs and groundcovers. This would be consistent with the setback landscaping requirements. |

As shown in Table 4.1-1, the proposed project would be consistent with the relevant Zoning Ordinance standards for the Medical Use Overlay (MUO) and Commercial Zones that indirectly address scenic quality. Table 4.10-1 in Section 4.10, Land Use and Planning, indicates that the project is consistent with applicable General Plan policies related to scenic resources.

As discussed in Threshold AES-1, development of Phase I would add new and expanded hospital and medical office buildings to the site. The Phase I site plan is included as Figure 3-1. Proposed bulk, scale, and building materials associated with Phase I development, including a 95,000-square-foot, approximately 37-foot-tall D&T Building and a 22,000-square-foot, approximately 23-foot-tall Energy Center are depicted on the building elevations Figures 4.1-8 through 4.1-11. Phase I building materials would consist of plaster and metal screens (D&T building), concrete (CMU) and metal side panels (Energy Center). As depicted on Figure 3-1, Phase I buildings would be located to the immediate east and to the north of the existing hospital building. Under existing conditions, approximately two-thirds of the site is currently developed with hospital and medical office buildings similar in bulk and scale to development proposed in Phase I.

While the land immediately surrounding the project site is vacant, the project site is located within the City's MUO Zone. The Riverside University Health System Medical Center is located less than 1-mile north of the project site and contains buildings of similar bulk and scale as the existing and proposed project buildings. Further, the University Medical Center is also undergoing expansion to better serve the growing population in the City and surrounding area. Because the proposed vertical scale of Phase I development would be consistent with that of existing buildings on site and because the proposed horizontal scale and bulk would be similar to that of existing buildings on site and hospital uses in the area, Phase I development would not substantially degrade existing visual character. In addition, consistent with residential and hospital development in the area, the project site would be landscaped which would enhance the visual quality of the currently undeveloped and vacant portion of the site proposed for development. Therefore, implementation of Phase I of the proposed project would not substantially degrade the existing visual character and quality of the site and its surroundings and impacts would be less than significant.

Future development of Phase II and III would continue to expand hospital facilities and add new medical office buildings and support buildings to the site. The Phase II and III site plans are included as Figures 3-4 and 3-5. Proposed bulk, scale, and building materials upon full buildout of project- and program-level development including new hospital towers (up to 137 feet tall), an expanded D&T Building (up to 52 feet tall), a new emergency department building (up to 39 feet tall), two new medical office buildings (up to 78 feet tall) and three parking structures (up to 61 feet tall), are depicted on the proposed building elevations, Figures 4.1-8 through 4.1-11.

As shown in Table 4.1-1, the project would comply with applicable zoning standards for the MUO zone and underlying commercial zoning. In addition, after each phase of construction is complete, all setbacks would be landscaped to soften the height and mass of the structures and to visually integrate it with the surrounding Medical Center campus environment. The landscape design (see Figure 4-1-12) is intended to complement, enhance, and integrate the site into one cohesive campus environment and visual experience. Further, based on the analysis included in Table 4.10-1 in Section 4.10, the project would be consistent with applicable General Plan policies. With uniform architectural design, acknowledgement of existing surrounding uses, and incorporation of a cohesive landscape plan, development of the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. The surrounding area is becoming more urbanized and supports planned development with a mix of uses including residential, commercial, commercial retail, recreation, and hospital.

As such, impacts associated with Phase I and with further development of the site with an expanded hospital campus would be **less than significant**, and no mitigation is required.

***Threshold AES-4. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

**Construction**

Section 8.14.030 of the Municipal Code indicates that construction shall occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, excluding holidays and from 8:00 a.m. to 4:00 p.m. on Saturday, unless written approval is obtained from the city building official or city engineer (City of Moreno Valley 2018). Therefore, construction activities would typically occur during daylight hours, and nighttime lighting on the project site would not typically be required during the construction phase. However, temporary lighting may be brought to the project site and operate if after-hours work is determined to be necessary for specific activities. After-hours work would not be typical during the construction phase, and during sporadic use, mobile lighting sources would be fully shielded and directed downward to minimize skyglow and light trespass onto adjacent properties. Further, mobile lighting would be focused on the area of active construction such that the entirety of the project site would not be illuminated. Because use of nighttime lighting during construction would be irregular, and mobile lighting sources would be fully shielded and directed downward, construction lighting would not adversely affect nighttime views in the area or create substantial glare. Therefore, impacts associated with the occasional use of mobile lighting during construction would be **less than significant.**

**Project- and Program-Level Elements**

***Light***

The project site is currently developed with the existing hospital and medical office buildings. Under existing conditions, sources of light on the project site include interior and exterior building lighting, security lighting, and landscape lighting. Existing light sources immediately adjacent to the project site include street lights along Iris Avenue, building lights from the medical office building to the east, as well as lighting from the nearby residential properties. Adjacent properties to the north, east and west are vacant with the exception of an existing medical building to the east, and are not considered to be sensitive receptors. The nearest sensitive receptors to the project site are the residential properties across Iris Avenue, the closest of which is approximately 150 feet south of the project site.

The project would include additional interior and exterior building lights and exterior lighting for safety and security purposes within parking lots, along pathways and on buildings. Lighting would be required to be in compliance with the City's lighting requirements such that all light sources shall be shielded so that the light is directed away from streets and adjoining properties. Section 9.10.110, Light and Glare, of the City Municipal Code indicates a light spillover threshold maximum of 0.5 footcandles on any adjacent property; and all lighting shall be designed to project downward and shall not create glare on adjacent properties (City of Moreno Valley 2018). The project would be required to comply with all relevant standards of the Municipal Code including those specific to light and glare. Further, all light fixtures would be required to be consistent with the California Green Building Standards Code for illumination. The California Green Building Standards Code sets forth minimum requirements based on Lighting Zones, as defined in Chapter 10 of the California Administrative Code. The requirements are designed to minimize light pollution in an effort to maintain darks skies and ensure new development reduces backlight, uplight, and glare (BUG) from exterior light sources (CALGreen 2016).

Compliance with the lighting standards identified above would ensure that lighting associated with project-level and program-level elements would be less than significant.

***Glare***

Existing sources of glare in the project area are limited to the windows associated with the exterior of the existing hospital and medical office buildings and the windows of development in the surrounding area. Under existing conditions, the project site is landscaped with multiple mature trees that aid in shielding the hospital and medical office buildings (and potential glare generated by building windows) from view of nearby motorists and residents. The project would incorporate metal and glass into the façade of the proposed buildings, and solar panels would be installed on rooftops of proposed parking structures. Although metallic materials and glass have been incorporated into project design, metallic materials would typically be finished and display a dull veneer. Selected glass would have a low exterior reflectance percentage to maximize daylighting opportunities to interior building spaces. Additionally, any potential glare resulting from the windshields of parked vehicles would be shielded through the landscaping design of the proposed project.

Solar panels may be added to the rooftops of the proposed parking structures at some indeterminate point in the future. The solar panels could comprise potential sources of glare on the project site. Glint (a momentary flash of light) and glare (a more continuous source of excessive brightness relative to the ambient lighting) can occur from solar energy components, including some photovoltaic panels. The solar panels would be on fixed racks, angled to the south to improve solar output, and would have an anti-reflective coating. The solar panels would be located atop the proposed parking structures largely out of site from public vantage points. Parking Structures 1 and 2 would be approximately 60 feet tall and Parking Structure 3 would be approximately 78 feet tall. Therefore, the solar canopies would be located out of sight from surrounding sensitive receptors and would be angled upward, making it unlikely for the panels to create new sources of glare that would be received by surrounding motorists and residences.

Due to the angle of the panels, the application of anti-reflective coatings, and the lack of sensitive land uses to the immediate north, east and west of the project site, operation of solar panels atop the parking structures would not result in substantial glare that would be received by off-site receptors. Further, as previously discussed, the project would be required to comply with the California Green Building Code, which establishes maximum allowable BUG ratings, which include glare. Therefore, project-related glare impacts would be less than significant.

Based on the analysis above, project- and program-related light and glare impacts would be **less than significant**, and no mitigation is required.

## 4.1.5 Mitigation Measures

Impacts related to aesthetics would be less than significant and no mitigation measures would be required.

## 4.1.6 Level of Significance After Mitigation

No mitigation is required. Impacts would be less than significant.

## 4.1.7 References Cited

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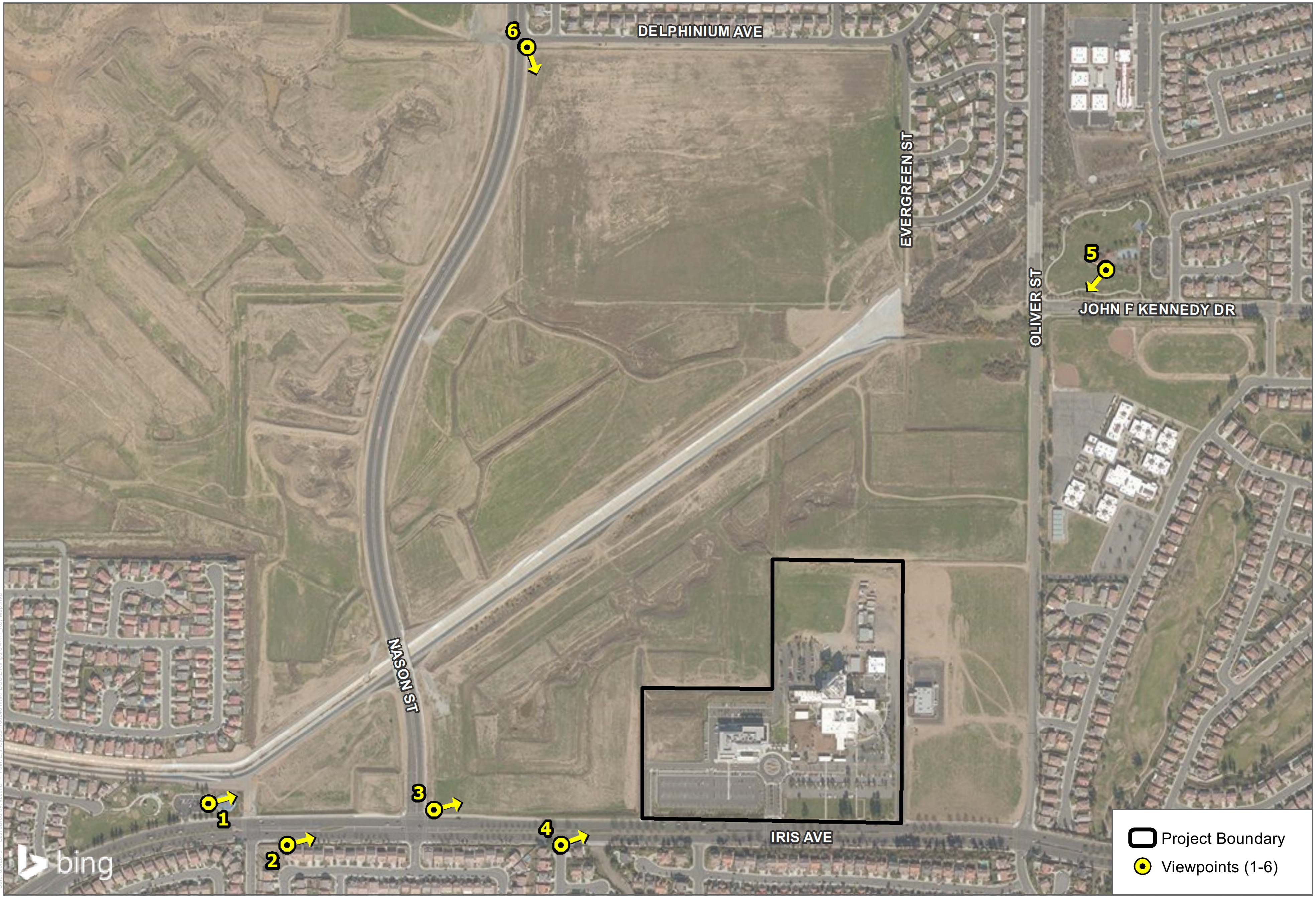


SOURCE: Bing Maps 2019

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0 330 660 Feet

**FIGURE 4.1-1**

Viewpoint Key Map

Kaiser Permanente Moreno Valley Medical Center Project EIR

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Photo A) Existing Conditions

Photo B) Phase I

Photo C) Phase III

FIGURE 4.1-2

Viewpoint No. 1

Kaiser Permanente Moreno Valley Medical Center Project EIR

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Photo A) Existing Conditions

Photo B) Phase I

Photo C) Phase III

FIGURE 4.1-3

Viewpoint No. 2

Kaiser Permanente Moreno Valley Medical Center Project EIR

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Photo A) Existing Conditions

Photo B) Phase I

Photo C) Phase III

FIGURE 4.1-4

Viewpoint No. 3

Kaiser Permanente Moreno Valley Medical Center Project EIR

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Photo A) Existing Conditions

Photo B) Phase I

Photo C) Phase III

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Photo A) Existing Conditions


Photo B) Phase I


Photo C) Phase III

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Photo A) Existing Conditions

Photo B) Phase I

Photo C) Phase III

FIGURE 4.1-7

Viewpoint No. 6

Kaiser Permanente Moreno Valley Medical Center Project EIR

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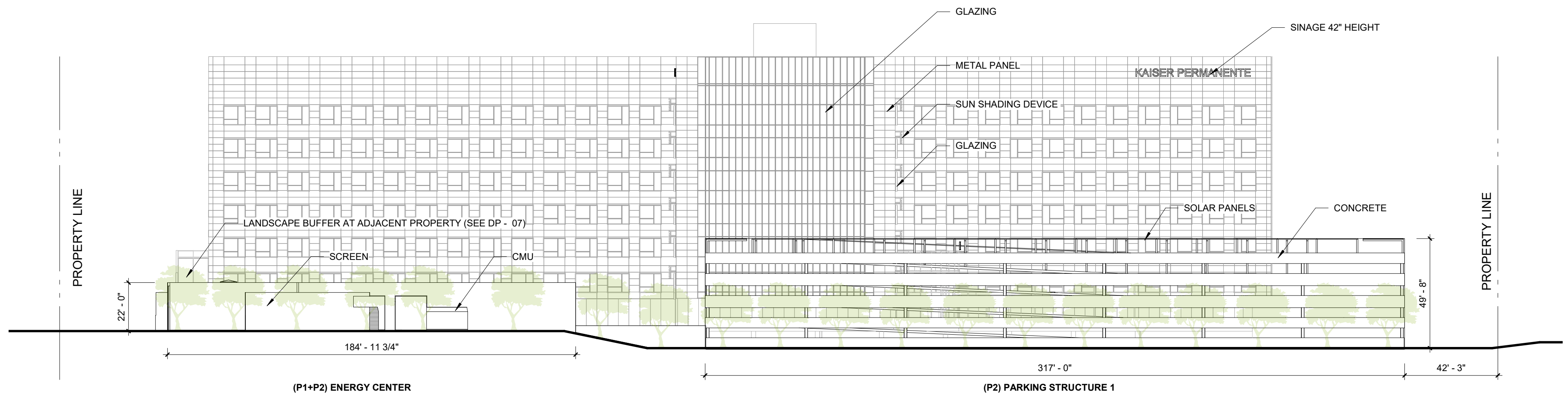
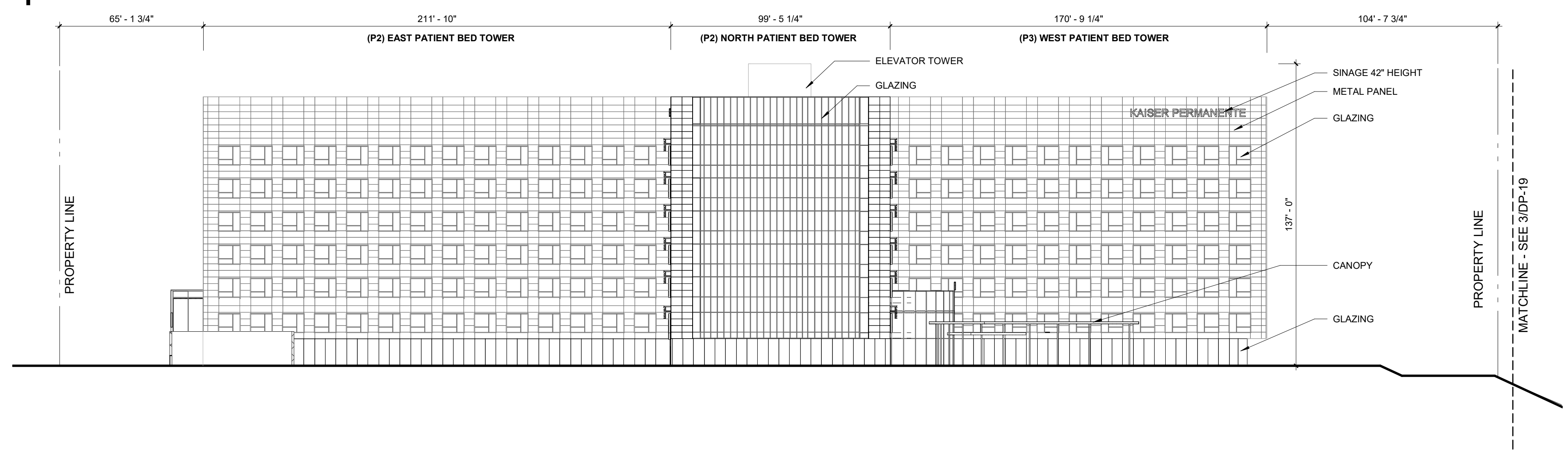
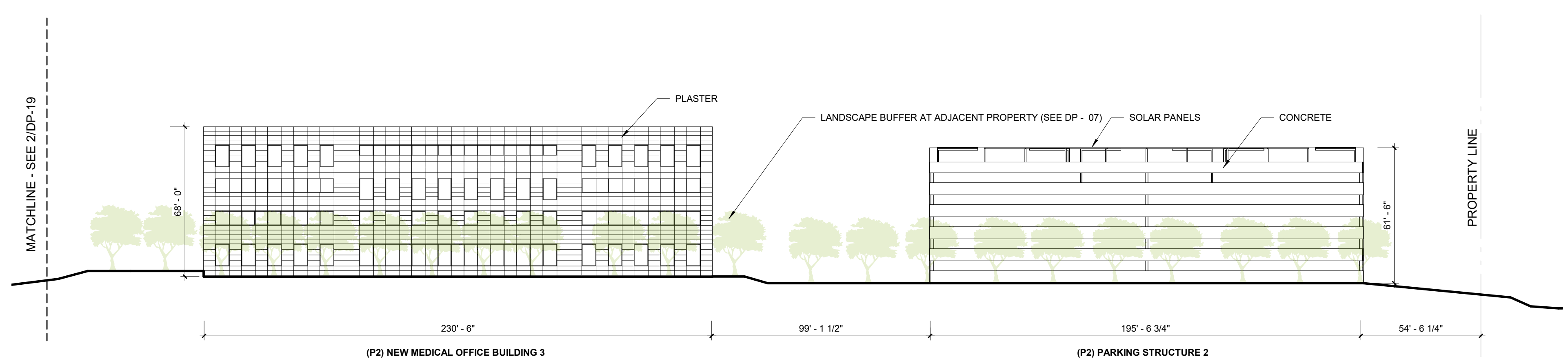



1 BUILDING ELEVATION - NORTH 1-1




2 BUILDING ELEVATION - NORTH 1-2




3 BUILDING ELEVATION - NORTH 2

SOURCE: CO ARCHITECTS, 2019

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**FIGURE 4.1-8**

Building Elevations, North

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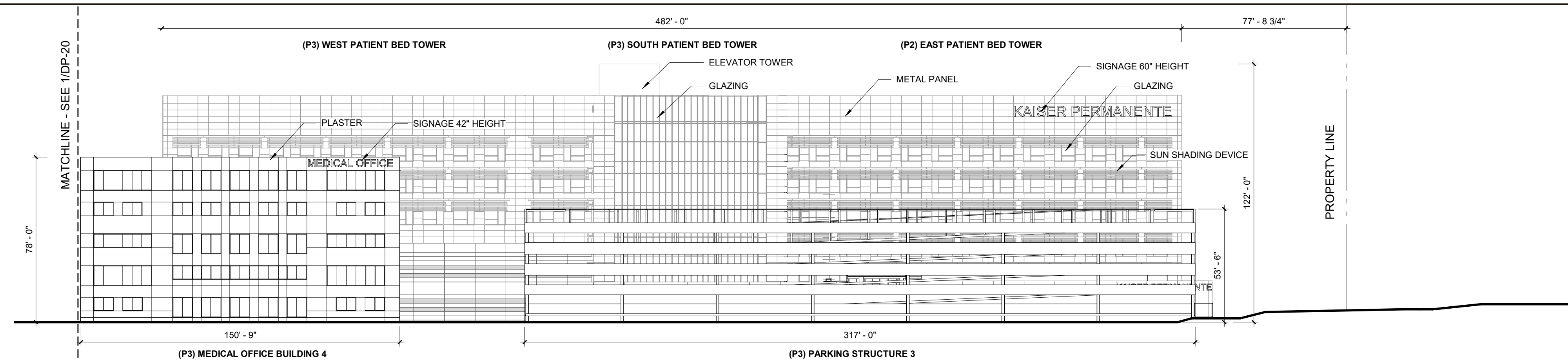
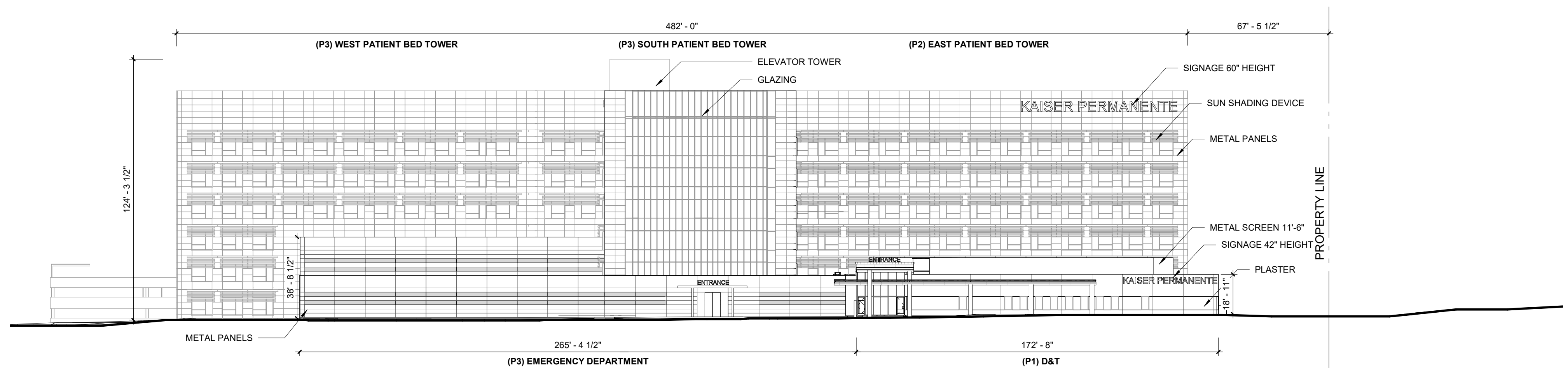
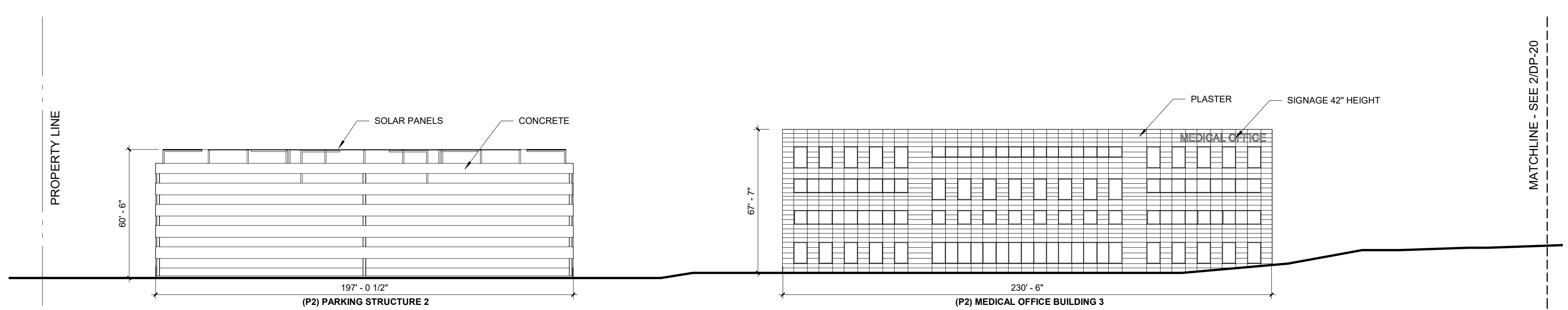



1 BUILDING ELEVATION - SOUTH 1-1




2 BUILDING ELEVATION - SOUTH 1-2




3 BUILDING ELEVATION - SOUTH 2

SOURCE: CO ARCHITECTS, 2019

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**FIGURE 4.1-9**

Building Elevations, South

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SOURCE: CO ARCHITECTS, 2019

**FIGURE 4.1-10**

Building Elevations, West

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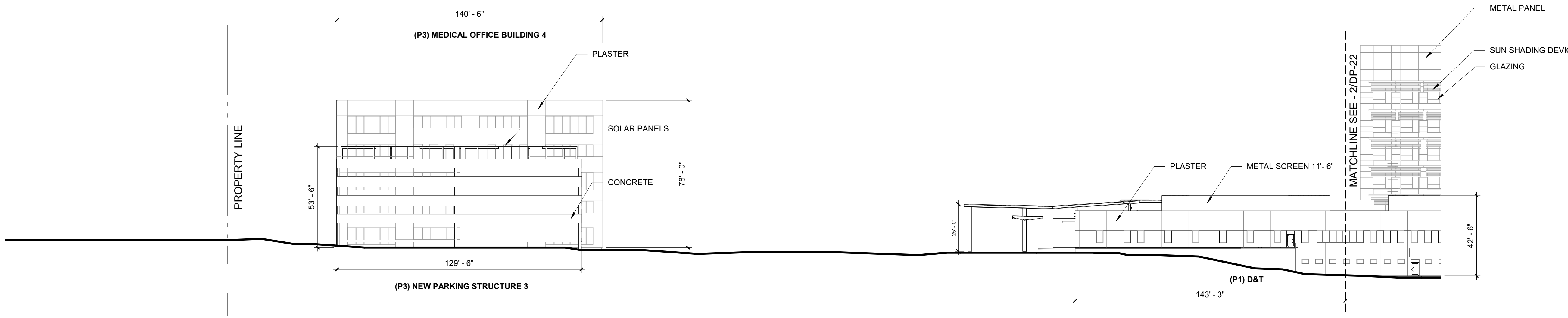
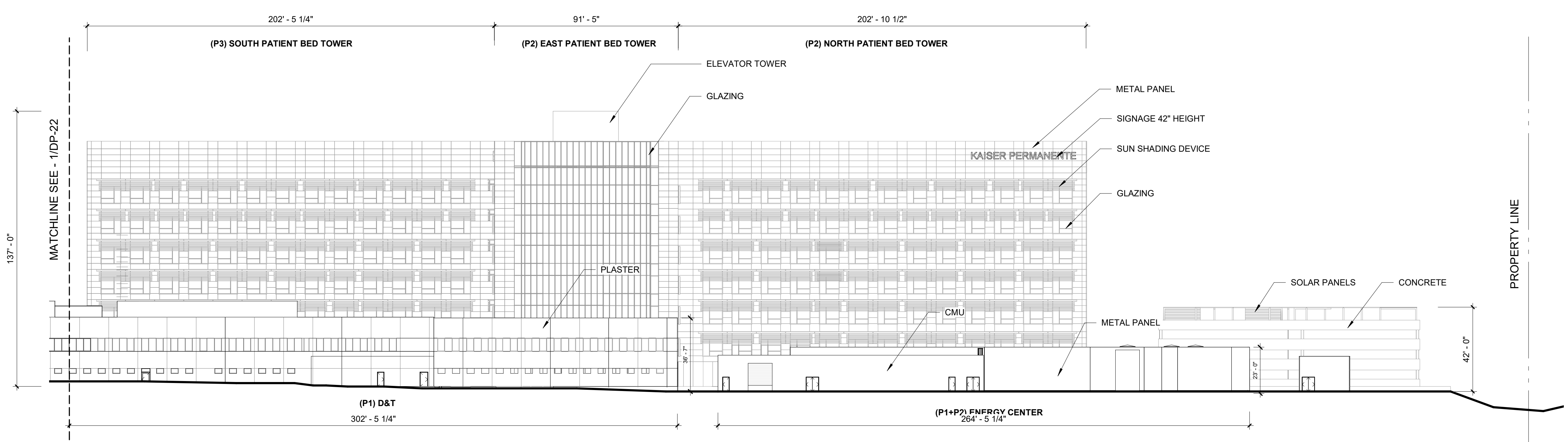



1 BUILDING ELEVATION - EAST 1




2 BUILDING ELEVATION - EAST 2

SOURCE: CO ARCHITECTS, 2019

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**FIGURE 4.1-11**

Building Elevations, East

Kaiser Permanente Moreno Valley Medical Center Project EIR

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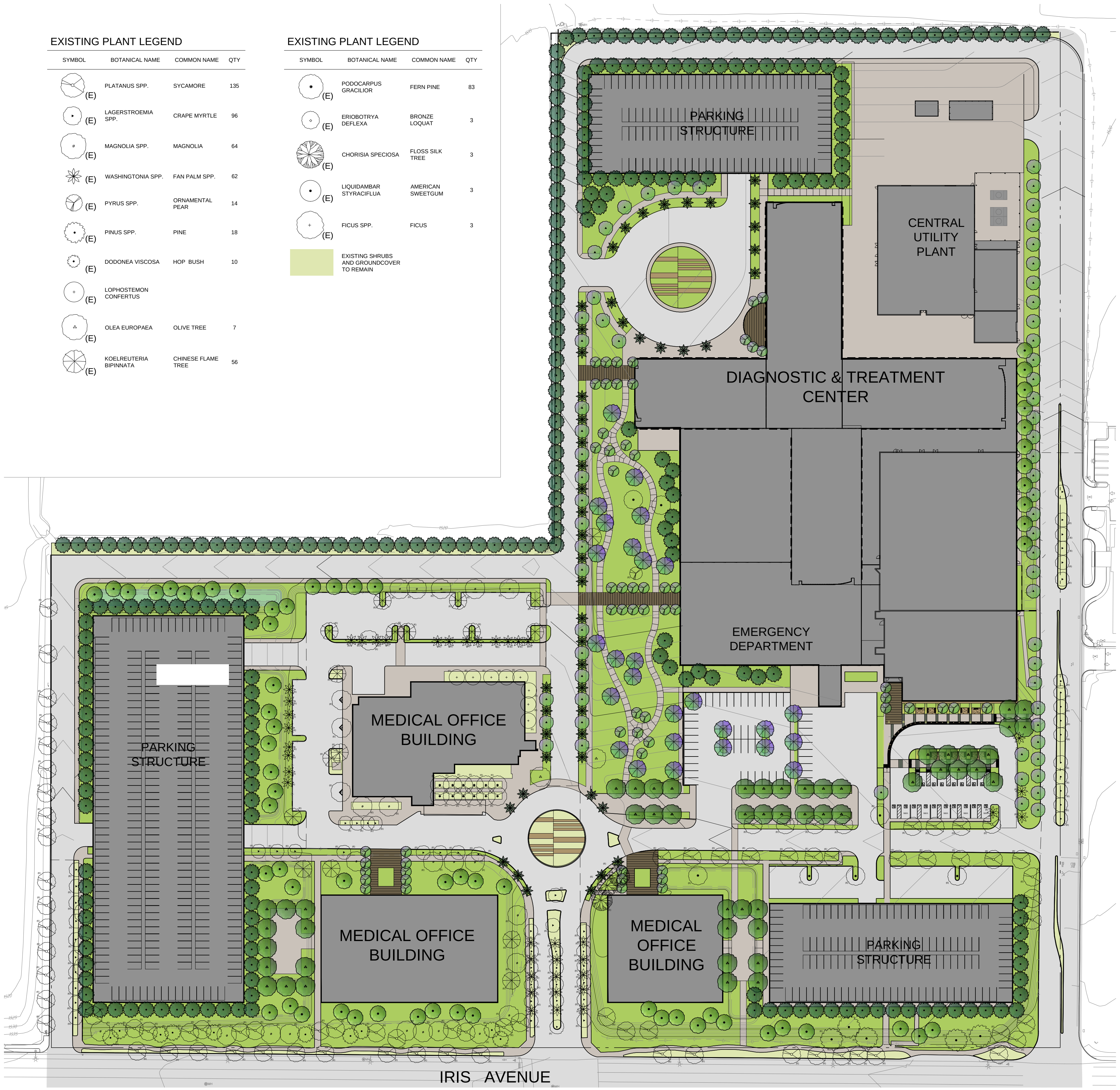


EXISTING PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | QTY |
|---|---|---|---|
| (E) | PLATANUS SPP. | SYCAMORE | 135 |
| (E) | LAGERSTROEMIA SPP. | CRAPE MYRTLE | 96 |
| (E) | MAGNOLIA SPP. | MAGNOLIA | 64 |
| (E) | WASHINGTONIA SPP. | FAN PALM SPP. | 62 |
| (E) | PYRUS SPP. | ORNAMENTAL PEAR | 14 |
| (E) | PINUS SPP. | PINE | 18 |
| (E) | DODONEA VISCOSA | HOP BUSH | 10 |
| (E) | LOPHOSTEMON CONFERTUS | | |
| (E) | OLEA EUROPAEA | OLIVE TREE | 7 |
| (E) | KOELREUTERIA BIPINNATA | CHINESE FLAME TREE | 56 |

EXISTING PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | QTY |
|---|---|---|---|
| (E) | PODOCARPUS GRACILIOR | FERN PINE | 83 |
| (E) | ERIOBOTRYA DEFLEXA | BRONZE LOQUAT | 3 |
| (E) | CHORISIA SPECIOSA | FLOSS SILK TREE | 3 |
| (E) | LIQUIDAMBAR STYRACIFLUA | AMERICAN SWEETGUM | 3 |
| (E) | FICUS SPP. | FICUS | 3 |
| | EXISTING SHRUBS AND GROUNDCOVER TO REMAIN | | |

PLANT LEGEND

| SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|
| *TREES* | | | |
| | OLEA EUROPAEA 'WILSONII' | FRUITLESS OLIVE | 36" BOX |
| | WASHINGTONIA FILIFERA | CALIFORNIA FAN PALM TO MATCH EXISTING | 25' BTH |
| | LAGERSTROEMIA INDICA 'MUSKOGEE' | CRAPE MYRTLE MULTI-TRUNK | 24" BOX STD. FORM |
| | CERCIS OCCIDENTALIS | WESTERN REDBUD | 24" BOX |
| | LOPHOSTEMON CONFERTUS | BRISBANE BOX | 24" BOX |
| | PINUS ELDARICA | MONDELL PINE | 24" BOX |
| | KOELREUTERIA BIPINNATA | CHINESE FLAME TREE | 24" BOX |

*SHRUBS, VINES & GROUNDCOVERS*

| SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|
| | HESPERALOE PARVIFLORA 'YELLOW SUN' | YELLOW YUCCA | 5 GAL. |
| | ALOE STRIATA | CORAL ALOE | 5 GAL. |
| | ANIGOZANTHOS 'GOLD VELVET' | GOLD VELVET KANGAROO PAW | 5 GAL. |
| | CAREX DIVULSA | BERKELEY SEDGE | 1 GAL. |
| | CALLISTEMON 'LITTLE JOHN' | LITTLE JOHN CALLISTEMON | 5 GAL. |
| | COTONEASTER DAMMERI 'LOWFAST' | BEARBERRY COTONEASTER | 1 GAL. |
| | DIANELLA 'LITTLE REV' | LITTLE REV FLAX LILY | 1 GAL. |
| | DIANELLA TASMANICA 'VARIEGATA' | VARIEGATED FLAX LILY | 5 GAL. |
| | FICUS PUMILA | CREEPING FIG | 5 GAL. |
| | FESTUCA MAIREI | ATLAS FESCUE | 1 GAL. |
| | HESPERALOE PARVIFOLIA 'BRAKE LIGHTS' | BRAKE LIGHT RED YUCCA | 5 GAL. |
| | JUNCUS PATENS 'ELK BLUE' | ELK BLUE CALIFORNIA GRAY RUSH | 1 GAL. |
| | ROSA 'FLOWER CARPET YELLOW' | YELLOW GROUND COVER ROSE | 2 GAL. |
| | MACFADYENA UNGUIS-CATI | CAT'S CLAW | 5 GAL. |
| | MUHLENBERGIA CAPILLARIS 'REGAL MIST' | REGAL MIST PINK MUHLY GRASS | 1 GAL. |
| | LEUCOPHYLLUM F. 'COMPACTA' | COMPACT TEXAS RANGER | 5 GAL. |
| | DIANELLA TASMANICA VARIEGATA | VARIEGATED FLAX LILLY | 5 GAL. |
| | PODOCARPUS 'ICEE BLUE' | ICEE BLUE PODOCARPUS | 15 GAL. |
| | ROSMARINUS PROSTRATUS | PROSTRATE ROSEMARY | 1 GAL. |
| | WESTRINGIA FRUTICOSA | COAST ROSEMARY | 5 GAL. |
| | CAREX PANSA | CALIFORNIA MEADOW SEDGE | PLUGS |
| | TEUCRIUM X LUCIDRYS | GERMANDER | 1 GAL. |
| | WATER QUALITY BASIN PLANTING: | | |

SOURCE: CO ARCHITECTS, 2019

FIGURE 4.1-**12**

Master Landscape Plan

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# 4.2 AIR QUALITY

This section identifies associated regulatory requirements; describes the existing air quality setting of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) area; evaluates whether the project (1) conflicts with an applicable air quality plan, (2) results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, (3) exposes sensitive receptors to substantial pollutant concentrations, or (4) results in other emissions adversely affecting a substantial number of people; lists any applicable project design features (PDFs), and identifies mitigation measures related to implementation of the project in the City of Moreno Valley (City).

## 4.2.1 Relevant Plans, Policies, and Ordinances

**Federal**

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone ($O_3$) protection measures, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act, which are $O_3$, carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter with an aerodynamic diameter less than or equal to 10 microns in diameter ($PM_{10}$), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb).

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for $O_3$, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for $O_3$, $NO_2$, $SO_2$, $PM_{10}$, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

## State

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the California Air Resources Board (CARB), with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for $O_3$, CO, $SO_2$ (1-hour and 24-hour), $NO_2$, $PM_{10}$, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.2-1.

**Table 4.2-1**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards[a] | National Standards[b] | |
|---|---|---|---|---|
| | | *Concentration[c]* | *Primary[c,d]* | *Secondary[c,e]* |
| $O_3$ | 1 hour | 0.09 ppm (180 μg/m³) | — | Same as Primary Standard[f] |
| | 8 hours | 0.070 ppm (137 μg/m³) | 0.070 ppm (137 μg/m³)[f] | |
| $NO_2$[g] | 1 hour | 0.18 ppm (339 μg/m³) | 0.100 ppm (188 μg/m³) | Same as Primary Standard |
| | Annual Arithmetic Mean | 0.030 ppm (57 μg/m³) | 0.053 ppm (100 μg/m³) | |
| CO | 1 hour | 20 ppm (23 mg/m³) | 35 ppm (40 mg/m³) | None |
| | 8 hours | 9.0 ppm (10 mg/m³) | 9 ppm (10 mg/m³) | |
| $SO_2$[h] | 1 hour | 0.25 ppm (655 μg/m³) | 0.075 ppm (196 μg/m³) | — |
| | 3 hours | — | — | 0.5 ppm (1,300 μg/m³) |
| | 24 hours | 0.04 ppm (105 μg/m³) | 0.14 ppm (for certain areas)[g] | — |
| | Annual | — | 0.030 ppm (for certain areas)[g] | — |
| $PM_{10}$[i] | 24 hours | 50 μg/m³ | 150 μg/m³ | Same as Primary Standard |
| | Annual Arithmetic Mean | 20 μg/m³ | — | |
| $PM_{2.5}$[i] | 24 hours | — | 35 μg/m³ | Same as Primary Standard |
| | Annual Arithmetic Mean | 12 μg/m³ | 12.0 μg/m³ | 15.0 μg/m³ |

**Table 4.2-1**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards[a] | National Standards[b] | |
|---|---|---|---|---|
| | | *Concentration[c]* | *Primary[c,d]* | *Secondary[c,e]* |
| Lead[j,k] | 30-day Average | 1.5 μg/m³ | — | — |
| | Calendar Quarter | — | 1.5 μg/m³ (for certain areas)[k] | Same as Primary Standard |
| | Rolling 3-Month Average | — | 0.15 μg/m³ | |
| Hydrogen sulfide | 1 hour | 0.03 ppm (42 μg/m³) | — | — |
| Vinyl chloride[j] | 24 hours | 0.01 ppm (26 μg/m³) | — | — |
| Sulfates | 24 hours | 25 μg/m³ | — | — |
| Visibility reducing particles | 8 hour (10:00 a.m. to 6:00 p.m. PST) | Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70% | — | — |

**Source:** CARB 2016b.

**Notes:** μg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; $O_3$ = ozone; $NO_2$ = nitrogen dioxide; CO = carbon monoxide; $SO_2$ = sulfur dioxide; $PM_{10}$ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

a California standards for $O_3$, CO, $SO_2$ (1-hour and 24-hour), $NO_2$, suspended particulate matter ($PM_{10}$, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than $O_3$, $NO_2$, $SO_2$, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The $O_3$ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For $PM_{10}$, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

f On October 1, 2015, the national 8-hour $O_3$ primary and secondary standards were lowered from 0.075 to 0.070 ppm.

g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

h On June 2, 2010, a new 1-hour $SO_2$ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 $SO_2$ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

i On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour $PM_{10}$ standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/$m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

As part of its diesel risk reduction program, CARB adopted an Airborne Toxic Control Measure (ATCM) that applies to new and in-use stationary compression-ignition (i.e., diesel) engines. The ATCM was adopted in 2004 and revised in November 2010 with an effective date of May 19, 2011. After December 31, 2008, the ATCM requires that new emergency standby engines must comply with EPA emission standards applicable to a 2007-model-year off-road engine of the same horsepower rating. The ATCM further limits the particulate matter emissions from an emergency standby engine operated less than 50 hours per year for maintenance and testing to 0.15 gram per brake-horsepower-hour.

### Local

The South Coast Air Quality Management District (SCAQMD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the South Coast Air Basin (SCAB), where the project is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The most recent adopted AQMP is the 2016 AQMP (SCAQMD 2017), which was adopted by the SCAQMD governing board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017). Because mobile sources are the principal contributor to the SCAB's air quality challenges, the SCAQMD has been and will continue to be closely engaged with CARB and the EPA, who have primary responsibility for these sources. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. These "win-win" scenarios are key to implementation of this 2016 AQMP with broad support from a wide range of stakeholders. The SCAQMD 2016 AQMP applies the updated Southern California

Association of Governments (SCAG) growth forecasts assumed in the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS) (SCAG 2016).

***Applicable Rules***

Emissions that would result from stationary and area sources during operation under the project may be subject to SCAQMD rules and regulations, which may include the following:

**Rule 201 – Permit to Construct:** This rule establishes an orderly procedure for the review of new and modified sources of air pollution through the issuance of permits. Rule 201 specifies that any facility installing nonexempt equipment that causes or controls the emissions of air pollutants must first obtain a permit to construct from the SCAQMD.

**Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources. This rule prohibits visible emissions dark or darker than Ringlemann No. 1 for periods greater than 3 minutes in any hour.

**Rule 402 – Nuisance:** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

**Rule 403 – Fugitive Dust:** This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 is intended to reduce $PM_{10}$ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

**Rule 431.2 – Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of sulfur oxides ($SO_x$) and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

**Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines:** This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce oxides of nitrogen ($NO_x$), volatile organic compounds (VOCs), and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule as they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

**Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

**Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters:** This rule applies to boilers, steam generators, and process heaters of equal to or greater than 5 million British thermal units (Btu) per hour rated heat input capacity used in all industrial, institutional, and commercial operations with the exception of boilers used by electric utilities to generate electricity, boilers and process heaters with a rated heat input capacity greater than 40 million Btu per hour that are used in petroleum refineries, and sulfur plant reaction boilers. Under this rule, the $NO_x$ and CO exhaust concentration for Group III boilers (rated from 5 to less than 20 million Btu per hour) are limited to 9 ppm and 400 ppm, respectively, by volume referenced at 3% oxygen on a dry basis.

**Regulation XIII – New Source Review:** This regulation sets preconstruction review requirements for new, modified, or relocated facilities to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS and that future economic growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. In addition to nonattainment air contaminants, this regulation will also limit emission increases of ammonia and $O_3$-depleting compounds from new, modified, or relocated facilities by requiring the use of best available control technology.

**Regulation XIV – Toxics and Other Non-Criteria Pollutants:** This regulation includes rules that regulate toxics and other non-criteria pollutants. It provides specifications for maximum individual cancer risk, cancer burden, and noncancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units that emit toxic air contaminants (TACs). The rules establish allowable risks for permit units requiring new permits pursuant to Rules 201 or 203. Under this regulation, Rule 1401 (New Source Review of Toxic Air Contaminants) specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard indices from new permit units, relocations, or modifications to existing permit units that emit TACs listed in the rule. In addition, Rule 1401.1 (Requirements for New and Relocated Facilities near Schools) may impose other criteria on sources of TACs due to the proximity of schools to the project site.

*City of Moreno Valley General Plan*

The City of Moreno Valley General Plan also identifies goals and objectives aimed to reduce air pollution within the City (City of Moreno Valley 2006). The following are objectives or policies that are applicable to addressing air quality:

- **Objective 6.7** – Reduce mobile and stationary source air pollutant emissions.
  - **Policy 6.7.1** – Cooperate with regional efforts to establish and implement regional air quality strategies and tactics.
  - **Policy 6.7.2** – Encourage the financing and construction of park-and-ride facilities.
  - **Policy 6.7.3** – Encourage express transit service from Moreno Valley to the greater metropolitan areas of Riverside, San Bernardino, Orange and Los Angeles Counties.
  - **Policy 6.7.4** – Locate heavy industrial and extraction facilities away from residential areas and sensitive receptors.
  - **Policy 6.7.5** – Require grading activities to comply with SCAQMD Rule 403 regarding the control of fugitive dust.
  - **Policy 6.7.6** – Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

***Local Air Quality***

<u>SCAB Attainment Designation</u>

An area is designated "in attainment" when it is in compliance with the NAAQS and/or CAAQS, as applicable. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare with a margin of safety.

The criteria pollutants of primary concern considered in this air quality assessment include $O_3$, $NO_2$, CO, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead. Although there are no ambient standards for VOCs, (also referred to as reactive organic compounds or gases (ROGs) or $NO_x$) they are important because they are precursors to $O_3$.

The entire SCAB is designated as a nonattainment area for both federal and state $O_3$ standards. The EPA has classified the SCAB as an "extreme" nonattainment area and has mandated that it achieve attainment no later than June 15, 2024. The federal $NO_2$ standard was revised in 2010, and all areas of California have been designated unclassifiable/attainment for the revised standard; the SCAB was designated attainment (maintenance) under the previous (1971) $NO_2$ standard. The

SCAB is designated as an attainment area for the state $NO_2$ standards. The SCAB is designated as an attainment area for federal and state CO and $SO_2$ standards, as an attainment area for the federal $PM_{10}$ standard, and as a nonattainment area for the state $PM_{10}$ standards. Riverside County is designated unclassifiable/attainment for state and federal lead standards.

The attainment classifications for these criteria pollutants are outlined in Table 4.2-2.

**Table 4.2-2**
**South Coast Air Basin Attainment Classification**

| Pollutant | Averaging Time | Designation/Classification |
|---|---|---|
| | *Federal Standards* | |
| $O_3$ | 8 hours | Nonattainment/Extreme |
| $NO_2$ | 1 hour | Unclassifiable/attainment |
| | Annual arithmetic mean | Attainment (maintenance) |
| CO | 1 hour; 8 hours | Attainment (maintenance) |
| $SO_2$ | 24 hours; annual arithmetic mean | Unclassifiable/attainment |
| $PM_{10}$ | 24 hours | Attainment (maintenance) |
| $PM_{2.5}$ | 24 hours; annual arithmetic mean | Nonattainment (serious) |
| Lead | Quarter | Unclassifiable/attainment |
| | 3-month average | Nonattainment (partial)[a] |
| | *State Standards* | |
| $O_3$ | 1 hour; 8 hours | Nonattainment |
| $NO_2$ | 1 hour; annual arithmetic mean | Attainment |
| CO | 1 hour; 8 hours | Attainment |
| $SO_2$ | 1 hour; 24 hours | Attainment |
| $PM_{10}$ | 24 hours; annual arithmetic mean | Nonattainment |
| $PM_{2.5}$ | Annual arithmetic mean | Nonattainment |
| Lead[b] | 30-day average | Attainment |
| Sulfates ($SO_4$) | 24 hours | Attainment |
| Hydrogen sulfide ($H_2S$) | 1 hour | Unclassified |
| Vinyl chloride[b] | 24 hours | No designation |
| Visibility-reducing particles | 8 hours (10:00 a.m.–6:00 p.m.) | Unclassified |

**Source:** EPA 2016a (federal); CARB 2017 (state).
**Notes:** $O_3$ = ozone; $NO_2$ = nitrogen dioxide; CO = carbon monoxide; $SO_2$ = sulfur dioxide; $PM_{10}$ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

[a] Partial Nonattainment designation – Los Angeles County portion of Basin only for near-source monitors. Expected to remain in attainment based on current monitoring data.

[b] California Air Resources Board (CARB) has identified lead and vinyl chloride as toxic air contaminants (TACs) with no threshold level of exposure for adverse health effects determined.

## Air Quality Monitoring Data

The project area’s local ambient air quality is monitored by SCAQMD and CARB. CARB monitors ambient air quality at approximately 250 air quality monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The Perris monitoring station, located at 237 ½ N. D St. Perris, California, is the nearest air quality monitoring station to the project area, approximately 8 miles south from the project site. The data collected at this station are considered representative of the air quality experienced in the project vicinity. Air quality data from 2015 through 2017 for the Perris monitoring station are provided in Table 4.2-3. Because $NO_2$, CO, $SO_2$, and $PM_{2.5}$ are not monitored at the Perris monitoring station, measurements for these pollutants were taken from the Riverside-Rubidoux monitoring station (5888 Mission Blvd. Rubidoux, California, approximately 15.1 miles northwest from the project site). The number of days exceeding the ambient air quality standards is shown in Table 4.2-4.

**Table 4.2-3**
**Ambient Air Quality Data (parts per million unless otherwise indicated)**

| Pollutant | Averaging Time | 2015 | 2016 | 2017 | Most Stringent Ambient Air Quality Standard | Monitoring Station |
|---|---|---|---|---|---|---|
| $O_3$ | 1-hour | 0.124 | 0.131 | 0.120 | 0.09 | Perris |
| | 8-hour | 0.103 | 0.099 | 0.106 | 0.070 | |
| $NO_2$ | 1-hour | 0.057 | 0.073 | 0.063 | 0.100 | Riverside-Rubidoux |
| | Annual | 0.014 | 0.014 | 0.014 | 0.030 | |
| CO | 1-hour | 4.0 | 1.7 | 2.4 | 20 | Riverside-Rubidoux |
| | 8-hour | 1.7 | 1.3 | 1.8 | 9.0 | |
| $SO_2$ | 24-hour | 0.001 | 0.001 | 0.001 | 0.04 | Riverside-Rubidoux |
| | Annual | 0.000 | 0.000 | 0.000 | 0.030 | |
| $PM_{10}$ | 24-hour | 188.0 μg/m$^3$ | 76.0 μg/m$^3$ | 75.4 μg/m$^3$ | 50 μg/m$^3$ | Perris |
| | Annual | 33.1 | 32.2 | 32.6 | 20 μg/m$^3$ | |
| $PM_{2.5}$ | 24-hour | 54.7 μg/m$^3$ | 51.5 μg/m$^3$ | 50.3 μg/m$^3$ | 35 μg/m$^3$ | Riverside-Rubidoux |
| | Annual | 11.8 | 12.5 | 12.2 | 12 μg/m$^3$ | |

**Sources:** CARB 2019; EPA 2019 (for 1-hour CO).
**Notes:**
Data taken from CARB iADAM (2019) or EPA AirData (2019) represent the highest concentrations experienced over a given year.
$O_3$ = ozone; $NO_2$ = nitrogen dioxide; CO = carbon monoxide; $SO_2$ = sulfur dioxide; $PM_{10}$ = coarse particulate matter;
$PM_{2.5}$ = fine particulate matter; μg/m3 = micrograms per cubic meter; N/A = insufficient data available to determine the value

**Table 4.2-4**
**Frequency of Air Quality Standard Violations**

| Year | Number of Days Exceeding Standard | | | | | |
|---|---|---|---|---|---|---|
| | *State 1-Hour $O_3$* | *State 8-Hour $O_3$* | *National 8-Hour $O_3$* | *State 24-Hour $PM_{10}$* | *National 24-Hour $PM_{10}$* | *National 24-Hour $PM_{2.5}$* |
| 2015 | 0 | 50 | 49 | 4 | 1 | 9 |
| 2016 | 1 | 56 | 55 | 5 | 0 | 5 |
| 2017 | 0 | 86 | 80 | 11 | 0 | 7 |

**Source:** CARB 2019.

## 4.2.2 Existing Conditions

**Climate and Topography**

The project site is located within the SCAB, which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Air quality in the project area is affected not only by various emission sources (e.g., mobile, industry), but also by atmospheric conditions, such as wind speed, wind direction, temperature, and rainfall. The SCAB's combination of topography, low mean mixing height, abundant sunshine, and emissions from one of the largest urban areas in the United States has historically resulted in some of the worst air pollution in the nation.

Although the SCAB has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore daytime breeze of 8–12 miles per hour (mph) and an offshore nighttime breeze of 3–5 mph. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly Santa Ana winds from the mountains and deserts northeast of the SCAB. Summer wind flow patterns represent worst-case conditions because this is the period of higher temperatures and more sunlight, which results in more $O_3$ formation.

The City's climate is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 96.9°F in August to a low of 34.9°F in December. Annual precipitation averages about 10.42 inches, falling mostly from November through March (WRCC 2017).

During spring and early summer, pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the Earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. In the winter, the greatest pollution problems are CO, $PM_{2.5}$, $PM_{10}$, and $NO_2$ because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and $NO_x$ to form photochemical smog.

## Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed “sensitive receptors” are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, may include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors may include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (CARB 2005). According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The closest sensitive receptor to the project would be existing residential uses approximately 164 feet south of the project boundary.

## Pollutants and Effects

### *Criteria Air Pollutants*

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include $O_3$, nitrogen dioxide ($NO_2$), carbon monoxide (CO), sulfur dioxide ($SO_2$), $PM_{10}$, $PM_{2.5}$, and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. A more detailed discussion of health effects of criteria air pollutants is provided in Appendix B, Air Quality.

**Ozone.** $O_3$ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun’s energy and $O_3$ precursors. These precursors are mainly $NO_x$ and volatile organic compounds (VOCs). The maximum effects of precursor emissions on $O_3$ concentrations usually

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1 The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency’s (EPA’s) Criteria Air Pollutants (EPA 2016a) and the California Air Resources Board (CARB) Glossary of Air Pollutant Terms (CARB 2016a).

occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in $O_3$ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. $O_3$ exists in the upper atmosphere $O_3$ layer (stratospheric $O_3$) and at the Earth's surface in the troposphere (ground-level $O_3$).[2] The $O_3$ that U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level $O_3$ is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" $O_3$. Stratospheric, or "good," $O_3$ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric $O_3$ layer, plant and animal life would be seriously harmed.

$O_3$ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to $O_3$ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

**Nitrogen Dioxide.** $NO_2$ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of $NO_2$ in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. $NO_x$ plays a major role, together with VOCs, in the atmospheric reactions that produce $O_3$. $NO_x$ is formed from fuel combustion under high temperature or pressure. In addition, $NO_x$ is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

$NO_2$ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016b).

**Carbon Monoxide.** CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November

2 The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

**Sulfur Dioxide.** $SO_2$ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of $SO_2$ are coal and oil used in power plants and industries; as such, the highest levels of $SO_2$ are generally found near large industrial complexes. In recent years, $SO_2$ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of $SO_2$ and limits on the sulfur content of fuels.

$SO_2$ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, $SO_2$ can injure lung tissue and reduce visibility and the level of sunlight. $SO_2$ can also yellow plant leaves and erode iron and steel.

**Particulate Matter.** Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and $PM_{10}$ represent fractions of particulate matter. Coarse particulate matter ($PM_{10}$) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of $PM_{10}$ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides ($SO_x$), $NO_x$, and VOCs.

$PM_{2.5}$ and $PM_{10}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and $PM_{10}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. $PM_{10}$ tends to collect in the upper portion of the respiratory system; whereas, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in $PM_{10}$ and $PM_{2.5}$ (EPA 2009).

**Lead.** Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

**Volatile Organic Compounds.** Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of $O_3$ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of $O_3$ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

### *Non-Criteria Air Pollutants*

**Toxic Air Contaminants.** A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emission sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

**Diesel Particulate Matter.** Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. CARB classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

**Valley Fever.** Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

Riverside County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed Riverside County as having 2.7 cases per 100,000 people (California Department of Public Health 2017). Similarly, among the total reported incidents of Valley Fever in Riverside County in 2015, only 3.7% of the cases were in Moreno Valley (Riverside University Health System Public Health 2016).

## 4.2.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the project would:

AQ-1. Conflict with or obstruct the implementation of the applicable air quality plan

AQ-2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard

AQ-3. Expose sensitive receptors to substantial pollutant concentrations

AQ-4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

In addition, Appendix G of the CEQA Guidelines indicates that where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon in applying the four thresholds listed above to determine whether the project would have a significant impact on air quality. The most recent version of the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) sets forth quantitative emissions significance thresholds below which a project would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-5 are exceeded.

**Table 4.2-5**
**SCAQMD Air Quality Significance Thresholds**

| **Criteria Pollutants Mass Daily Thresholds** | | |
|---|---|---|
| *Pollutant* | *Construction* | *Operation* |
| $NO_x$ | 100 lb/day | 55 lb/day |
| VOC | 75 lb/day | 55 lb/day |
| $PM_{10}$ | 150 lb/day | 150 lb/day |
| $PM_{2.5}$ | 55 lb/day | 55 lb/day |
| $SO_x$ | 150 lb/day | 150 lb/day |
| CO | 550 lb/day | 550 lb/day |
| Lead[a] | 3 lb/day | 3 lb/day |
| **Toxic Air Contaminants and Odor Thresholds** | | |
| TACs (including carcinogens and noncarcinogens) | Maximum Incremental Cancer Risk ≥ 10 in 1 million<br>Hazard Index ≥ 1.0 (project increment)<br>Cancer Burden ≥ 1 in 1 million | |
| Odor | Project creates an odor nuisance pursuant to SCAQMD Rule 402 | |

**Table 4.2-5**
**SCAQMD Air Quality Significance Thresholds**

| Ambient Air Quality for Criteria Pollutants [b] | |
|---|---|
| $NO_2$ 1-hour average<br>$NO_2$ annual average | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>0.18 ppm (state)<br>0.030 ppm (state) and 0.0534 ppm (federal) |
| $PM_{10}$ 24-hour average<br>$PM_{10}$ annual arithmetic mean | 10.4 μg/m³ (construction)[c] and 2.5 μg/m³ (operation)<br>1.0 μg/m³ |
| $PM_{2.5}$ 24-hour average | 10.4 μg/m³ (construction)[c] and 2.5 μg/m³ (operation) |
| $SO_2$ 1-hour average<br>$SO_2$ 24-hour average | 0.25 ppm (state) and 0.075 ppm (federal – 99th percentile)<br>0.04 ppm (state) |
| Sulfates ($SO_4$) 24-hour average | 25 μg/m³ (state) |
| CO 1-hour average<br>CO 8-hour average | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:<br>20 ppm (state) and 35 ppm (federal)<br>9.0 ppm (state/federal) |
| Lead 30-day average[a]<br>Lead rolling 3-month average[a]<br>Lead quarterly average[a] | 1.5 μg/m³ (state)<br>0.15 μg/m³ (federal)<br>1.5 μg/m³ (federal) |

**Source:** SCAQMD 2015.
lb/day = pounds per day; ppm = parts per million; μg/m³ = microgram per cubic meter; ≥ = greater than or equal to
a The phasing out of leaded gasoline started in 1976; gasoline no longer contains lead.
b Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
c Ambient air quality threshold based on SCAQMD Rule 403.

The phasing out of leaded gasoline started in 1976. As gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

The evaluation of whether the project would conflict with or obstruct implementation of the applicable air quality plan is based on the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993), Chapter 12, Sections 12.2 and 12.3, which identify two criteria for evaluation. The first criterion assesses whether the project would (1) result in an increase in the frequency or severity of existing air quality violations; (2) cause or contribute to new violations, or (3) delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP. The second criterion assesses whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase. This is determined by examining the projects growth-inducing contribution compared to what is assumed within the AQMP.

To evaluate the potential for the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, this analysis applies the SCAQMD's construction and operational criteria pollutants mass daily thresholds, as shown in Table 4.2-5. A project would potentially result in a cumulatively considerable net increase in $O_3$, which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or $NO_x$ thresholds shown in Table 4.2-5. These emissions-based thresholds for $O_3$ precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse $O_3$ impacts to occur). This approach is used because $O_3$ is not emitted directly, and the effects of an individual project's emissions of $O_3$ precursors (VOC and $NO_x$) on $O_3$ levels in ambient air cannot be determined through air quality models or other quantitative methods.

In addition to the above-listed emission-based thresholds, the SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. For project sites greater than 5 acres, potential impacts on local sensitive receptors are determined using an air quality dispersion model. Those impacts are then compared to the LSTs. The LST significance thresholds for $NO_2$ and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for $PM_{10}$ represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

a. Source receptor area in which the project is located

b. Size of the project site

c. Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

Based on the project location, LSTs for Source Receptor Area 24 (Perris Valley) would be applicable. As detailed in Appendix B, the construction LST thresholds were conservatively determined based on a daily disturbed project area of 5-acres, which is conservative since the project site is approximately 30 acres and each phase disturbs at least 5-acres. This approach is conservative as the LSTs increase with increasing project activity area size. Thus, evaluating the current project as though it encompasses a 5-acre area is conservative since if it were to encompass a larger area it would be allowed to have more emissions before triggering the LST. The thresholds for receptor distances of 50 meters for each pollutant were used as the closest receptor is located approximately 52 meters south of the project boundary. The LSTs applicable to construction and operation of the project are shown in Table 4.2-6. Notably, if localized emissions exceed the applicable LSTs and refined dispersion modeling is required, the most stringent NAAQS or CAAQS (included in Table 4.2-1) would be used as the threshold of significance.

**Table 4.2-6**
**Localized Significance Thresholds for the Project**

| Pollutant | Threshold[a,b] (pounds/day) |
|---|---|
| *Construction* | |
| $NO_x$ | 302 |
| CO | 2,178 |
| $PM_{10}$ | 40 |
| $PM_{2.5}$ | 10 |
| *Operations* | |
| $NO_x$ | 302 |
| CO | 2,178 |
| $PM_{10}$ | 10 |
| $PM_{2.5}$ | 3 |

**Source:** SCAQMD 2008. See also Appendix B of this environmental impact report for a description of localized significance threshold (LST) determination.
**Notes:** $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $PM_{10}$ = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; $NO_2$ = nitrogen dioxide.
[a] SCAQMD localized significance thresholds are shown for a 5-acre project site at 50 meters and are assumed to be conservative thresholds for larger project areas.
[b] Allowable emissions are the maximum emissions that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard (based on site size and distance to receptor).

Yorke Engineering prepared an air dispersion modeling analysis to estimate health risk assessment (HRA) impacts from construction and operational activities associated with the project (Appendix B). The EPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) modeling system was used by Yorke Engineering to assess HRA impacts of the project's construction and operational emissions. AERMOD-specific meteorological (met) data for the Moreno Valley area (Perris air monitoring station) was used for the dispersion modeling. A 5-year met dataset for years 2010, 2011, 2014, 2015, and 2016 was obtained from the SCAQMD (Appendix B).

For modeling construction emissions impacts using AERMOD, a series of 23 volume sources were located in the areas where the construction activities will occur. A line volume source was included to represent the delivery trucks traveling along the driveway on the eastern side of the property to the farthest construction area. Table 4.2-7 shows the construction source modeling characteristics used in the HRA.

**Table 4.2-7**
**Construction Source Modeling Characteristics**

| Source | Number of Volume Sources | Individual Area Side Length (m) | Release Height (m) | Initial Lateral Dimension (m) | Initial Vertical Dimension (m) |
|---|---|---|---|---|---|
| Construction Equipment | 23 | 40 | 0.91 | 9.3 | 0.43 |
| Delivery Trucks | 53 Separated Line Volume | 8.6 | 3.5 | 3.94 | 3.26 |

**Source:** Appendix B.
**Note:** m = meters.

For modeling operational emissions, each stationary source exhaust stack was modeled as an individual point source for the operational scenario. The release parameters for the diesel generator were provided by the applicant and were from typical operations for similar equipment for the heaters and boilers. The delivery trucks were represented in the model using the same line volume source as in the construction scenario. Table 4.2-8 shows modeled release characteristics for each operational source.

**Table 4.2-8**
**Operational Source Modeling Characteristics**

| Emission Source | Stack Height (m) | Stack Diameter (m) | Stack Flowrate (m/s) | Stack Temperature (ºK) |
|---|---|---|---|---|
| Emergency Generator | 6.10 | 0.61 | 24.73 | 673.59 |
| Boiler | 6.40 | 0.30 | 17.53 | 366.49 |
| Heater | 6.40 | 0.30 | 11.18 | 366.49 |

**Source:** Appendix B.
**Notes:** ºK = degrees Kelvin; m = meters; m/s = meters per second.

## 4.2.4 Project Design Features

Aspects of the proposed project's components directly and indirectly reduce the proposed project's air pollutant emissions. **PDF-AQ-1** and **PDF-AQ-2** describes elements of the project to reduce criteria pollutant emissions and toxic air contaminants (TACs). The project design features (PDFs) are summarized below.

**PDF-AQ-1** Kaiser will prepare and implement a Construction Management Plan, which will include best available control measures among others. Such control measures may include but not be limited to:

- Minimizing simultaneous operation of multiple construction equipment units.
- Require that off-road diesel powered vehicles used for construction should be new low-emission vehicles, or use retrofit emission control devices, such as

diesel oxidation catalysts and diesel particulate filters verified by California Air Resources Board.

- Minimizing idling time by construction vehicles per California Air Resources Board regulations.

**PDF-AQ-2** The following measures shall be adhered to during all phases of construction activities of the project to reduce $PM_{10}$ to the satisfaction of the City of Moreno Valley Planning Department:

- All construction equipment shall be equipped with Tier 4 Final diesel engines or better.
- The engine size of construction equipment shall be the minimum size suitable for the required job.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest number is operating at any one time.
- Construction equipment shall be maintained in tune per the manufacturer's specifications.

## 4.2.5 Impacts Analysis

***Threshold AQ-1.*** ***Would the project conflict with or obstruct implementation of the applicable air quality plan?***

**Project- and Program-Level Elements**

The project site is located within the SCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County, and is within the jurisdictional boundaries of SCAQMD.

SCAQMD administers SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The most recent adopted AQMP for the SCAB is the 2016 AQMP (SCAQMD 2017), which was adopted by SCAQMD's Governing Board in March 2017. The 2016 AQMP focuses on available, proven, and cost-effective alternatives to traditional strategies while seeking to achieve multiple goals in partnership with other entities seeking to promote reductions in GHGs and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are (SCAQMD 1993):

- Whether the project would (1) result in an increase in the frequency or severity of existing air quality violations; (2) cause or contribute to new violations, or (3) delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed under Threshold AQ-2. Detailed results of this analysis are included in Appendix B. As presented under Threshold AQ-2, construction of the project would not generate criteria air pollutant emissions that exceed SCAQMD's thresholds. However, during operation the project would exceed the SCAQMD's thresholds.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016). This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2017).[3] The SCAG 2016

3 Information necessary to produce the emissions inventory for the SCAB is obtained from SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2016 RTP/SCS are integrated in the 2016 AQMP (SCAQMD 2017).

RTP/SCS and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

The project site has a General Plan land use designation of Commercial and Residential/Office, and two zoning designations of OC – Office Commercial district, and CC – Community Commercial district. Both zoning designations permit the development of inpatient and urgent care clinics and hospitals, providing that the project is located more than 300 feet from residential zones or uses. In addition, the project site is located within the General Plan's Medical Use Overlay district which specifically allows the development of Medical Centers.

As the project does not conflict with the existing zoning for the site, it would be consistent with the City's General Plan and underlying assumptions. The project would not result in direct population growth, because the project does not include the development of additional housing. However, the project would require approximately 4,761 additional employees at full build-out to serve the new medical office buildings, hospital, and hospital related facilities. The growth projections in the SCAG 2016 RTP/SCS state that the City had 31,400 jobs in 2012 and is forecasted to have 83,200 jobs in 2040, resulting in an annual job growth rate of 1,850. As the project is expected to employ 300 persons in Phase I, 2,065 persons in Phase II, and 2,395 persons in Phase III, the total average growth rate over the three buildout years would be 1,587 jobs per year. Therefore, the project's average employment growth rate does not exceed the RTP/SCS anticipated annual average growth rate for employment in the City, which would be 1,850 jobs per year.

As outlined above, the project would not conflict with the existing zoning for the site or exceed the growth projections for employment within the 2016 RTP/SCS or AQMP. However, because the project would exceed the SCAQMD's significance thresholds during operation it would not pass criterion no. 1. Therefore, this impact would be considered **potentially significant**.

***Threshold AQ-2. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?***

In considering cumulative impacts from the project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS or NAAQS. A project would be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact). If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality.

The SCAB has been designated as federal nonattainment area for $O_3$ and $PM_{2.5}$ and a state nonattainment area for $O_3$, $PM_{10}$, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SCAB.

Construction and operation of the project may result in emission of criteria air pollutants from mobile, area, and/or stationary sources. This section evaluates whether construction or operation of the project may cause exceedances of federal and state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short- and long-term construction impacts that would result from implementation of the project. Feasible mitigation measures to reduce or avoid any potential significant impacts, as appropriate, are proposed.

**Construction Emissions**

***Project- and Program-Level Elements***

Construction of the project would result in the addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts. Fugitive dust ($PM_{10}$ and $PM_{2.5}$) emissions would primarily result from grading and site preparation activities. $NO_x$ and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Pollutant emissions associated with construction activity were quantified using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, available online (http://www.caleemod.com). Construction emissions were calculated for the estimated worst-case day over the construction periods associated with each phase. Default values provided by the program were used where detailed project information was not available. The project includes multiple phases of development. Construction details for all phases were provided by Kaiser Permanente.

**Phase I**

The following summarizes the new project elements being implemented under Phase I, which is being evaluated at a project-level within this environmental impact report (EIR).

***Demolition***

At the outset of Phase I, the existing hospital trailers located north of the existing hospital, would be removed from the project site. These trailers consist of a total of 6,600 square feet of trailers (3,700 square feet used by Facilities Services and 2,900 square feet used for educational purposes). Additionally, the existing approximately 7,600-square foot Medical Office Building No. 1, also located north of the existing hospital, would be demolished.

***Diagnostic and Treatment Building***

The proposed approximately 95,000 square foot expansion of the existing hospital would allow for a Diagnostic and Treatment (D&T) Building wing, which would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices, as shown in Figure 3-2, Diagnostic and Treatment Building. The D&T Building would be two stories in height, approximately 38 feet tall, and located east of the existing hospital and accessed via a new temporary entrance and covered drop-off canopy. Surface parking would be provided to the south and include seven new accessible surface parking spaces south of the new covered drop-off canopy.

***Energy Center***

The hospital is currently serviced by an existing Central Utility Plant (CUP), located in the northwestern corner of the existing hospital building. As part of Phase I, an Energy Center, which would be approximately 22,000 square feet in size, would be constructed to replace the existing CUP. The Energy Center would include a total of three emergency generators (two new generators plus on existing generator), bulk oxygen, and two cooling towers. The Energy Center would contain all of the major mechanical and electrical equipment for the existing hospital facility, which includes electric-centrifugal water cooler chillers, cooling towers, water boilers and steam boilers, and microturbines, as shown in Figure 3-3. Upon completion and operation of the Energy Center, the existing CUP would be decommissioned but remain on site until Phase II.

It is anticipated that construction of Phase I of the project would commence in 2020, with completion by 2022. For purposes of estimating project emissions during Phase I, and based on information provided by Kaiser Permanente, the analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Demolition: June 2020
- Site Preparation: June 2020 – July 2020
- Grading: July 2020 – August 2020

- Building Construction: August 2020 – March 2022
- Trenching: March 2022 – August 2022
- Paving: August 2022 – September 2022
- Architectural Coating: September 2022 – October 2022

The construction equipment mix and estimated hours of equipment operation per day used for the air emissions modeling of the project are shown in Table 4.2-9. For this analysis, it was assumed that heavy construction equipment would operate 5 days a week (22 days per month) during project construction. Table 4.2-9 also presents the estimated number of workers anticipated for each construction phase. To estimate motor vehicle emissions generated by worker vehicles (i.e., light-duty trucks and automobiles), it was assumed that each worker would generate two one-way trips per day. Per information provided by Kaiser Permanente, hauling trip distances were anticipated to be approximately 40 miles during demolition and 35 miles during grading. All other trip distances assumed CalEEMod defaults.

In addition to construction equipment operation and worker trips, emissions from vendor trucks (delivery trucks) were estimated. Dump truck trips were assumed to be required during grading and building construction phases, and vendor trucks transporting concrete, steel, and other building materials were assumed to be required during the building construction phase. Per SCAQMD's Rule 1113,[4] the VOC content of most non-specialty architectural coatings would be limited to 50 grams of VOC per liter (g/L VOC) of coating, less water and exempt compounds, which is therefore reflected in CalEEMod. The contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113. Estimated daily worker and vendor trips, and VOC content are provided in Appendix B.

**Table 4.2-9**
**Construction Scenario Assumptions – Phase I**

| Construction Phase | One Way Worker Trips | One-way Vendor Truck Trips | One-way Haul Truck Trips | Equipment[a] | Quantity | Hours/Day |
|---|---|---|---|---|---|---|
| Demolition | 40 | 4 | 400 | Crawler Tractors | 1 | 8 |
| | | | | Excavators | 3 | 8 |
| | | | | Rubber Tired Loaders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 8 |
| Site Preparation | 40 | 4 | 100 | Graders | 1 | 8 |
| | | | | Rubber Tired Dozers | 3 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 7 |

4 Effective January 1, 2014, the VOC content of architectural coatings, excluding specified specialty coatings, is limited to 50 g/L VOC, less water and exempt compounds. Thus, the architectural coating factor in CalEEMod has been set to 50 g/L VOC.

**Table 4.2-9**
**Construction Scenario Assumptions – Phase I**

| Construction Phase | One Way Worker Trips | One-way Vendor Truck Trips | One-way Haul Truck Trips | Equipment[a] | Quantity | Hours/Day |
|---|---|---|---|---|---|---|
| Grading | 30 | 4 | 900 | Excavators | 1 | 8 |
| | | | | Graders | 2 | 8 |
| | | | | Rubber Tired Loaders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 7 |
| Building Construction | 300 | 40 | 320 | Aerial Lifts | 1 | 8 |
| | | | | Bore/Drill Rigs | 1 | 8 |
| | | | | Cranes | 1 | 8 |
| | | | | Generator Sets | 1 | 8 |
| | | | | Rough Terrain Forklifts | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 6 |
| | | | | Welders | 2 | 8 |
| Trenching | 60 | 4 | 96 | Excavators | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Paving | 24 | 2 | 240 | Pavers | 1 | 8 |
| | | | | Paving Equipment | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| Architectural Coating | 30 | 2 | 0 | Air Compressors | 2 | 6 |

**Notes:**
See Appendix B for complete assumptions.
[a] Construction equipment list and usage are project-specific estimates. CalEEMod defaults were used for off-road construction equipment horsepower and load factors.

Implementation of the project would generate construction-related air pollutant emissions from three general activity categories: entrained dust, equipment and vehicle exhaust emissions, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in $PM_{10}$ and $PM_{2.5}$ emissions. To account for dust control measures to comply with SCAQMD Rule 403 in the calculations, it was assumed that the active sites would be watered at least three times daily, as necessary depending on weather conditions, resulting in a 61% reduction in fugitive dust as implemented by CalEEMod. Exhaust from internal combustion engines used by construction equipment and vendor trucks (delivery trucks) and worker vehicles would result in emissions of $NO_x$, VOCs, CO, $PM_{10}$, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113[5] (Architectural Coatings). The mass daily construction emissions conservatively did not account for **PDF-AQ-1** or **PDF-AQ-2**.

Table 4.2-10 presents the estimated maximum unmitigated daily construction emissions generated during construction in each year of Phase I development. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

**Table 4.2-10**
**Phase I Estimated Maximum Daily Construction Emissions**
**(pounds/day unmitigated)**

| Year | VOCs | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| 2020 | 4.32 | 45.50 | 29.41 | 0.08 | 21.25 | 12.07 |
| 2021 | 3.45 | 22.38 | 28.04 | 0.08 | 4.42 | 1.72 |
| 2022 | 37.19 | 19.98 | 26.93 | 0.08 | 4.37 | 1.63 |
| **Maximum daily emissions** | **37.19** | **45.50** | **29.41** | **0.08** | **21.25** | **12.07** |
| *Pollutant threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:**
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by SCAQMD Rule 403.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

Maximum daily emissions of $NO_x$ would occur during the site preparation phase in 2020 as a result of exporting materials, off-road equipment operation, and on-road trucks. Fugitive dust and off-road equipment emissions during the site preparation phase in 2020 would generate the maximum daily $PM_{2.5}$ and $PM_{10}$ emissions. The application of architectural coatings in 2022 would produce the maximum daily VOC emissions.

As shown in Table 4.2-10, daily construction emissions during Phase I of the project would not exceed any of the SCAQMD significance thresholds. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. Furthermore, Kaiser will prepare and implement a Construction Management Plan, including best available control measures that will help ensure pollutant emissions generated from construction

5 Effective January 1, 2014, the VOC content of architectural coatings, excluding specified specialty coatings, is limited to 50 g/L VOC, less water and exempt compounds. Thus, the architectural coating factor in CalEEMod has been set to 50 g/L VOC.

activities are below SCAQMD pollutant thresholds (**PDF-AQ-1**). As such, impacts would be **less than significant,** and no mitigation is required.

**Phase II**

Phase II, which would occur beginning in 2026 and would complete construction in approximately 2032, is being evaluated at a program-level within this EIR. Phase II would include the following components:

- Expansion of the D&T Building constructed in Phase I;
- Construction of a new 65,000 square foot outpatient Medical Office Building No. 3;
- Expansion of the Energy Center constructed in Phase I; and
- Construction of two new multilevel aboveground parking structures

***Hospital and D&T Building Expansion***

North of the existing hospital, two new hospital tower wings, the North Tower and the East Tower, would be constructed. Collectively, these two new towers would be approximately 380,000 square feet and have approximately 220 new patient beds. The new towers would include seven stories and be approximately 137 feet in height. Access to the new hospital towers would be provided via the main Medical Center driveway accessed via Iris Avenue. A new main hospital entrance with a circular turnaround area would be constructed in the northern portion of the site adjacent to the new North Tower. Connected to, and south of the East Tower, would be an approximately 95,000 square foot expansion of the D&T Building. Additionally, connected to, and north of, the North Tower would be a new hospital loading dock and service yard.

***Medical Office Building No. 3***

Immediately west of the main Medical Center entrance at Iris Avenue, a new approximately 65,000-square foot Medical Office Building No. 3 would be constructed. The building would include a total of four stories and be approximately 68 feet in height.

***Energy Center Expansion***

The Energy Center constructed under Phase I would be expanded during Phase II to accommodate ultimate buildout of the Master Plan. The expansion of the Energy Center under Phase II would include the addition of approximately 8,000 square feet with an additional cooling tower and additional mechanical, electrical and plumbing equipment would be added.

*Parking*

During Phase II, two new multilevel aboveground parking structures would be constructed. Parking Structure No. 1 would be located in the northern portion of the project site, north of the new North Tower of the hospital. This new parking structure would include approximately 400 parking spaces and be approximately 50 feet in height. Parking Structure No. 2 would be located in the most western portion of the project site and be approximately 61.5 feet in height. This multilevel aboveground parking structure would include approximately 1,400 parking spaces. Internal access roads would be constructed throughout the Medical Center to connect the existing and new buildings to the existing surface parking lots and new parking structures.

Because the construction schedule and equipment for Phase II are not known at this time, the analysis contained herein uses the default equipment provided in CalEEMod and is based on the following worst-case assumptions, which conservatively assume construction will occur in the earlier years, resulting in higher emissions from off-road equipment and motor vehicles (duration of phases is approximate):

- Demolition: January 2026 – January 2026
- Site Preparation: January 2026 – April 2026
- Grading: April 2026 – July 2026
- Building Construction: July 2026 – June 2028
- Trenching: June 2028 – December 2028
- Paving: December 2028 – February 2029
- Architectural coating: February 2029 – May 2029

The construction equipment mix and estimated hours of equipment operation per day used for the air emissions modeling of the project are shown in Table 4.2-11. For this analysis, and again to provide a worst-case depiction of potential impacts, it was assumed that heavy construction equipment would operate 5 days a week (22 days per month) during project construction. Table 4.2-11 also presents the estimated number of workers anticipated for each construction phase. To estimate motor vehicle emissions generated by worker vehicles (i.e., light-duty trucks and automobiles), it was assumed that each worker would generate two one-way trips per day. Per information provided by Kaiser Permanente, trip distances for haul trucks were assumed to be 40 miles during demolition. During the grading phase, to account for on-site movement of dirt, a 0.5-mile trip distance on site was assumed for all cut and fill. All other construction trips assumed CalEEMod default trip lengths. All other assumptions and construction conditions (e.g., vendor and worker trip lengths, compliance with applicable SCAQMD rules) are the same as those described above for Phase I.

**Table 4.2-11**
**Construction Scenario Assumptions – Phase II**

| Construction Phase | One Way Worker Trips | One-way Vendor Truck Trips | One-way Haul Truck Trips | Equipment[a] | Quantity | Hours/Day |
|---|---|---|---|---|---|---|
| Demolition | 40 | 4 | 300 | Crawler Tractors | 1 | 8 |
| | | | | Rubber Tired Loaders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 8 |
| Site Preparation | 40 | 4 | 200 | Graders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Grading | 28 | 4 | 1,300 | Excavators | 1 | 8 |
| | | | | Graders | 2 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Building Construction | 200 | 44 | 320 | Aerial Lifts | 1 | 8 |
| | | | | Cranes | 1 | 7 |
| | | | | Generator Sets | 1 | 8 |
| | | | | Other Construction Equipment | 1 | 8 |
| | | | | Rough Terrain Forklifts | 2 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 7 |
| | | | | Welders | 6 | 8 |
| Trenching | 60 | 4 | 96 | Excavators | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Paving | 16 | 2 | 400 | Pavers | 1 | 8 |
| | | | | Paving Equipment | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| Architectural Coating | 28 | 2 | 0 | Air Compressors | 2 | 6 |

**Notes:**
See Appendix B for complete assumptions.
[a] Construction equipment list and usage are project-specific estimates. CalEEMod defaults were used for off-road construction equipment horsepower and load factors.

Similar to Phase I, to account for dust control measures to comply with SCAQMD Rule 403 in the calculations, it was assumed that the active sites would be watered at least three times daily, as necessary depending on weather conditions, resulting in an approximately 61% reduction in fugitive dust as implemented by CalEEMod. The contractor is also required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113[6] (Architectural Coatings).

Table 4.2-12 presents the estimated maximum unmitigated daily construction emissions generated during construction in each year of Phase II development. The values shown are the maximum summer or winter daily unmitigated emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

**Table 4.2-12**
**Phase II Estimated Unmitigated Maximum Daily Construction Emissions**
**(pounds/day unmitigated)**

| Year | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| 2026 | 3.28 | 23.46 | 32.36 | 0.07 | 3.30 | 1.40 |
| 2027 | 3.24 | 23.40 | 32.03 | 0.07 | 3.28 | 1.39 |
| 2028 | 3.20 | 23.35 | 31.73 | 0.07 | 3.30 | 1.40 |
| 2029 | 43.71 | 5.57 | 7.91 | 0.02 | 0.59 | 0.30 |
| **Maximum daily emissions** | **43.71** | **23.46** | **32.36** | **0.07** | **3.30** | **1.40** |
| *Pollutant threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:**
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by SCAQMD Rule 403.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

Maximum daily emissions of $NO_x$ would occur during the grading phase in 2026 as a result of off-road equipment operation, and on-road vendor trucks. Fugitive dust and off-road equipment emissions during the grading in 2026 would generate the maximum daily $PM_{2.5}$ emissions. Fugitive dust and off-road equipment emissions during the site preparation phase in 2026 would generate the maximum daily $PM_{10}$ emissions. The application of architectural coatings in 2029 would produce the maximum daily VOC emissions.

As shown in Table 4.2-12, daily construction emissions during Phase II of the project would not exceed any of the SCAQMD significance thresholds. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. Furthermore, Kaiser will prepare and implement a Construction Management Plan, including best available control measures that will help ensure pollutant emissions generated from construction

[6] Effective January 1, 2014, the VOC content of architectural coatings, excluding specified specialty coatings, is limited to 50 g/L VOC, less water and exempt compounds. Thus, the architectural coating factor in CalEEMod has been set to 50 g/L VOC.

activities are below SCAQMD pollutant thresholds (**PDF-AQ-1**). As such, impacts would be **less than significant,** and no mitigation is required.

**Phase III**

Phase III, which would occur beginning in 2032 and would complete construction in approximately 2035, is being evaluated at a program-level within this EIR. Phase III would include the following components:

- Demolition of the CUP and original hospital building;
- Construction of two new hospital towers and a new emergency department;
- Expansion of the D&T Building wing;
- Construction of a new approximately 95,000 square foot outpatient medical office building; and
- Construction of a third multilevel aboveground parking structure with a total of approximately 600 parking spaces.

***Demolition***

At the outset of Phase III, the existing hospital tower and CUP, totaling WHAT square feet, would be demolished. During the demolition phase, all other buildings and uses constructed during Phases I and II would remain open and available to provide medical services at the Medical Center.

***Hospital, Emergency, and Diagnostics and Treatment Building Expansion***

During Phase III, two new hospital towers a new emergency department, and an expanded area of the D&T Building, totaling approximately 375,000, would be constructed. The new hospital towers would include a West Tower and a South Tower with a total of 240 new patient beds. Upon completion of the two new towers, the hospital would have a total of approximately 460 beds.

Southwest of the new West and South Towers would be a new D&T expansion, and south of the D&T expansion would be a new Emergency Department. A new entrance to the Emergency Department would be located on the south side of the building with access available through the surface parking lot. The complete building size, with inclusion of the four hospital towers, the D&T Building and expansion area, and the new Emergency Department would be approximately 850,000 square feet.

***Medical Office Building No. 4***

Immediately east of the main Medical Center entrance at Iris Avenue, a new approximately 95,000-square foot Medical Office Building No. 4 would be constructed. The building would include a total of five stories and be approximately 78 feet in height.

***Parking***

Immediately east of the new Medical Office Building No. 4, a new Parking Structure No. 3 would be constructed. This multilevel aboveground parking structure would include approximately 600 parking spaces. Access to the new parking structure would be available via internal circulation accessed via the main Medical Center driveway along Iris Avenue.

Because the construction schedule and construction equipment for Phase III are not known at this time, the analysis contained herein used default equipment provided in CalEEMod and is based on the following worst-case assumptions, which conservatively assume construction will occur in the earlier years, resulting in higher emissions from off-road equipment and motor vehicles (duration of phases is approximate):

- Demolition: January 2032 – March 2032
- Site Preparation: March 2032 – June 2032
- Grading: June 2032 – August 2032
- Building construction: August 2032 – July 2034
- Trenching: July 2034 – November 2034
- Paving: November 2034 – December 2034
- Architectural coating: December 2034 – February 2035

The construction equipment mix and estimated hours of equipment operation per day used for the air emissions modeling of the project are shown in Table 4.2-13. For this analysis, and again to provide a worst-case depiction of potential impacts, it was assumed that heavy construction equipment would operate 5 days a week (22 days per month) during project construction. Table 4.2-13 also presents the estimated number of workers anticipated for each construction phase. To estimate motor vehicle emissions generated by worker vehicles (i.e., light-duty trucks and automobiles), it was assumed that each worker would generate two one-way trips per day. Per information provided by Kaiser Permanente, trip distances for haul trucks were assumed to be 40 miles during demolition. During the grading phase, to account for on-site movement of dirt, a 0.5 mile trip distance on site was assumed for all cut and fill. All other construction trips assumed CalEEMod default trip lengths. All other assumptions and construction conditions (e.g., vendor and worker trip lengths, compliance with applicable SCAQMD rules) are the same as those described above for Phase I.

**Table 4.2-13**
**Construction Scenario Assumptions – Phase III**

| Construction Phase | One Way Worker Trips | One-way Vendor Truck Trips | One-way Haul Truck Trips | Equipment[a] | Quantity | Hours/Day |
|---|---|---|---|---|---|---|
| Demolition | 80 | 4 | 2,000 | Crawler Tractors | 3 | 8 |
| | | | | Rubber Tired Loaders | 3 | 8 |
| | | | | Tractors/Loaders/Backhoes | 4 | 8 |
| Site Preparation | 40 | 4 | 120 | Graders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Grading | 30 | 4 | 1,300 | Excavators | 1 | 8 |
| | | | | Graders | 2 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Rubber Tired Loaders | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 8 |
| Building Construction | 350 | 40 | 280 | Aerial Lifts | 1 | 8 |
| | | | | Cranes | 1 | 7 |
| | | | | Generator Sets | 1 | 8 |
| | | | | Other Construction Equipment | 1 | 8 |
| | | | | Rough Terrain Forklifts | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 1 | 7 |
| | | | | Welders | 4 | 8 |
| Trenching | 60 | 4 | 96 | Excavators | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| | | | | Tractors/Loaders/Backhoes | 2 | 8 |
| Paving | 24 | 2 | 200 | Pavers | 1 | 8 |
| | | | | Paving Equipment | 1 | 8 |
| | | | | Rollers | 1 | 8 |
| Architectural Coating | 30 | 2 | 0 | Air Compressors | 2 | 6 |

**Notes:**
See Appendix B for complete assumptions.
[a] Construction equipment list and usage are project-specific estimates. CalEEMod defaults were used for off-road construction equipment horsepower and load factors.

Similar to previous phases, to account for dust control measures to comply with SCAQMD Rule 403 in the calculations, it was assumed that the active sites would be watered at least three times daily, as necessary depending on weather conditions, resulting in an approximately 61% reduction in fugitive dust as implemented by CalEEMod. The contractor is also required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule

1113[7] (Architectural Coatings). Table 4.2-14 presents the estimated maximum unmitigated daily construction emissions generated during construction in each year of Phase III development. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

**Table 4.2-14**
**Phase III Estimated Maximum Daily Construction Emissions**
**(pounds/day unmitigated)**

| Year | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| 2032 | 3.14 | 17.09 | 27.82 | 0.12 | 4.43 | 1.34 |
| 2033 | 2.55 | 13.43 | 27.51 | 0.07 | 4.41 | 1.34 |
| 2034 | 56.46 | 13.39 | 27.22 | 0.07 | 4.42 | 1.34 |
| 2035 | 56.43 | 1.66 | 4.08 | 0.01 | 0.37 | 0.11 |
| **Maximum daily emissions** | **56.46** | **17.09** | **27.82** | **0.12** | **4.43** | **1.34** |
| *Pollutant threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:**
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by SCAQMD Rule 403.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

Maximum daily emissions of $NO_x$ would occur during the grading phase in 2032 as a result of off-road equipment operation and on-road vendor trucks. Fugitive dust and off-road equipment emissions during the grading phase in 2032 would generate the maximum daily $PM_{2.5}$ emissions. Fugitive dust and off-road equipment emissions during the site preparation phase in 2032 would generate the maximum daily $PM_{2.5}$ emissions. The application of architectural coatings in 2034 would produce the maximum daily VOC emissions.

As shown in Table 4.2-14, daily construction emissions during Phase III of the project would not exceed any of the SCAQMD significance thresholds. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. Furthermore, Kaiser will prepare and implement a Construction Management Plan, including best available control measures that will help ensure pollutant emissions generated from construction activities are below SCAQMD pollutant thresholds (**PDF-AQ-1**). As such, impacts would be **less than significant,** and no mitigation is required.

[7] Effective January 1, 2014, the VOC content of architectural coatings, excluding specified specialty coatings, is limited to 50 g/L VOC, less water and exempt compounds. Thus, the architectural coating factor in CalEEMod has been set to 50 g/L VOC.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. However, air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative $PM_{10}$ and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. The maximum daily $PM_{10}$ and $PM_{2.5}$ concentrations would not exceed thresholds during project construction activities, although fugitive dust and vehicle and equipment exhaust generated during project construction would contribute to the SCAB nonattainment designation for $PM_{2.5}$; however, this contribution would not be considered cumulatively considerable. The construction of the project would generate VOC and $NO_x$ emissions; however, they would not exceed the SCAQMD significance thresholds. Therefore, construction of the project would not considerably contribute to the SCAB's $O_3$ nonattainment designation, and impacts would be less than significant.

**Operational Emissions**

Following the completion of construction activities, the project would generate VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ emissions from mobile sources including vehicular traffic generated by patients, visitors, physicians/staff, and emergency vehicles (i.e., ambulance), area sources (space heating, water heating, landscaping), and stationary sources including diesel generators, hot water boilers, and steam boilers.

The project is the phased expansion of the existing medical center. Phase I will demolish the existing facilities services and educational services trailers (6,600 square feet), and the existing Medical Office Building No.1 (7,600 square feet) and will construct a new 95,000 square-foot Diagnostic and Treatment building and a new 22,000 square-foot Energy Center. The existing Central Utility Plant currently includes two emergency generators and two boilers. One of the existing emergency generators will be moved to the new Energy Center, and the other emergency generator and two boilers will be dismantled and removed from the site. The new Energy Center will retain one of the existing emergency generators and add a new 3,000 kW diesel emergency generator. As such, in order to identify the net increase in emissions from the new Energy Center, the emissions from the other existing emergency generator and two boilers (each of which would be decommissioned in Phase 1) were estimated and subtracted from the emissions from the new Energy Center.

Phase II would add a new hospital tower with approximately 220 beds, a 380,000 square-foot expansion of the Diagnostic and Treatment building, a 65,000 square-foot outpatient medical office building, a 8,000 square-foot expansion of the Energy Center, and two multilevel aboveground parking structures with a total of 1,800 new parking spaces. Phase III, would demolish the (previously decommissioned) existing Central Utility Plant and replace and expand the existing hospital tower resulting in the net addition of 240 beds, would add a 95,000 square-foot outpatient medical office building, and a multilevel aboveground parking structure with a total of 600 parking spaces. Parking structures would not generate additional operational emissions because parking structures do not generate vehicle trips or other sources of air pollutants. The motor vehicles utilizing the parking structures and their associated emissions would be captured from the development (e.g., medical office buildings, hospital, diagnostic and treatment building) on site.

***Area Sources***

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of non-residential buildings and on the default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and SCAQMD's Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2017). Similar to construction, a VOC content of 50 g/L was assumed.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For the SCAB, the average annual number of summer days is estimated at 250 days (CAPCOA 2017).

*Energy Sources*

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the power plant, which is typically off site.

CalEEMod default values for energy consumption for the land uses were applied for the project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the heating, ventilation, and air conditioning (HVAC) system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California’s building standards. The current Title 24, Part 6 standards, referred to as the 2016 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2017. The Title 24 2016 standards are assumed within the CalEEMod (CAPCOA 2017). The 2019 Title 24 Building Energy Efficiency Standards, which will be effective January 1, 2020, will further reduce energy used and associated emissions compared to current standards. Title 24, Part 6, does not apply to hospitals but does apply to other buildings such as the medical office building and energy center.

*Mobile Sources*

The project would impact air quality through the vehicular traffic generated by the project. Emissions associated with project-generated daily traffic were modeled using the Institute of Transportation Engineers (ITE) land use code 610 (hospital) and land use code 720 (medical-dental office building) rates of 10.72 and 34.80, respectively. CalEEMod was utilized to estimate daily emissions from proposed vehicular sources. CalEEMod default data, including temperature, trip characteristics, and variable start information, were conservatively used for the model inputs. Project Design Feature (PDF) TRA-2 (see Section 4.14.5, Project Design Features) will help reduce emissions from mobile sources during operation through implementation of a transportation demand management program.

Project-related traffic was assumed to be composed of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2023 were used to estimate emissions associated with Phase I buildout, while 2030 and 2035 emission factors were used to estimate emissions associated with the Phase II and III buildout of the project, respectively.

### *Stationary Sources*

Operational emissions under the project would result from intermittent use of the new 3,000 kW diesel-powered emergency generator for maintenance and testing purposes. The generator would be run for testing and maintenance approximately 30 minutes each week for a total of up to 50 hours per year, in accordance with the CARB ATCM. Generator engines would meet the EPA standards for Tier 4 engines and 0.02 grams PM per horsepower-hour. The engine would also be required to use ultra-low-sulfur diesel fuel with a maximum sulfur content of 15 parts per million (ppm) by weight.

Several components of the existing Central Utility Plant will be dismantled and removed from the site during Phase I, and their removal is reflected in the CalEEMod model. The components to be removed are the existing 750 kW diesel-powered emergency generator which was assumed to operate for maintenance and testing approximately 30 minutes each week for a total of up to 50 hours per year, in accordance with the CARB ATCM. As this generator was permitted in 2009, the default CalEEMod emission factors for 2010 were assumed as they were the closest operational year available to the permitted date.

The existing Central Utility Plant also currently operates two natural gas fired boilers, one rated at 4.2 million British thermal units per hour (MMBtu/hr) and one rated at 6.3 MMBtu/hr. The actual natural gas usage for the existing boilers was provided by Kaiser. The default CalEEMod emission factors were assumed for the boilers assuming a 2010 operational year.

Table 4.2-15 presents the maximum daily emissions associated with the operation after each phase of the project. The values shown for motor vehicles, area and energy sources are the maximum summer or winter daily emissions results from CalEEMod. Complete details of the emissions calculations are provided in Appendix B of this EIR.

**Table 4.2-15**
**Estimated Daily Maximum Operational Emissions (pounds/day)**

| Emission Source | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| *Components to be removed in Phase I* | | | | | | |
| Area | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.20** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** |
| *Phase I Buildout* | | | | | | |
| Area Sources | 2.50 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 0.80 | 7.28 | 6.11 | 0.04 | 0.55 | 0.55 |
| Mobile Sources | 0.83 | 4.86 | 4.60 | 0.02 | 1.06 | 0.29 |
| Stationary Sources | 2.19 | 1.07 | 5.58 | 0.01 | 0.04 | 0.04 |
| **Total** | **6.32** | **13.21** | **16.31** | **0.07** | **1.66** | **0.89** |

**Table 4.2-15**
**Estimated Daily Maximum Operational Emissions (pounds/day)**

| Emission Source | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| **Net Total (Phase I minus Existing Energy Center)** | **6.12** | **13.20** | **16.30** | **0.07** | **1.66** | **0.89** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |
| *Phases I and II Buildout* | | | | | | |
| Area Sources | 12.38 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 2.20 | 20.04 | 16.84 | 0.12 | 1.52 | 1.52 |
| Mobile Sources | 6.59 | 48.08 | 36.27 | 0.19 | 11.93 | 3.25 |
| Stationary Sources | 2.19 | 1.07 | 5.58 | 0.01 | 0.04 | 0.04 |
| **Total** | **23.37** | **69.20** | **58.93** | **0.32** | **13.50** | **4.81** |
| **Net Total (Phases I and II minus Existing Energy Center)** | **23.17** | **69.19** | **58.93** | **0.32** | **13.50** | **4.81** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **Yes** | **No** | **No** | **No** | **No** |
| Components to be Removed In Phase III | | | | | | |
| Area | 3.48 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Stationary | 1.22 | 4.67 | 8.01 | 0.04 | 0.58 | 0.58 |
| **Total** | **4.70** | **4.67** | **8.03** | **0.04** | **0.58** | **0.58** |
| *Phases I through III Buildout* | | | | | | |
| Area Sources | 22.40 | 0.00 | 0.36 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 3.24 | 29.48 | 24.76 | 0.18 | 2.24 | 2.24 |
| Mobile Sources | 11.00 | 87.32 | 61.79 | 0.34 | 22.37 | 6.08 |
| Stationary Sources | 2.19 | 1.07 | 5.58 | 0.01 | 0.04 | 0.04 |
| **Total** | **38.82** | **117.88** | **92.49** | **0.53** | **24.66** | **8.36** |
| **Net Total (Phases I through III minus Existing Energy Center and Hospital Tower)** | **33.92** | **113.20** | **84.46** | **0.49** | **24.08** | **7.78** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **Yes** | **No** | **No** | **No** | **No** |

**Source:** See Appendix B for complete results.
The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MMBtu/hr = million British thermal units per hour.

As shown in Table 4.2-15, the net increase in the combined mobile, area, energy, and stationary source emissions would not exceed the SCAQMD operational thresholds for VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ at Phase I buildout of the project. The net increase in emissions would not exceed the SCAQMD operational thresholds for VOC, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ but would exceed the SCAQMD operational thresholds for $NO_x$ at the buildout of Phases II and III of the project. The exceedances of $NO_x$ at the buildout of Phases II and III is primarily due to mobile source emissions and energy use (natural gas combustion).

As discussed above, daily construction emissions during Phases I, II, and III of the project would not exceed the SCAQMD significance thresholds for VOC, $NO_x$. CO, $SO_x$, $PM_{10}$, or $PM_{2.5}$ during construction in all construction years. Construction activities required for the implementation of the project would be considered typical of a healthcare facility. Once construction of a phase is completed, construction-related emissions would cease for a period of time, meaning that construction emissions from the various phases of the project would not overlap with each other.

Operational emissions generated by Phase I of the project would not result in a significant impact regarding VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$. However, operational emissions generated by Phases II and III of the project would result in a significant impact regarding $NO_x$ due to mobile source and energy emissions. Impacts would be **potentially significant**.

***Threshold AQ-3. Would the project expose sensitive receptors to substantial pollutant concentrations?***

**Carbon Monoxide Hotspots**

Mobile source impacts occur basically on two scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SCAB. Locally, project traffic will be added to the City roadway system near the project area. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles “cold-started” and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing.

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable level of service (LOS). Projects contributing to adverse traffic impacts may result in the formation of such CO hotspots. The project’s traffic impact analysis (Appendix I) evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the project.

In accordance with the CO Protocol, CO hotspots are typically evaluated when (1) the LOS of an intersection or roadway decreases to LOS E or worse; (2) signalization and/or channelization is added to an intersection; and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment.

The project's traffic report evaluated 64 intersections. Table 4.14-7 in Section 4.14, Transportation, of the EIR summarizes the existing peak hour service level calculations for the key study intersections based on existing traffic volumes and current street geometry. As shown in Table 4.14-17, in the cumulative Year 2040 full buildout scenario, 28 of the key study intersections would operate at an unacceptable LOS. Antelope Road at Scott Road during the AM peak hour (LOS F), Antelope Road at Baxter Road (LOS E), and Whitewood Road at Baxter Road during the PM peak hour (LOS E) are currently not operating at an acceptable LOS. The remaining key intersections currently operate at an acceptable LOS during the AM and PM peak hours.

After the implementation of the recommended improvements as outlined in Section 4.14.6, Mitigation Measures, of the EIR, the traffic study finds that some intersections would still operate at an unacceptable LOS. As such, a quantitative CO hotspots analysis was determined to be warranted.

To evaluate whether the project would cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted. The California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 2010), and the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) were followed.

For each TIA scenario evaluated (existing with project; existing with ambient growth and the proposed project; existing with ambient growth, cumulative projects, and the proposed project), the screening evaluation presents LOS with project improvements (mitigation), whether the recommended improvements (mitigation measures) are feasible, and whether a quantitative CO hotspots analysis may be required. According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of the project, and, to the extent they are different intersections, the three intersections representing the highest traffic volumes, need be analyzed. For each intersection failing a screening test as described in this protocol, an additional intersection should be analyzed (Caltrans 2010).

Based on the CO hotspot screening evaluation (Appendix B), the intersections of Perris Boulevard and Alessandro Boulevard during the PM peak hour, Laselle Street and Iris Avenue during the PM peak hour, and Evans Road and Ramona Expressway during PM peak hour were evaluated based on the CO Hotspot protocol. The potential impact of the project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The emissions factor represents the weighted average emissions rate of the local SCAB vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic report, emissions factors for 2040 were used for the analysis. Emissions factors for 2040 were predicted by EMFAC2017 based on a 5-mile-per-hour (mph) average speed for all of the intersections for approach and departure segments. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on the traffic report. Modeling assumptions are outlined in Appendix B.

Four receptor locations at each intersection were modeled to determine CO ambient concentrations. Although the existing conditions do not include paved sidewalks or sensitive receptors adjacent to any of the modeled intersections, a receptor was assumed at each corner of the modeled intersections, for a total of four receptors adjacent to the intersection, to represent the future possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2040. A receptor height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The SCAQMD provides projected future concentrations of CO emissions in order to assist the CEQA practitioner with a CO Hotspots Analysis. The projected future 1-hour CO background concentration of 5.1 parts per million for 2020 for the Rubidoux monitoring station was assumed in the CALINE4 model for 2040 (SCAQMD 2002). The maximum CO concentration measured at the Rubidoux monitoring station over the last 3 years was 4.0 parts per million, which was measured in 2015; as such, the SCAQMD projected 1-hour CO ambient concentration of 5.1 parts per million is conservative assumption. To estimate an 8-hour average CO concentration, a persistence factor of 0.6, as is recommended for suburban locations, was applied to the output values of predicted concentrations in parts per million at each of the receptor locations and added to the SCAQMD projected future 8-hour concentration for 2020 for the Rubidoux monitoring station.

The results of the model are shown in Table 4.2-16. Model input and output data are provided in Appendix B.

**Table 4.2-16**
**CALINE4 Predicted Carbon Monoxide Concentrations**

| Intersection | Maximum Modeled Impact (ppm) | |
|---|---|---|
| | *1-hour* | *8-hour* |
| *Year 2040 Future Condition with Cumulative Projects with Project* | | |
| Perris Boulevard and Alessandro Boulevard (PM Peak Hour) | 6.1 | 3.80 |
| Laselle Street and Iris Avenue (PM Peak Hour) | 6.1 | 3.80 |
| Evans Road and Ramona Expressway (PM Peak Hour) | 6.2 | 3.86 |

**Source:** Caltrans 1998a (CALINE4).
**Notes:** CO = carbon monoxide; ppm = parts per million.

As shown in Table 4.2-16, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 6.2 ppm, which is below the 1-hour CO CAAQS of 20 ppm (CARB 2016c). The maximum predicted 8-hour CO concentration of 3.86 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9.0 ppm (CARB 2016c). Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Accordingly, the project would not cause or contribute to violations of the CAAQS, and would not result in exposure of sensitive receptors to localized high concentrations of CO. As such, impacts would be **less than significant** to sensitive receptors with regard to potential CO hotspots resulting from project contribution to cumulative traffic-related air quality impacts, and no mitigation is required.

### Toxic Air Contaminants

#### *Localized Significance Thresholds and Health Risk Assessment Analysis*

An LST and HRA was prepared by Yorke Engineering for the project (Appendix F). The air quality modeling evaluated the point of maximum impact for the air quality impact assessment and the HRA. The point of maximum impact is a location within the modeling grid where the model calculates the highest (worst-case) pollutant concentrations. The point of maximum impact may or may not be a habitable location; however, using it for this analysis is the most conservative approach since all other receptors within the modeling grid would have lower pollutant concentrations. The maximum impact to residential, worker, and sensitive receptors was evaluated for cancer and non-cancer.

For this LST analysis, the project's maximum on-site construction and operational emissions were compared to the SCAQMD mass rate look-up tables for the Perris Valley (SRA 24). Table 4.2-17 summarizes all impacts and threshold determinations conducted in the LST and HRA analysis.

**Table 4.2-17**
**Localized Significance Threshold and Health Risk Assessment Analysis**

| Impact Analysis | Impact Parameter | Units | Project Impact | CEQA Threshold | Level of Significance |
|---|---|---|---|---|---|
| Construction HRA | MICR-R | Probability | 1.47 | 10 | Less than Significant |
| | MICR-W | Probability | 1.57 | 10 | Less than Significant |
| | Sensitive | Probability | 2.69 | 10 | Less than Significant |
| | HIC-R | Probability | 0.0005 | 1.0 | Less than Significant |
| | HIC-W | Probability | 0.0019 | 1.0 | Less than Significant |
| | Sensitive | Probability | 0.0009 | 1.0 | Less than Significant |
| Construction LST | *Phase I* | | | | |
| | $NO_x$ | lb/day | 7.3 | 302 | Less than Significant |
| | CO | lb/day | 21.7 | 2,178 | Less than Significant |
| | $PM_{10}$ | lb/day | 7.3 | 40 | Less than Significant |

**Table 4.2-17**
**Localized Significance Threshold and Health Risk Assessment Analysis**

| | | | | | |
|---|---|---|---|---|---|
| | $PM_{2.5}$ | lb/day | 4.0 | 10 | Less than Significant |
| | *Phase II* | | | | |
| | $NO_x$ | lb/day | 10.9 | 302 | Less than Significant |
| | CO | lb/day | 29.6 | 2,178 | Less than Significant |
| | $PM_{10}$ | lb/day | 0.5 | 40 | Less than Significant |
| | $PM_{2.5}$ | lb/day | 0.1 | 10 | Less than Significant |
| | *Phase III* | | | | |
| | $NO_x$ | lb/day | 8.4 | 302 | Less than Significant |
| | CO | lb/day | 29.0 | 2,178 | Less than Significant |
| | $PM_{10}$ | lb/day | 0.7 | 40 | Less than Significant |
| | $PM_{2.5}$ | lb/day | 0.1 | 10 | Less than Significant |
| Operation HRA | MICR-Residential | Probability | 0.80 | 10 | Less than Significant |
| | MICR-Worker | Probability | 0.14 | 10 | Less than Significant |
| | MICR-Sensitive | Probability | 2.53 | 10 | Less than Significant |
| | HIC-Residential | Probability | 0.0005 | 1.0 | Less than Significant |
| | HIC-Sensitive and Worker | Probability | 0.0013 | 1.0 | Less than Significant |
| | HIC-Worker 8-hour | Probability | 0.0001 | 1.0 | Less than Significant |
| | HIA-Residential | Probability | 0.00068 | 1.0 | Less than Significant |
| | HIA-Sensitive and Worker | Probability | 0.00074 | 1.0 | Less than Significant |
| Operation LST | $NO_x$ | lb/day | 112.11 | 302 | Less than Significant |
| | CO | lb/day | 63.90 | 2,178 | Less than Significant |
| | $PM_{10}$ | lb/day | 3.86 | 10 | Less than Significant |
| | $PM_{2.5}$ | lb/day | 2.75 | 3 | Less than Significant |

**Source:** See Appendix F for complete results.

As shown in Table 4.2-17, the project would not exceed the CEQA thresholds for LST or HRA. Additionally, hauling of soils and construction materials is not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Emissions from the haul trucks would be relatively brief in nature and would cease once the haul trucks pass through the main streets to I-215. Further, the emissions from the trucks when on site were included in the LST and HRA analyses. As such, with project implementation, LST and HRA impacts would be less than significant, and no mitigation is required.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. TACs are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program, and is aimed at hazardous air pollutants that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs. As examples, TACs include acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexa-valent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter. Some of the TACs are groups of compounds that contain many individual substances (for example, copper compounds and polycyclic organic matter).

The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. Sensitive receptors within 3,500 meters were identified including six schools, four daycares, two medical facilities, and four eldercare facilities. There are also residential receptors within close proximity of the project.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. "Incremental cancer risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. The project would require the use of heavy-duty construction equipment, which is subject to a CARB ATCM for in-use diesel construction equipment to reduce diesel particulate emissions, and it would involve use of diesel trucks (which are also subject to a CARB ATCM) for hauling demolition debris and soil and delivering concrete and building materials. As shown in PDF-AQ-2, all construction equipment will be equipped with Tier 4 engines, which are equipped with diesel particulate filters that reduce the engine emissions by 85% or more. Similarly, all 2007 and later model year heavy-duty trucks are equipped with diesel particulate filters. Thus, the emissions of diesel particulate matter from construction equipment and trucks will be substantially lower than current models, which would reduce their contribution to the long-term health effects associated with construction of any phase of the project. As shown in Table 4.2-17, the HRA showed that cancer and non-cancer risk during construction would be below the SCAQMD significance thresholds. **PDF-AQ-2** would also reduce DPM emissions from heavy equipment during construction. Accordingly, the impacts due to TAC emissions would be less than significant, and no mitigation is required.

The steam and hot water boilers and emergency generators would be subject to permitting by the SCAQMD. As part of the permit process, the SCAQMD will evaluate compliance with Rule 1401, New Source Review of Toxic Air Contaminants. Rule 1401 establishes acceptable risk levels and emission control requirements for new and modified facilities that may emit additional TACs. Under Rule 1401, permits to operate may not be issued when emissions of TACs result in a maximum incremental cancer risk greater than 1 in 1 million without application of best available control technology for toxics (T-BACT), or a maximum incremental cancer risk greater than 10 in 1 million with application of T-BACT, or a health hazard index (chronic and acute) greater than 1.0 (SCAQMD 2015). The human health risk analysis is based on the time, duration, and exposures expected. T-BACT will be determined on a case-by-case basis; however, examples of T-BACT include diesel particulate filters for stationary engines and oxidation catalysts for natural gas-fired boilers. The emergency generators would be operated for a limited time, would meet the required emission rates for DPM at the time of installation, and must be demonstrated to meet the requirements of Rule 1401 before the SCAQMD can issue the permits to construct. The boilers will be fueled with natural gas, which generally results in low TAC emissions and associated health effects, which must be demonstrated before the SCAQMD can issue the permits to construct. As shown in Table 4.2-17, the HRA showed that cancer and non-cancer risk during operation would be below the SCAQMD significance thresholds. As such, the exposure of sensitive receptors to project-related TAC emission impacts during operation of the project would be less than significant, and no mitigation is required.

The project would emit criteria air pollutants and TACs that could expose sensitive receptors to substantial pollutant concentrations. The LST analysis summarized above addresses the potential impacts during construction and includes a discussion of the potential health effects due to $NO_2$, CO, $PM_{10}$, and $PM_{2.5}$. The LST analysis concluded that the impacts of construction emissions would be less than significant. Additionally, the LST analysis found that the increase in the operational criteria air pollutant emissions associated with the project and corresponding health impacts to sensitive receptors would be less than significant. The emissions of TACs from new stationary sources associated with the project would be subject to SCAQMD rules and review that would ensure that impacts would be less than the health impact thresholds. Thus, impacts are considered to be **less than significant,** and no mitigation is required.

### Health Effects of Other Criteria Air Pollutants

Operation of the project would result in emissions that would exceed the SCAQMD threshold for $NO_x$. Project construction and operation would not exceed SCAQMD thresholds for VOC, CO, $SO_x$, $PM_{10,}$ or $PM_{2.5}$.

VOCs and $NO_x$ are precursors to $O_3$, for which the SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with $O_3$ are generally associated with reduced lung function. The contribution of VOCs and $NO_x$ to regional ambient $O_3$ concentrations is the result of complex photochemistry. The increases in $O_3$ concentrations in the SCAB due to $O_3$ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive $O_3$ concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the $O_3$ CAAQS/NAAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of $O_3$ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, because operation of the project would exceed SCAQMD threshold for $NO_x$, implementation of the project could minimally contribute to regional $O_3$ concentrations and the associated health effects.

Operation of the project would contribute to exceedances of the NAAQS and CAAQS for $NO_2$. Health effects that result from $NO_2$ and $NO_x$ include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, project construction would be relatively short term, and off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. In addition, existing $NO_2$ concentrations in the area are well below the NAAQS and CAAQS standards. However, due to exceedances in operation-generated emissions of $NO_x$, the project could result in potential health effects associated with $NO_2$ and $NO_x$.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the project would also not exceed thresholds for $PM_{10}$ or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or obstruct the SCAB from coming into attainment for these pollutants. The project would also not result in substantial DPM emissions during construction and operation, and therefore, would not result in significant health effects related to DPM exposure. Additionally, the project would implement dust control strategies and be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction and operation, the project is not anticipated to result in health effects associated with $PM_{10}$ or $PM_{2.5}$.

In summary, because operation of the project could result in exceedances of the SCAQMD significance thresholds for $NO_x$, the potential health effects associated with criteria air pollutants, specifically $O_3$, are considered **potentially significant**. Notably, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects. These subjects are discussed further in Appendix B.

***Threshold AQ-4. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and to architectural coatings. Such odors are temporary and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant, and no mitigation is required.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Project operations would consist of medical office, hospital, and hospital-related uses and would not involve land uses that are commonly associated with odors. Therefore, project operations would not result in other emissions that would adversely affect a substantial amount of people. Impacts from both construction and operation would be **less than significant,** and no mitigation is required.

## 4.2.6 Mitigation Measures

CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts. There are no feasible measures to reduce the operational emissions of the project, which are primarily driven by natural gas combustion at the Energy Center and mobile sources.

## 4.2.7 Level of Significance After Mitigation

As there is no mitigation available to reduce the emissions of $NO_x$ from the project, impacts would remain significant and unavoidable because $NO_x$ emissions would remain above the SCAQMD's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable for Thresholds AQ-1, AQ-2, and AQ-3.

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# 4.3 BIOLOGICAL RESOURCES

This section focuses on the potentially adverse impacts to candidate, sensitive, or special-status species as identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), resulting from implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). This section identifies associated regulatory requirements, describes the existing biological resources of the project site, evaluates potential impacts, and identifies mitigation measures related to implementation of the project. For the purpose of evaluating biological resources that occur on and immediately adjacent to the project site, the area investigated included the entire approximately 30-acre project site, plus a 100-foot buffer around the project site boundary, for a total of 43.4 acres that will comprise the "study area."

## 4.3.1 Relevant Plans, Policies, and Ordinances

**Federal**

***Federal Endangered Species Act***

The Federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans (HCPs) on private property without any other federal agency involvement.

***Migratory Bird Treaty Act***

The Migratory Bird Treaty Act was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. The act protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

## State

### *State of California Endangered Species Act*

The California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050 et seq.) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game (CDFG)) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

<u>Other Sections from the California Fish and Game Code</u>

Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. To that end, CDFW has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

### *California Native Plant Protection Act*

The Native Plant Protection Act of 1977 directed the CDFG to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the Fish and Game Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species, but did not do so for rare plants.

Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project applicant.

### *California Environmental Quality Act*

The California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under FESA, CESA, and other Fish and Game Code provisions, and includes lists developed by other organizations, including for example the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species included on California Rare Plant Rank (CRPR) Lists 1 and 2 by the California Native Plant Society (CNPS), and potentially some List 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

## Local

### *City of Moreno Valley General Plan*

The City of Moreno Valley (City) General Plan 2035 establishes a blueprint for the City to help guide land use decisions. Several elements within the General Plan were established to address potential impacts to biological resources. Specifically, the Land Use, Conservation, Recreation, and Open Space Elements each have goals and policies that address potential impacts to candidate, sensitive, or special-status species and their habitats. The goals and policies that will be applied to the proposed project have been analyzed for consistency in Section 4.10, Land Use and Planning.

### *Western Riverside County Multiple Species Habitat Conservation Plan*

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multijurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in Western Riverside County. The MSHCP is one of several large, multijurisdictional habitat-planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP will allow Riverside County and its cities, including the City of Moreno Valley, to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal endangered species acts (County of Riverside 2003).

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of FESA (16 USC 1531 et seq.), as well as a Natural Communities Conservation Plan (NCCP) under the Natural community Conservation Planning Act of 2001 (Fish and Game Code, Section 2800 et seq.). The MSHCP allows the participating jurisdictions to authorize "take" of plant and wildlife species identified within the plan area. The USFWS and CDFW have authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the wildlife agencies have granted "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP conservation area, in exchange for the assembly and management of a coordinated MSHCP conservation area.

The MSHCP is a "criteria-based plan" and does not rely on a hardline preserve map. Instead, within the MSHCP area, the MSHCP reserve will be assembled over time from a smaller subset of the Plan Area referred to as the Criteria Area. The Criteria Area consists of Criteria Cells (Cells) or Cell Groupings, and flexible guidelines (Criteria) for the assembly of conservation within the Cells or Cell Groupings. Cells and Cell Groupings also may be included within larger units known as Cores, Linkages, or Non-Contiguous Habitat Blocks.

***Western Riverside MSHCP Mitigation Fee***

In order to implement the goals and objectives of the Western Riverside MSHCP and to mitigate the impacts caused by new development, lands supporting species covered by the MSHCP must be acquired and conserved. A development mitigation fee is necessary in order to supplement the financing of the acquisition of lands supporting species covered by the MSHCP and to pay for new development's fair share of this cost (County of Riverside 2003). The development mitigation fee assists in the maintenance of biological diversity and protects vegetation communities which are known to support threatened, endangered or sensitive populations of plant and wildlife species.

***Tree Ordinance***

Ordinance No. 923 of the City amends the municipal code to add chapter 14.40 adopting regulations for the planting and maintenance of trees within the city. Public right-of-way and Park Trees shall be maintained by the responsible party or entity. For the City, the responsibility and authority for public tree care shall be vested with the Public Works and Parks and Community Services Departments. It is unlawful for any person to cause Tree Topping to any Street Tree, Park Tree, or other tree on public property. It is also unlawful for any person to vandalize or damage any parkway tree, public right-of-way tree, or park tree, or violate any provision contained in the Ordinance with regard to such trees. Any violation of this Ordinance shall be punishable by a fine not to exceed $1,000.00. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be subject to Tree Topping at the discretion of the City. Trees located on the project site shall be maintained by the property owner.

## 4.3.2 Existing Conditions

A general biological survey and vegetation mapping of the project site was conducted in December 2018; a formal delineation of jurisdictional waters was conducted in March 2019; focused special-status species surveys were conducted in March through June 2019, and included surveys for both burrowing owl (*Athene cunicularia*), and special-status plants.

The study area is predominantly developed with the existing Kaiser Permanente Moreno Valley Medical Center campus and associated paved parking lots. The southern boundary of the study area includes residential development to the south of Iris Avenue, and undeveloped land occurs along the northern, eastern, and western boundaries of the study area. A dialysis center is also located to the east of the study area. Restored native scrub vegetation is located within the western portion of the study area, associated with a water quality detention basin and adjacent undeveloped land to the south of the basin. Non-native grasses and compacted bare ground, with a temporary construction yard, characterize the northern portion of the study area. Scattered ornamental landscaped trees and grass sod occur throughout the developed portions of the study area associated with the medical campus.

Iris Avenue borders the study area to the south, and undeveloped grassland fields occur to the north, east, and west. Land use in the vicinity of the study area includes residential development to the south across Iris Avenue, to the east across Oliver Street, and to the west across Nason Street. A concrete-lined flood control channel is located north of the study area, and several water quality basins have been previously installed between the study area and the flood control channel.

Land use within the study area is currently zoned for Office Commercial and Community Commercial, and the site files within the Medical Use Overlay district (City of Moreno Valley 2017). The land use designations for the property are Commercial and Office/Residential, as well and Medical Uses consistent with the Medical Use Overlay district. No significant topographic features occur on the study area. The study area is relatively flat and occurs at an elevation range of 1,510 feet above mean sea level (AMSL) to 1,560 feet AMSL. Representative photographs of the study area are included in Attachment B in Appendix C, Biological Resources Technical Report.

**Hydrology**

The study area is located within the San Jacinto River Watershed, specifically within the Moreno Valley subwatershed (HUC 12) within the lower San Jacinto River watershed (HUC 10) (Figure 4, Hydrologic Units, in Appendix C). The San Jacinto River watershed encompasses approximately 732 square miles and drains to the Santa Ana River through Lake Elsinore and Temescal Wash. Major tributaries include Bautista Creek, Poppet Creek, Potrero Creek, Perris Valley Drain, and Salt Creek. The San Jacinto River is the major drainage course within the San Jacinto Valley. According to the Water Quality Control Plan for the Santa Ana River Basin (RWQCB 2016), the San Jacinto River collects flows from its headwaters in the San Bernardino Mountains and then passes through sandy washes where flow typically percolates into groundwater basins on its way to Canyon Lake, where remaining flows are dammed. From Canyon Lake, the San Jacinto River continues west to cross beneath I-15 to Lake Elsinore, which typically acts as a “sink” for inland flows. During years with high rainfall, however, Lake Elsinore overflows into Temescal Creek, which confluences with the Santa Ana River near the City of Corona. The Santa Ana River flows west until it reaches the Pacific Ocean (RWQCB 2016).

The nearest waterbody to the study area is a canal located approximately 0.15 miles to the northwest. This canal appears to convey flow collected from Mount Russell on the north side of Lake Perris. The canal then joins a series of additional canals before its confluence with the San Jacinto River just east of Highway 74. The National Hydrography Dataset (USGS 2018) depicts an intermittent stream entering the study area from the south and terminating within the existing hospital footprint.

A review of the National Wetland Inventory dataset revealed there is one wetland type—riverine habitat—mapped within the southern portion of the study area, and is classified as riverine, intermittent, streambed, seasonally flooded wetlands (R4SBC) (USFWS 2018). Two freshwater ponds are mapped approximately 420 feet to the north and approximately 460 feet to the west of the study area, and both are classified as palustrine, unconsolidated bottom, artificially flooded wetlands (PUBFx). One riverine feature is mapped approximately 410 feet to the northwest of the study area, and is classified as riverine, intermittent, streambed, temporarily flooded wetlands (R4SBA).

Beneficial uses for ephemeral streams within San Jacinto River Basin, in which the study area is located, include municipal and domestic supply, agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat. All beneficial uses are on an intermittent basis (RWQCB 2016).

A review of the National Wetland Inventory (NWI) dataset revealed one aquatic resources within the study area (USFWS 2019). This feature is historic and does not correspond with the National Hydrology Dataset.

- **R4SBC (Riverine, intermittent, streambed, seasonally flooded)** – This type of wetland includes natural or artificial channels/streambeds that support flowing water periodically. Surface water is present for extended periods, but absent by the end of the growing season in most years. The water table typically occurs well below the soil surface. This resource was mapped in the southern portion of the project site associated with the Bernasconi Hills located south of the study area. This feature was mapped as discontinuous and occurred next to other wetland features associated with Bernasconi Hills.

**Soils**

According to the Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA 2018a), the study area occurs within the Western Riverside Area, California (Version 11, September 12, 2018). Five soil types are mapped within the study area: Gorgonio loamy sand, deep, 2% to 8% slopes; Greenfield sandy loam, 2% to 8% slopes, eroded; Hanford coarse sandy loam, 2% to 8% slopes; and San Emigdio loam, 0% to 2% slopes, and 2% to 8% slopes (Appendix C, Figure 3).

Gorgonio soils consist of gravelly loamy fine sand, and somewhat stratified. Gorgonio soils commonly occur in Riverside County on nearly level to moderate slopes and alluvial fans.

Greenfield soils consist of deep, well-drained soils formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils typically occur on fans and terraces with slopes ranging from 0% to 30%.

Hanford soils consist of very deep, well-drained soils formed in moderately coarse textured alluvium dominantly from granite. Hanford soils typically occur on stream bottoms, floodplains, and alluvial fans with slopes ranging from 0% to 15%.

San Emigdio soils consist of very deep, well-drained soils formed in dominantly sedimentary alluvium. San Emigdio soils commonly occur in Riverside County on alluvial fans, floodplains, and in narrow valleys with slopes ranging from 0% to 15%. No soils mapped within the study area are listed as a hydric soil by the NRCS for the Western Riverside Area, California (USDA 2018b).

**Vegetation Communities and Land Covers**

The study area consists of a combination of an upland native scrub community, and unvegetated land covers. The following natural vegetation communities were mapped within the study area: Riversidean sage scrub, desert saltbush scrub, southern riparian scrub, and non-native grassland (Appendix C, Figure 4). Two other non-natural and unvegetated land covers are mapped on the study area including disturbed habitat, and urban/developed land. These natural vegetation communities and land covers were mapped based on general physiognomy, species composition, and/or ground cover and are discussed in detail further below. Table 4.3-1 summarizes the extent of each vegetation community or land cover within the study area.

**Table 4.3-1**
**Vegetation Communities and Land Covers within the Study Area**

| Vegetation Community or Land Cover | Map Code | Acreage |
|---|---|---|
| *Natural Vegetation Communities* | | |
| Riversidean Sage Scrub | RS | 0.62 |
| Desert Saltbush Scrub | DSAS | 1.55 |
| Southern Riparian Scrub | SRS | 0.38 |
| Non-Native Grassland | NNG | 12.28 |
| *Non-Natural and Unvegetated Land Covers* | | |
| Disturbed Habitat | DH | 2.68 |
| Urban/Developed | DEV | 25.58 |
| | **Total** | **43.09** |

**Source:** Appendix C.

***Natural Vegetation Communities***

**Riversidean Sage Scrub (Encelia farinosa-Artemisia californica association)**. This community includes California sagebrush (*Artemisia californica*) as the dominant species in the shrub canopy, with a co-dominance of California buckwheat (*Eriogonum fasciculatum*) and California brittlebush (*Encelia farinosa*). This community contains an open to intermittent canopy less than

2 meters in height, with an herbaceous layer that is open with seasonal annuals (Sawyer et al. 2009). This community typically occurs within the drought-tolerant end of the coastal sage scrub and the creosote bush scrub types. Other species observed within this community include common sunflower (*Helianthus annuus*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and shortpod mustard (*Hirschfeldia incana*).

**Desert Saltbush Scrub (Atriplex lentiformis association)**. This community is dominated by quailbush (*Atriplex lentiformis*) with a sub-dominance of fourwing saltbush (*Atriplex canescens* var. *canescens*). Desert saltbush scrub contains the large, fast-growing quailbush shrub that tolerates very alkaline soils and can succeed in hot, dry climates (Sawyer et al. 2009). This community also commonly occurs in disturbed areas. Other species observed in this community include seasonal annuals such as rat-tail fescue (*Festuca myuros*), longbeak stork's bill (*Erodium botrys*), and red brome (*Bromus madritensis* ssp. *rubens*). There are some areas of open bare ground within the western portion of this community.

**Southern Riparian Scrub (Salix lasiolepis shrubland alliance)**. This community includes a dominance of arroyo willow (*Salix lasiolepis*), with a co-dominance of black willow (*Salix gooddingii*), and Fremont cottonwood (*Populus fremontii*). This community contains an open to continuous canopy less than 10 meters in height, with an herbaceous layer that is variable and emergent trees present at low cover (Sawyer et al. 2009). This community typically occurs along stream banks, benches, slope seeps, and stringers along drainages. Other species observed in this community include creeping wild rye (*Elymus triticoides*), narrowleaf willow (*Salix exigua* var. *hindsiana*), mulefat (*Baccharis salicifolia*), western ragweed (*Ambrosia psilostachya*), and tamarisk (*Tamarix ramosissima*).

**Non-Native Grassland (Bromus madritensis ssp. rubens-Schismus barbatus alliance)**. This community includes a dominance of red brome with a co-dominance of other non-native annual grasses such as common Mediterranean grass (*Schismus barbatus*), Bermuda grass (*Cynodon dactylon*), and rat-tail fescue. This herbaceous community contains an intermittent to continuous canopy less than 75 cm in height (Sawyer et al. 2009). This community typically occurs in previously disturbed or grazed areas. Other species observed in this community include fountain grass (*Pennisetum setaceum*), shortpod mustard, prickly Russian thistle (*Salsola tragus*), stinknet (*Oncosiphon piluliferum*), and a lone narrowleaf willow. Additionally, a small row of mulefat shrubs occurs along the northern project site boundary within the non-native grassland community.

### *Non-Natural and Unvegetated Land Covers*

**Disturbed Habitat.** The disturbed (or barren) mapping unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer (2008). The disturbed or barren mapping unit refers to areas that lack vegetation but still retain a pervious surface, or that are dominated by a sparse cover of ruderal vegetation such as Maltese star-thistle (Centaurea melitensis), wild oat, black mustard (Brassica nigra), spiny sowthistle (Sonchus asper), and prickly lettuce (Lactuca serriola). Disturbed habitat is mapped for the northeastern portion of the study area associated with a maintenance yard and facilities, as well as the surrounding dirt lot. The disturbed habitat within the study area is characterized mainly by compacted bare ground and scattered non-native weedy species such as rattail fescue (Festuca myuros), and Russian thistle.

**Developed mapping unit**. The developed mapping unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer (2008). Developed land typically includes areas that have been constructed upon and do not contain any naturally occurring vegetation. These areas are generally characterized as graded land with asphalt and concrete placed upon it. Developed areas mapped for the study area include existing hospital medical campus buildings, parking lots, and paved access roads. Ornamental shrubs and trees were observed within landscaped areas associated the developed land. Tree species observed include Mexican fan palm (*Washingtonia robusta*), and Peruvian peppertree (*Schinus molle*). No native vegetation was observed within developed areas on the study area.

### Floral Diversity

A total of 23 species of vascular plants were recorded within the study area, consisting of 15 native (68%) and 7 non-native (32%) species. Dominant plant species detected within the study area included Bermudagrass, California sagebrush, big saltbush, and. Plant species observed within the study area are listed in Attachment D of Appendix C.

### Wildlife

The study area mainly consists of disturbed and developed land that supports mostly unvegetated communities and scattered native habitat. Wildlife use was limited during the reconnaissance. A total of seven bird species were detected within the study area, including American goldfinch (*Spinus tristis*), western kingbird (*Tyrannus verticalis*), and mourning dove (*Zenaida macroura*). No active bird nests were observed during the field visit; however, the study area could support nesting migratory birds. A single mammal species, desert cottontail (*Sylvilagus audubonii*), was observed during the survey. One reptile species, western fence lizard (*Sceloporus occidentalis*), was observed within the study area. No amphibian species were observed within the study area. Wildlife species observed within the study area are listed in Attachment D of Appendix C. Details regarding the potential for special-status species to occur within the study area are discussed further below.

### Special-Status Plant Species

Special-status plants include those listed, or candidates for listing, as threatened or endangered by USFWS or CDFW, or species covered by the MSHCP, or species identified as rare by CNPS (particularly CRPR 1A – Presumed extinct in California; CRPR 1B – Rare, threatened, or endangered throughout its range; and CRPR 2 – Rare or Endangered in California, more common elsewhere). A total of 64 special-status plant species were reported in the CNDDB, USFWS, and CNPS databases as occurring in the vicinity of the study area. Attachment D of Appendix C includes the species lists provided from these database searches that were evaluated as part of this assessment. For each species evaluated, a determination was made regarding the potential for the species to occur on site based on information gathered during the field reconnaissance, including the location of the site, habitats present, current site conditions, and past and present land use.

Of the 64 special-status plant species listed in the CNDDB, CNPS, and USFWS databases as occurring in the vicinity of the study area, 51 species were determined to have no potential to occur within the study area based on an evaluation of species ranges/elevation and known habitat preferences. Six special-status species was determined to have a low potential to occur due to limited suitable habitat within the study area. However, six species were determined to have at least a moderate potential to occur within the study area: thread-leaved brodiaea (*Brodiaea filifolia*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), white-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*), California satintail (*Imperata brevifolia*), San Bernardino aster (*Symphyotrichum defoliatum*), and California screw-moss (*Tortula californica*). Table 4.3-2 summarizes the special-status plant species evaluated in Appendix C that have at least a moderate potential to occur within the study area. Species with a low potential or are not expected to occur are omitted from further discussion. No special-status plant species were detected within the study area. Additionally, there is no USFWS-designated critical habitat for listed plant species within the study area (USFWS 2019).

**Table 4.3-2**
**Special-Status Plant Species Detected or with a Moderate to High Potential to Occur within the Study Area**

| Scientific Name | Common Name | Federal/State/CNPS Status | Potential to Occur within Study Area |
|---|---|---|---|
| *Brodiaea filifolia* | thread-leaved brodiaea | FT/SE/1B.1 | Moderate |
| *Chorizanthe parryi* var. *parryi* | Parry's spineflower | None/None/1B.1 | Moderate |
| *Chorizanthe xanti* var. *leucotheca* | white-bracted spineflower | None/None/1B.2 | Moderate |
| *Imperata brevifolia* | California satintail | None/None/2B.1 | Moderate |
| *Symphyotrichum defoliatum* | San Bernardino aster | None/None/1B.2 | Moderate |
| *Tortula californica* | California screw-moss | None/None/1B.2 | Moderate |

**Source:** Appendix C.

**State Status**
SE: State listed as endangered
**CNPS Status (California Native Plant Society)**
***California Rare Plant Rank (CRPR)***
1A: Plants presumed extirpated in California and either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2A: Plants presumed extirpated in California, but common elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which more information is needed – a review list
4: Plants of limited distribution – a watch list
***Threat Ranks:***
.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 Moderately threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)
.3 Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

### Special-Status Wildlife Species

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by USFWS or CDFW, or designated as a Species of Special Concern by CDFW, or covered species under the MSHCP. A total of 61 special-status wildlife species were reported in the CNDDB and USFWS databases as occurring in the vicinity of the study area. Attachment E of Appendix C summarizes the special-status wildlife species that were included in these databases and evaluated as part of this assessment. For each species evaluated, a determination was made regarding the potential use of the site based on information gathered during the field reconnaissance, known habitat preferences, and knowledge of their relative distributions in the area.

Of the 61 special-status wildlife species listed in the CNDDB and USFWS databases as occurring in the vicinity of the study area, 35 species were determined to have no potential to occur within the study area based on an evaluation of species ranges/elevation and known habitat preferences. A total of 19 special-status species were determined to have a low potential to occur due to limited suitable habitat within the study area. Five special-status wildlife species have at least a moderate potential to occur within the study area based on the vegetation communities (habitat) present, elevation range, and previous known locations. The following four species have a moderate potential to occur: California glossy snake (*Arizona elegans occidentalis*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).Burrowing owl (*Athene cunicularia*) is the only species with a high potential to occur within the study area. Table 4.3-3 summarizes the special-status wildlife species evaluated in Appendix C that have at least a moderate potential to occur within the study area. Species with a low potential or are not expected to occur are omitted from further discussion. No wildlife species listed or proposed for listing as rare, threatened, or endangered by either CDFW or USFWS were detected within the study area during the site reconnaissance.

**Table 4.3-3**
**Special-Status Wildlife Species Detected or with a Moderate to High Potential to Occur within the Study Area**

| Scientific Name | Common Name | Federal/State Status | Potential to Occur within Study Area |
|---|---|---|---|
| *Reptiles* | | | |
| *Aspidoscelis hyperythra* | California glossy snake | None/WL | Moderate |
| *Aspidoscelis tigris stejnegeri* | coastal whiptail | None/SSC | Moderate |
| *Birds* | | | |
| *Athene cunicularia* | Burrowing owl | None/SSC | High |
| *Mammals* | | | |
| *Chaetodipus fallax fallax* | northwestern San Diego pocket mouse | None/SSC | Moderate |
| *Lepus californicus bennettii* | San Diego black-tailed jackrabbit | None/SSC | Moderate |

**Source:** Appendix C.
**Federal Status**
FT: Federally listed as threatened
**State Status**
ST: State threatened
SSC: California special concern species

### *California Glossy Snake*

California glossy snake is a state Watch List species that occurs in desert habitats and also chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass at an elevation from below sea level to 1,830 meters (6,000 feet) (CDFW 2016a). This snake is common throughout Southern California especially in desert regions, and less common to the north, in the interior Coast Ranges as far as Mount Diablo. This species is primarily nocturnal, glossy snakes spend periods of inactivity during the day and during winter in mammal burrows and rock outcrops, and to a lesser extent under surface objects such as flat rocks and vegetation residue. California glossy snake will occasionally burrow in loose soil.

California glossy snake has a moderate potential to occur within the open sandy areas and scattered sage scrub vegetation on the study area. Suitable habitat for this species extends further to the north, east, and west from the study area, within off-site areas. This species was not observed on the study area during any of the biological reconnaissance or during focused surveys for other species conducted for the project.

### *Coastal Whiptail*

Coastal whiptail is found throughout the state except in the humid northwest, along the humid outer Coast Ranges, or mountainous regions above 2,290 meters (7,500 feet) (CDFW 2000). This whiptail is widely distributed but uncommon over much of its range in California, except in desert regions where it is abundant in suitable habitats. The species occurs in a variety of habitats including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, mixed conifer, pine-juniper, chamise-redshank chaparral, mixed chaparral, desert scrub, desert wash, alkali scrub, and annual grassland. Whiptails forage actively on the ground near the base of vegetation and are always most common in and around dense vegetation. Whiptails are primarily diurnal, and in the deserts most activity occurs in the morning.

Coastal whiptail has a moderate potential to occur within the sage scrub and grassland vegetation on the study area. Suitable habitat for this species extends further to the north, east, and west from the study area, within off-site areas. This species was not observed on the study area during any of the biological reconnaissance or focused surveys for other species conducted for the project.

***Burrowing Owl***

Burrowing owl is a California Species of Special Concern that occurs in open, sparse vegetation with few shrubs on level to gentle topography and well-drained soils (CDFW 2012). Typical habitats include grasslands, shrub steppe, and desert scrub with perches and open areas for foraging. This species also forages within habitat mosaics of short-growing vegetation where prey such as arthropods, small rodents, reptiles, and carrion occur (CDFW 2012). The burrowing owl requires underground burrows, dug by small mammals, or other cavities for nesting during breeding, and for roosting cover year round. They may also use adjacent satellite burrows to reduce the risk of predation. Threats to burrowing owls include habitat loss, degradation, and fragmentation related to urbanization throughout California.

Burrowing owl has a high potential to occur within the non-native grassland and undeveloped disturbed habitat areas that are characterized by low-growing sparse vegetation. Suitable habitat for this species extends further to the east and north from the study area, within off-site areas. Therefore, focused surveys for burrowing owl were initiated in March 2019 and identified several burrows on the northern portion of the study area, however, this species was not observed on the study area during focused surveys conducted for the project.

***Northwestern San Diego Pocket Mouse***

The northwestern San Diego pocket mouse is a common resident of sandy herbaceous areas, usually in association with rocks or course gravel, and occurs mainly in arid coastal and desert border areas (CDFW 2016b). This pocket mouse occurs at an elevational range from sea level to 1,350 meters (4,500 feet). This species associated habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. The highest densities of this species occur in rocky/gravelly areas with a yucca overstory, and in desert scrub near or in the pine-juniper belt. Burrows are excavated in gravelly or sandy soil and used for daytime resting, predator escape, and care of young.

The northwestern San Diego pocket mouse has a moderate potential to occur within the sage scrub and grassland vegetation on the study area. Suitable habitat for this species extends further to the north, east, and west from the study area, within grassland areas off site. This species was not observed on the study area during any of the biological reconnaissance or focused surveys conducted for the project.

***San Diego Black-Tailed Jackrabbit***

The San Diego black-tailed jackrabbit is common throughout California, except at the highest elevations, and it is abundant at lower elevations in herbaceous and desert-shrub areas and open, early stages of forest and chaparral habitats (CDFW 2016c). It uses shrubs for cover in the intermediate canopy stages of shrub habitats, and open shrub/herbaceous and tree/herbaceous edges provide suitable habitat. The San Diego black tailed jackrabbit has a moderate potential to occur within the sage scrub and grassland vegetation on the study area. Suitable habitat for this species extends further to the north, east, and west from the study area, within grassland areas off site. This species was not observed on the study area during any of the biological reconnaissance or focused surveys conducted for the project.

**Jurisdictional Waters and Wetlands**

One basin and one spillway were recorded within the study area. These features are described in more detail below. The limits of jurisdictional waters are provided on Figure 5 in Appendix C, and representative photos are provided in Attachment B of Appendix C. The results of all data stations are listed in Attachment F of Appendix C.

***Waters of the United States***

The study area does not contain jurisdictional waters of the United States because no features were determined to connect downstream to any relatively permanent water (RPW) or traditional navigable water (TNW) that would be considered waters of the United States.

***Waters of the State***

Basin

A detention basin was installed in the west-central portion of the study area, within the project site boundary, sometime between January 2006 and June 2008. The construction of the basin appears to have been associated with the previous expansion of the Medical Center (prior to Kaiser Permanent's ownership) that constructed a new building and additional surface parking. The basin appears to have also been associated with the preparation of land north of the study area for residential development and its associated flood control features. It appears that the basin remained mostly unvegetated after it was constructed, but vegetation started to become established between 2014 and 2016 based upon available aerial imagery (Google Earth 2019).

This feature appears to detain runoff from Kaiser Permanente Moreno Valley Medical Center hospital parking lots via storm drains that enter the basin from the south and the east. Outlet structures are located in the northwest corner and in the center of the basin. The central outlet is assumed to lead to a storm drain, while the northwestern outlet leads to a series of flood control basins located north of the study area. The flood control basins do not have an apparent outlet, but seem to act as overflow from Riverside County Flood Control District Facility (Line F) and appear to have been installed in coordination with the development project north of the study area that has not been built out.

The basin exhibits a defined bed and bank, with the banks vegetated with sage scrub species such as California sagebrush and quailbush. The basin bottom contains bare ground, but is also vegetated with a meandering trail of beardless wild rye. The beardless wild rye appears to be installed and leads from each basin inlet towards the outlet in the center. A small patch of riparian vegetation, including black willow and mulefat, is located in the southwestern corner, adjacent to the basin inlet. Due to the presence of riparian vegetation, the basin was evaluated for federal and state wetlands. Two data stations were taken within the basin. Each supported a dominance of hydrophytic vegetation, comprised of mulefat, black willow, and salt cedar, but did not support wetland hydrology indicators or hydric soils.

The basin serves as a waterbody in the immediate area. As such, it demonstrates the following intermittent beneficial uses as described for ephemeral streams in the region: groundwater recharge, warm freshwater habitat, and wildlife habitat.

Due to absence of hydric soils and hydrology, the lack of connectivity to downstream waters of the U.S., and based on substantial beneficial use and the presence of an OHWM (defined bed and bank), the basin is determined to be non-wetland waters of the state under the jurisdiction of the RWQCB. Additionally, CDFW may assert jurisdiction over this feature as a streambed with riparian vegetation.

<u>Spillway</u>

A concrete spillway is located in the northern portion of the study area. It appears that this feature was originally created to facilitate flows from the Kaiser property into the flood control basins north of the study area, as described for the basin in the previous section. The flood control basins to the north do not have an apparent outlet, but seem to act as overflow from Riverside County Flood Control District's Facility Line F and appear to have been installed in coordination with the development project north of the study area that has not been built out. The spillway contains a defined bed and bank, but does not appear to currently convey flows into the flood control basins.

The flood control basins north of the study area serve as a waterbody in the immediate area. As such, they demonstrate the following intermittent beneficial uses as described for ephemeral streams in the region: groundwater recharge, warm freshwater habitat, and wildlife habitat. While the spillway by itself does not demonstrate these beneficial uses, it facilitates these uses through the flood control basins through which it is attached.

Due to the lack of connectivity to downstream waters of the U.S., and based on substantial beneficial use and the presence of an OHWM (defined bed and bank), the basin is determined to be non-wetland waters of the state under the jurisdiction of the RWQCB. Additionally, CDFW may assert jurisdiction over this feature as a streambed.

### *Non-jurisdictional Features*

<u>Swale</u>

A swale is located on the northern side of the proposed project in the northwestern corner. This feature is a round bottom grassy swale created in uplands. The purpose of the swale appears to be to collect runoff from the Kaiser property to the east and convey it to the detention basins to the north; however, no evidence of flow was present in the swale at the time of the visit. A ditch is evident at this approximate location in aerials from 1978 to 2004 (Nationwide Environmental Title Research 2019; Google Earth 2019) and appears to be part of a series of ditches presumably used for irrigation. An intermittent stream is depicted on the USGS topographic map and National Hydrography Dataset immediately south of the swale. This stream is depicted as flowing from the hills to the south, continuing north, and terminating on the property. Development occurs to the south where this stream was mapped as occurring historically. On historic aerials, indicators of sheetflow are evident on the 1978 aerial photograph in the approximate location of this mapped stream. Both the irrigation ditch and the sheetflow are present and do not appear to be connected. The stream and/or associated sheetflow are not visible on photographs subsequent to the 1978 photograph.

The present day swale may be a remnant of the historic irrigation ditch; however, it does not appear to have been a part of the historic mapped drainage that flowed north from the hills adjacent to the Perris Reservoir, south of the study area. The existing Kaiser Permanente Moreno Valley Medical Center has since been designed so that stormwater from the parking lots can sheet flow into the undeveloped land to the north. This feature resembled a swale, with no defined bed or bank, and no other OHWM indicators. A spillway is present at the northern end of the swale at the northwest corner of the Kaiser property and was developed between 2014 and 2016. This spillway leads to the constructed basins north of the study area. It is possible that this spillway was created at the time as a part of a large plan for the hospital to tie their storm drain system into the basins; however, there are no remaining indicators that this feature ties into the basin.

Due to the presence of a single sandbar willow sapling (*Salix exigua*), the swale was assessed for federal and state wetlands. One data station was taken within the swale. This data station did not support wetland hydrology indicators, hydric soils, or a dominance of hydrophytic vegetation. Table 4.3-4 summarizes the results of the data stations and is followed by further description of the indicators observed. Attachment F of Appendix C provides the data collected at each data station on the ACOE's Wetland Determination Data Forms for the Arid West Region.

**Table 4.3-4**
**Data Station Point Summary**

| Data Station | Wetland Determination Field Indicators | | | Vegetation Community | Determination | Jurisdiction |
|---|---|---|---|---|---|---|
| | *Vegetation* | *Hydric Soils* | *Hydrology* | | | |
| 1 | None | None | None | California annual grassland | Non-Jurisdictional | None |
| 2 | ✓ | None | None | Southern riparian scrub | Non-Jurisdictional | Non-Wetland |
| 3 | ✓ | None | None | Southern riparian Scrub | Non-Jurisdictional | Non-Wetland |

**Source:** Appendix C.

The swale is not a water of the U.S. due to lack of OHWM indicators and characteristics of a swale. Due to the lack of OHWM indicators and absence of a dominance of hydrophytic vegetation, hydric soils, and hydrology, the swale does not qualify as a water of the state and is not under RWQCB jurisdiction. The swale has a round bottom and no defined bed or bank. It also does not support riparian vegetation; therefore, it is not a streambed and is not under CDFW jurisdiction.

***Jurisdictional Delineation Conclusion***

The study area supports one feature that is considered waters of the state under the jurisdiction of the RWQCB and CDFW, the basin. Table 4.3-5 summarizes the total acreage of this feature within the study area.

**Table 4.3-5**
**Jurisdictional Waters within the Study Area**

| Feature | Vegetation Community | Non-Wetland Waters of the State (RWQCB/CDFW) (Acres/Linear Feet) | Additional Streambed (CDFW-Only) (Acres) |
|---|---|---|---|
| Basin | Riversidean Sage Scrub | — | 0.54 |
| | Southern Riparian Scrub | 0.38/248 | — |
| | Non-Native Grassland | 0.10/220 | — |

**Table 4.3-5**
**Jurisdictional Waters within the Study Area**

| Feature | Vegetation Community | Non-Wetland Waters of the State (RWQCB/CDFW) (Acres/Linear Feet) | Additional Streambed (CDFW-Only) (Acres) |
|---|---|---|---|
| | Urban/Developed | 0.03/255 | — |
| | **Total*** | **0.51** | **0.54** |

**Source:** Appendix C.
**Notes**:
* Acreage may not total due to rounding.
RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.

### Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The entire study area is located in the southern portion of Moreno Valley, just north of Lake Perris. Undeveloped land surrounding Lake Perris, to the south of the study area, provides opportunities for wildlife movement from the badlands and the San Jacinto Wildlife Refuge in the east towards Lake Perris in the west. However, residential development is located between the study area and the undeveloped land to the south, restricting the potential for wildlife to use the study area as part of this regional movement corridor. To the north, a concrete-line flood control channel and surrounding undeveloped land facilitates the movement of wildlife from the badlands and agricultural land to the east, towards a series of concrete-lined channels and lakes to the west. A brick and chain-link fence borders the property boundary to the north, restricting the passage of medium-sized mammals from the study area to undeveloped land to the north. Although local wildlife and raptors could use the undeveloped portions of the study area for foraging and stop over when flying through the region, there are no portions of the study area that would facilitate the movement of wildlife or function as a corridor between larger blocks of habitat.

## Western Riverside County MSHCP

This section addresses the consistency of the proposed project with the requirements of the MSHCP. The project site is located within the Reche Canyon/Badlands Area Plan, which has portions of 10 conservation areas: Existing Core K, Proposed Core 4, Proposed Core 5, Proposed Core 6, Proposed Core 7, Proposed Linkage 11, Proposed Linkage 13, Proposed Linkage 14, Proposed Linkage 15, and Proposed Linkage 16. The project site is not located within any existing Core Areas or Linkages, and is not mapped within any criteria cells (Appendix C, Figure 6a).

Chapter 6 of the MSHCP outlines additional implementation measures with which permittees must comply. The relevant section of the MSHCP, requirements, and proposed project's consistency with the requirement are outlined below.

- MSHCP Section 6.1.2, Riparian/Riverine and Vernal Pools Guidelines: Compliance is discussed in Section 6.9.1 of the Biological Resources Technical Report (Appendix C).
- MSHCP Section 6.1.3, Narrow Endemic Plant Species: The project site is within a Narrow Endemic Plant Species Survey Area. Compliance is discussed in Section 6.9.2 of the Biological Resources Technical Report (Appendix C).
- MSHCP Section 6.1.4, Urban Wildlands/Interface Guidelines: Compliance is discussed in Section 6.9.3 of the Biological Resources Technical Report (Appendix C).
- MSHCP Section 6.3.2, Additional Survey Requirements: This section of the MSHCP outlines survey requirements for criteria area plant species, burrowing owl, mammals, and amphibians. The project site is within the burrowing owl survey area. Compliance is discussed in Section 6.9.4 of the Biological Resources Technical Report (Appendix C).

### *Riparian/Riverine and Vernal Pool Habitat*

The MSHCP defines riparian/riverine areas as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." In addition, riverine areas (streams) include areas that "do not contain riparian vegetation, but that have water flow for all or a portion of the year, and contain biological functions and values that contribute to downstream habitat values for covered species inside the MSHCP Conservation Area."

### *Riparian/Riverine Habitat*

A detention basin occurs in the northwest corner of the study area that was surveyed by Dudek as part of the jurisdictional delineation in March 2019 to determine if it contains riparian/riverine habitat. The detention basin contains 0.38 acre of southern riparian scrub vegetation within the bottom of the basin consisting of hydric grasses and mature trees, and surrounded by Riversidean sage scrub vegetation on the upland slopes. The detention basin receives stormwater flows from Iris Avenue to the south, as well as sheet flow during storm events from adjacent upland areas within the study area. The basin serves as a first-flush water quality detention basin that will outlet to the storm drain system and flood control basins to the north when water levels reach the height of the outlet drains. Although the detention basin contains southern riparian scrub vegetation, it does not provide habitat to support riparian species covered by the MSHCP. Additionally, the basin does not contribute to downstream habitat values for covered species inside the MSHCP Conservation Area. Therefore, by definition the vegetation within the detention basin does not meet the MSHCP definition of riparian/riverine areas, and no additional steps are required under the MSHCP.

***Vernal Pools and Fairy Shrimp Habitat***

There are no soils associated with vernal pools within the project site, including clay soils or soils of the Willows/Travers/Domino series. No stock ponds, ephemeral pools, or other similar features that would provide potential habitat were observed during biological surveys within the study area.

The detention basin located in the west-central portion of the study area temporarily contains water only during storm events and therefore would not support vernal pool species that are dependent on the alternation of seasonal drying and ponding. Outside of the detention basin, no other undeveloped areas showed signs of inundation even after recent rainfall and showed no indicators of prolonged ponding that would support vernal pools and fairy shrimp habitat. Additionally, based on the soils present and the history of the site, the project site does not support vernal pools or fairy shrimp habitat.

***Narrow Endemic Plant Species***

The project site is not mapped within the survey area for any narrow endemic plant (NEP) species. However, focused rare plant surveys were conducted on the study area for thread-leaved brodiaea, Parry’s spineflower, white-bracted spineflower, California satintail, San Bernardino aster, and California screw-moss. Thread-leaved brodiaea and Parry’s spineflower are both covered species under the MSHCP, but are not listed as NEP species. No NEP species or other rare plants were found on the study area and no additional actions are required.

***Urban/Wildlands Interface Guidelines***

As discussed above, the project site is not located within any Core areas and does not overlap any criteria cells. Development within or in proximity to MSHCP Conservation Areas requires compliance with the MSHCP Section 6.1.4 Urban/Wildlands Interface Guidelines to address potential indirect effects. Standard construction BMPs and construction-related minimization measures to control dust, erosion, and runoff, including, but not limited to, straw bales and silt fencing, will be implemented during the proposed project improvements to minimize these effects. Specific elements addressed in the proposed project design include:

**Drainage**. The project would not adversely alter the quantity or quality of runoff discharged to the MSHCP Conservation Area. An isolated detention basin occurs in the northwest corner of the study area that receive upland stormwater flows and outlets to the storm drain system during high flows. Therefore, no drainage flows will enter into or adversely affect the MSHCP Conservation Areas to the north and further to the south within Lake Perris.

**Toxics**. There would be no change to the handling and use of toxic chemicals (such as pesticides and fertilizers) currently used on the project site. As a result, no toxic discharges that would adversely affect the MSHCP Conservation Area are anticipated.

**Lighting**. There would be no change to the use or type of night lighting currently used on the project site. As a result, no adverse lighting effects to the MSHCP Conservation Area are anticipated.

**Noise**. Noise levels during and after construction will not exceed residential noise standards. The proposed improvements will complement the project design and not result in adverse noise effects to the MSHCP Conservation Area.

**Invasives**. There would be no change to the use or type of landscaping currently used on the project site. Use of non-native, invasive plant species would be avoided. As a result, no adverse invasive effects to the MSHCP Conservation Area are anticipated.

**Barriers**. There would be no change to the use or type of fencing currently used on the project site. As a result, no adverse barrier effects to the MSHCP Conservation Area are anticipated.

**Grading and Land Development**. Land clearing and minor grading is anticipated to implement the proposed project. However, standard construction BMPs and construction-related minimization measures will be implemented to minimize potential dust, erosion, and runoff effects. Additionally, no manufactured slopes within the MSHCP Conservation Area are proposed as part of the project design. As a result, no adverse grading effects to the MSHCP Conservation Area are anticipated.

The proposed project would not result in long-term adverse edge effects that may affect biological resources within areas proposed for conservation for the MSHCP that are located in off-site areas. The project would not facilitate unauthorized public access, domestic animal predation, illegal trespass, or dumping into any MSHCP Conservation Areas. Therefore, the proposed project is consistent with the MSHCP Urban/Wildlands Interface Guidelines.

#### *Additional Survey Requirements*

The project site is located within a survey area for burrowing owl (Appendix C, Figure 6b). A focused survey for burrowing owl was conducted by Dudek in March through May 2019, as described in Section 6.6.3 (Appendix C). The results of the survey were negative, therefore, burrowing owl is currently considered absent from the study area. However, due to the presence of suitable burrows and habitat, there is a potential for burrowing owl to move onto the site prior to construction and a pre-construction survey should be conducted. No other additional focused survey areas were mapped for the study area according to the MSHCP.

## 4.3.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

BIO-1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game[1] or U.S. Fish and Wildlife Service.

BIO-2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

BIO-3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

BIO-4. Interfere substantially with the movement of any native 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.

BIO-5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

BIO-6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## 4.3.4 Impacts Analysis

This section addresses direct, indirect, and cumulative impacts to biological resources that would result from implementation of the proposed project. Full buildout (through Phase III) of the project was considered for this impact analysis.

1 Although the California Department of Fish and Game changed its name to California Department of Fish and Wildlife effective January 1, 2013, this language is taken directly from Appendix G of the CEQA Guidelines and has not been modified.

Direct impacts refer to 100% loss of a biological resource. For purposes of this analysis, it refers to the area where vegetation clearing, grubbing, or grading replaces biological resources. Direct impacts were quantified by overlaying the proposed impact limits on the biological resources map of the project site. Potential direct impacts would occur from grading and development of the site.

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone. Indirect impacts may affect areas within the project site but outside the construction disturbance zone, including open space and areas outside the project. Indirect impacts may be short-term and construction-related or long-term in nature and associated with development in proximity to biological resources. Short-term indirect impacts could include dust, which could disrupt plant vitality in the short term; construction-related soil erosion and water runoff; and construction-related vibration and noise and lighting, which could disturb wildlife species. Long-term indirect impacts could include invasion by exotic plants and domestic pets, lighting, noise, traffic collisions, exposure to urban pollutants (e.g., fertilizers, pesticides, herbicides, and other hazardous materials), soil erosion, and hydrologic changes (e.g., surface and groundwater level and quality).

***Threshold BIO-1.*** ***Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

**Program- and Project-Level Elements**

***Special-Status Plant Species***

Direct Impacts

No special-status plant species were identified on site during 2019 focused surveys, and no special-status plant species have a high potential to occur. Therefore, the project would not result in direct impacts to special-status plants. **No impacts** would occur, and no mitigation is required.

Indirect Impacts

Construction-related dust, soil erosion, and water runoff can affect any potentially occurring special-status plant species that may occur on site. However, no special-status plant species are expected to occur on site; therefore, no significant indirect short-term or long-term impacts to special-status plant species would occur. **No impacts** would occur, and no mitigation is required.

### *Special-Status Wildlife*

Direct Impacts

Clearing and grubbing activities may have a direct impact on special-status species that have at least a moderate potential to occur on the project, including California glossy snake, coastal whiptail, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, and burrowing owl. Coastal whiptail, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, and burrowing owl are all covered species under the MSHCP, and compliance with the MSHCP would reduce impacts to less than significant. Additionally, the site is considered absent of all special-status wildlife species, including California glossy snake that is not covered under the MSHCP, and no project-related impacts are anticipated to occur. Should individuals be present at the time of construction, loss of a few individuals within a fragmented parcel of habitat is not expected to substantially affect a local population. Therefore, impacts would be considered less than significant and no mitigation is required.

The burrowing owl is covered by the MSHCP, but was not observed and is not present. However, the presence of suitable habitat for this species allows the potential for burrowing owl to move onto the site prior to construction. Therefore, as required by the MSHCP, a pre-construction clearance survey is required to determine the presence/absence of burrowing owl prior to disturbance. Additionally, the loss of habitat for this species would be covered with compliance with the MSHCP.

Project construction could result in direct impacts to nesting individuals including the loss of nests, eggs, and fledglings if vegetation clearing and ground-disturbing activities occur during the nesting season (generally between February 1 and June 30). Substantial direct impacts to individuals of designated special-status species could occur during a critical period of these species' life cycles and could result in reduced reproductive success during the construction period.

Burrowing owl preconstruction surveys and avoidance as described in **mitigation measure (MM) BIO-1** would reduce impacts to below a level of significance. Implementation of a nesting bird survey that would be conducted in accordance with the Migratory Bird Treaty Act and CFG Code 3500, as described in **MM-BIO-2**, would also reduce potential impacts to below a level of significance. Impacts would be **less than significant with mitigation incorporated.**

Indirect Impacts

The majority of the project site is currently developed with the medical campus, and the northern project boundary contains fences and walls that separate the project site from undeveloped areas to the north. The southern project boundary is bounded by Iris Avenue, and residential development occurs to the east and west. No special-status wildlife species were observed on the project site during focused surveys, and due to project site barriers to direct connectivity to undeveloped open space, the potential for indirect impacts to occur to special-status wildlife in off-site areas is low. Indirect impacts from construction-related noise and vibration and lighting are not anticipated, particularly given the existing uses on and immediately adjacent to the project site. Therefore, potential indirect impacts to special-status wildlife are considered **less than significant**, and no mitigation is required.

***Threshold BIO-2.*** ***Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

**Program- and Project-Level Elements**

***Direct Impacts***

The proposed project will be implemented over three phases, with Phase I limited to a 2.15-acre area within the entire approximately 30-acre project site (Appendix C, Figure 7a). Phases II and III will result in the remaining buildout of the proposed project and will result in a total of 10.8 acres of impacts to vegetation communities and land covers within the study area. Impacts to vegetation have been calculated for Phase I and for the combined impact area of Phase II and Phase III as reflected in Table 4.3-6 below. These impacts to vegetation communities are considered permanent impacts to upland and riparian vegetation communities, and unvegetated land covers. Project impacts to unvegetated land covers would not be considered significant due to having minimal habitat value to plants and wildlife.

Additionally, project impacts to native scrub vegetation communities within the project site that are considered sensitive by CDFW and the MSHCP, such as Riversidean sage scrub, desert saltbush scrub, and southern riparian scrub would be considered significant. However, payment of the MSHCP development fee to comply with project construction within the boundary of the MSHCP will mitigate for the loss of native vegetation communities, and therefore, project impacts to sensitive vegetation communities would be considered **less than significant**, and no mitigation is required.

**Table 4.3-6**
**Vegetation Communities and Land Covers Impacts**

| Vegetation Community or Land Cover | Map Code | Phase I (acres) | Phases II and III (acres) |
|---|---|---|---|
| *Natural Vegetation Communities* | | | |
| Riversidean Sage Scrub | RS | 0.0 | 0.11 |
| Desert Saltbush Scrub | DSAS | 0.0 | 1.12 |
| Southern Riparian Scrub | SRS | 0.0 | 0.11 |
| Non-Native Grassland | NNG | 0.0 | 1.43 |

**Table 4.3-6**
**Vegetation Communities and Land Covers Impacts**

| Vegetation Community or Land Cover | Map Code | Phase I (acres) | Phases II and III (acres) |
|---|---|---|---|
| *Non-Natural and Unvegetated Land Covers* | | | |
| Disturbed Habitat | DH | 0.47 | 0.89 |
| Urban/Developed | DEV | 1.68 | 7.14 |
| **Total** | | **2.15** | **10.8** |

**Source:** Appendix C.

### *Indirect Impacts*

During construction activities, indirect edge effects may include dust, which could disrupt plant vitality in the short term, or construction-related soil erosion and water runoff. In the absence of best management practices, construction-related minimization measures to control dust, erosion, and runoff, and compliance with National Pollutant Discharge Elimination System requirements, indirect impacts to on-site aquatic resources (southern riparian scrub) and annual (non-native) grassland could occur. Standard construction best management practices and construction-related mitigation measures to control dust, erosion, and runoff, including but not limited to straw bales and silt fencing, will be implemented to minimize these adverse effects. Additionally, any other potential indirect impact to sensitive vegetation communities would be mitigated for through payment of the MSHCP development fee. Therefore, indirect impacts would be considered **less than significant**, and no mitigation is required.

***Threshold BIO-3.*** ***Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

## Program- and Project-Level Elements

### *Direct Impacts*

The proposed project includes installing two basins in the northern portion of the project site during Phase I of the project that will provide the same functions and values as the current basin, which will remain in place until Phases II and III of the project. Therefore, impacts to jurisdictional waters would be less than significant during Phase I of the project, and additional mitigation is not required.

However, potentially jurisdictional waters contained within the existing detention basin will be impacted during Phases II and III of the project. A total of 0.51 acre of non-wetland waters of the state subject to RWQCB and CDFW jurisdiction would be directly impacted, and an additional 0.54 acre of streambed subject only to CDFW jurisdiction, which would be considered significant and require mitigation for impacts. There are no federal jurisdictional wetlands or waters of the United States as regulated by the USACE under the CWA within the project site. If the regulatory agencies take jurisdiction over this basin, mitigation measure **MM-BIO-3** will be required to reduce project impacts in Phases II and III to waters of the state to a level of **less than significant with mitigation incorporated**.

***Indirect Impacts***

No indirect impacts to jurisdictional wetlands and waters are anticipated to occur as a result of implementing all phases of the project. There are no adjacent waters or wetlands that could be indirectly impacted as a result of adverse edge effects particularly because the existing basin that contains jurisdictional waters is isolated and does not connect to any downstream resource. There is no potential to indirectly impact off-site habitats, vegetation communities, species, or water quality that could have an effect on the long-term vitality of off-site jurisdictional resources. Additionally, standard Best Management Practices as part of the project's Stormwater Pollution Prevention Plan (SWPPP) will limit any edge effects such as construction-related dust which could disrupt plant vitality and water quality in the short-term or construction-related soil erosion and water runoff practices.

Therefore, implementation of water quality best management practices, would ensure that short-term and long-term indirect impacts on off-site jurisdictional waters remain below a level of significance. Therefore, impacts would be considered **less than significant**, and no mitigation is required.

***Threshold BIO-4. Would the project interfere substantially with the movement of any native 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?***

**Program- and Project-Level Elements**

***Direct Impacts***

The project site is not located within an MSHCP core or linkage. No project activities are proposed for any phase of the project that would result in a significant direct impact on wildlife movement or the use of native wildlife nursery sites associated with project activities. Existing habitat linkages and wildlife corridor functions would remain intact while project activities are conducted and following completion. Project activities would not result in impacts to wildlife movement because no new structures that would impede wildlife movement are proposed. Therefore, the project will result in **no impact** to wildlife movement corridors.

### *Indirect Impacts*

**Program- and Project-Level Elements**

As stated above, the project site is not located within an MSHCP core or linkage. Additionally, no wildlife corridors exist on or immediately adjacent to the site that could be impacted by the project. Furthermore, no long-term edge effects to a corridor or linkage, such as noise or lighting, would occur with project implementation. Thus, no significant indirect impacts to wildlife corridors or habitat linkages would occur. **No impacts** would occur.

***Threshold BIO-5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

**Program- and Project-Level Elements**

As currently designed, the proposed project will not result in an impact to trees protected by the City Tree Management Policy. Any trees that will be removed by the project will be on private property and no street, parkway, or right-of-way trees will be removed. Therefore, the project will result in **no impact** to local policies and ordinances, and no mitigation is required.

***Threshold BIO-6. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

**Program- and Project-Level Elements**

The project site occurs within the boundaries of the Western Riverside County MSHCP, but is not located within any Criteria Cells, Habitat Blocks, Linkages, or any other conservation area. There are no MSHCP-covered species on the project site that would be impacted by the project. There are also no riparian/riverine habitats or impacts to the urban/wildlands interface that could occur as a result of project implementation. Payment of the MSHCP development fee to the Western Riverside County Regional Conservation Authority prior to issuance of grading permits is required in order to supplement the financing of the acquisition of lands supporting species covered by the MSHCP and to pay for new development’s fair share of this cost. The amount of the development mitigation fee is determined by the nature and extent of the impacts from the development to the identified natural ecosystems and the relative cost of mitigating such impacts. Given that the proposed project would be considered consistent with the goals and provisions of the MSHCP, project-related impacts would be considered **less than significant**. No further mitigation is required. The detailed discussion of project consistency with the MSHCP is included in the BTR for the project (Appendix C).

## 4.3.5 Mitigation Measures

The following mitigation measures address the proposed project's significant effects and compliance with MSHCP. With implementation of these mitigation measures, all potentially significant impacts would be reduced to below a level of significance.

**MM-BIO-1** To avoid potential direct impacts to burrowing owl, a burrowing owl preconstruction survey shall be conducted by a qualified biologist no more than 30 days prior to ground-disturbing project activities. If burrowing owls are present, occupied burrows shall be avoided. The preconstruction survey, avoidance, and any relocation of burrowing owls, if present, shall be conducted in accordance with current MSHCP survey guidelines and protocols.

**MM-BIO-2** All vegetation removal and ground-disturbance activities shall be planned outside the nesting season for raptors (February 1 to August 15) and outside the peak nesting season for birds (March 1 to August 15) if practicable. If vegetation removal would occur during those time periods, a preconstruction survey for active nests shall be conducted by a qualified biologist no more than one week prior to the onset of ground-disturbance activities. If active nests are found on the site, disturbance or removal of the nest shall be avoided until the young have fledged and the nest is no longer active. Depending on the species, site conditions, and proposed construction activities near the active nest, a buffer distance may be prescribed, as determined by a qualified biologist.

**MM-BIO-3** Consultation with the resource agencies shall be conducted prior to implementing Phases II and II of the project to determine the RWQCB and/or CDFW will indeed take jurisdiction over the existing detention basin. If jurisdiction is determined, the Applicant will mitigate for the loss of 0.51-acre of waters of the state subject to RWQCB and CDFW jurisdiction, and an additional 0.54-acre of streambed under CDFW jurisdiction only. The project applicant will apply for A Waste Discharge Requirement (WDR) from the RWQCB and a Streambed Alteration Agreement from CDFW prior to the start of construction of Phases II and III of the project. Mitigation required for these permits would include compensatory habitat-based mitigation at a minimum 2:1 ratio for impacts to non-wetland waters of the state and CDFW streambed. Mitigation may include on-site restoration of waters through implementation of an approved Habitat Mitigation Monitoring Plan or purchase of off-site credits through an agency-approved mitigation bank such as the Soquel Canyon Mitigation Bank. Coordination with the resource agencies will determine the final mitigation ratio and strategy. Documentation shall be provided to the City.

## 4.3.6 Level of Significance After Mitigation

With implementation of mitigation measures MM-BIO-1 through MM-BIO-3 all potentially significant biological resources impacts would be reduced to less-than-significant levels.

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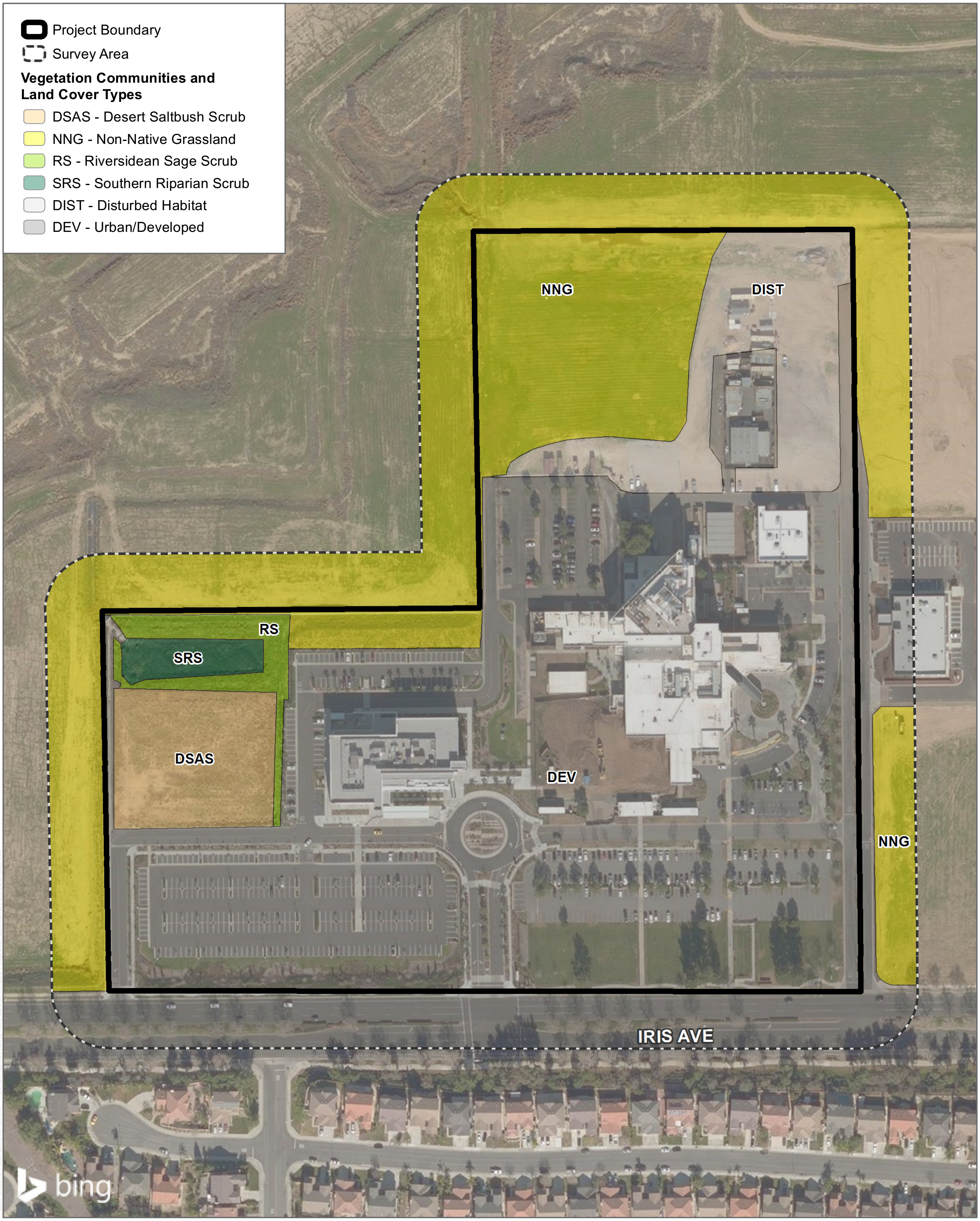


SOURCE: BING Maps

DUDEK

**FIGURE 4.3-1**

Vegetation Communities and Land Cover Types

Kaiser Permanente Moreno Valley

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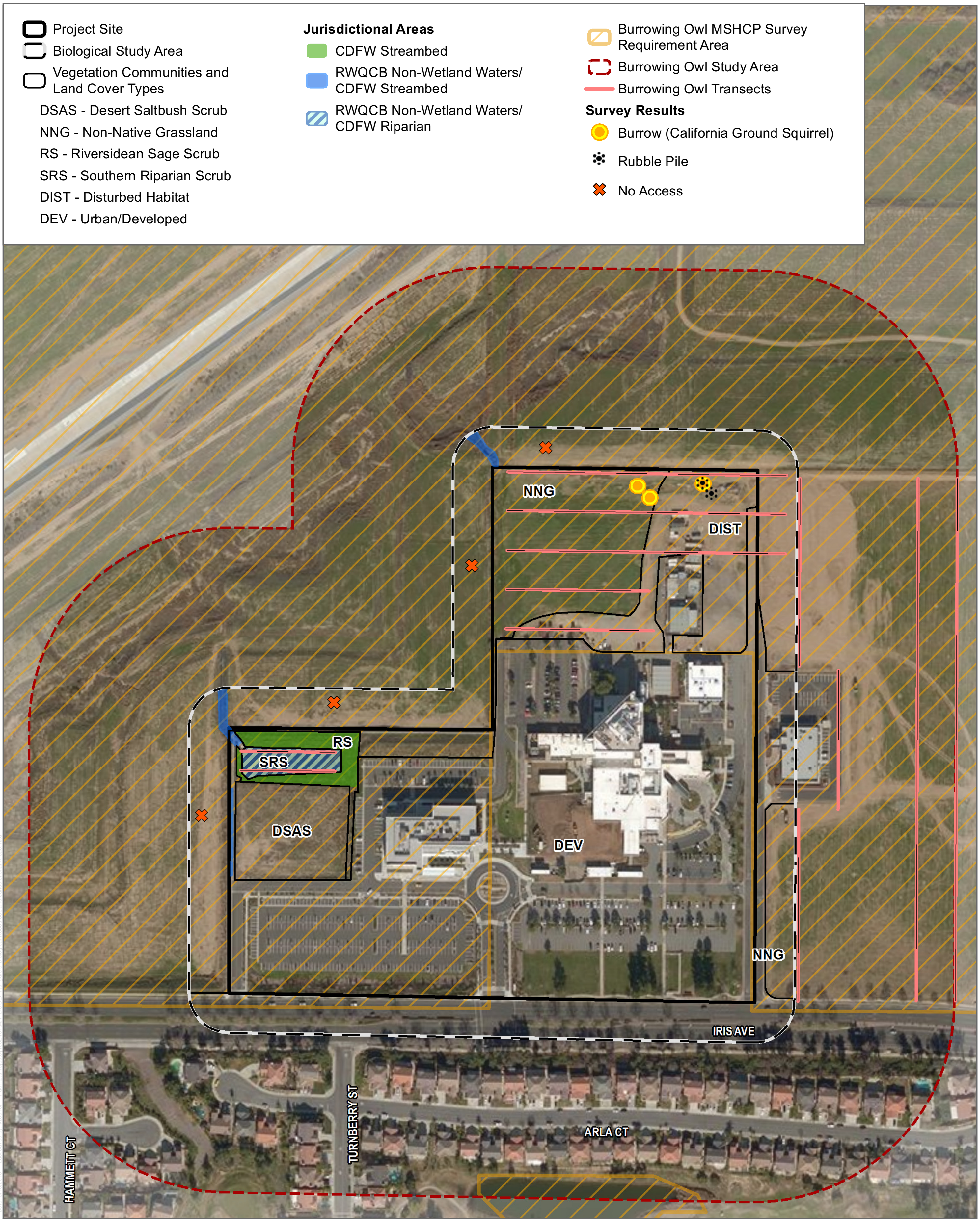


SOURCE: Bing Maps 2018

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0 160 320 Feet

**FIGURE 4.3-2**

Biological Resources and Jurisdictional Areas

Kaiser Permanente Moreno Valley

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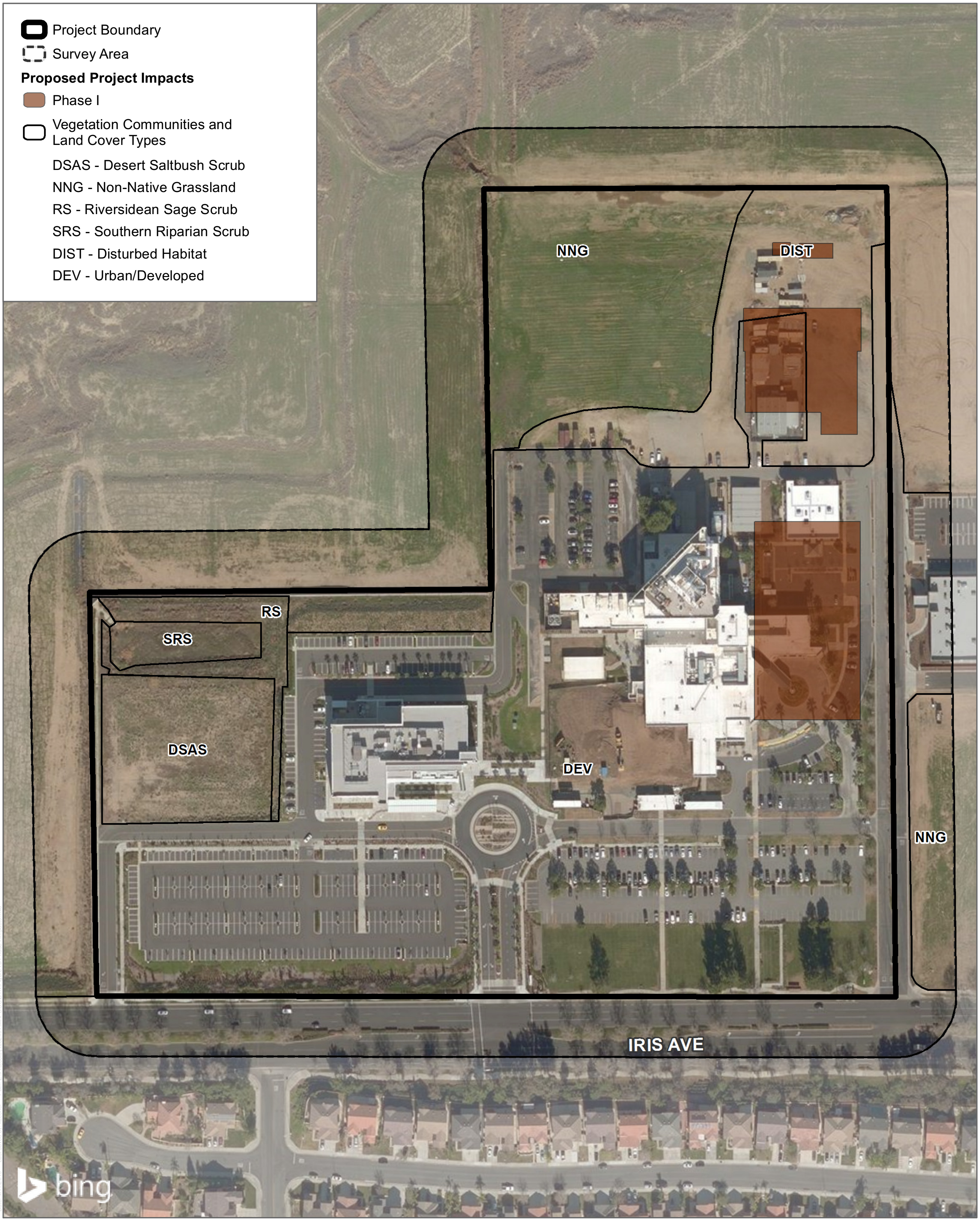


SOURCE: BING Maps

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0 105 210 Feet

**FIGURE 4.3-3**

Phase I Impacts

Kaiser Permanente Moreno Valley

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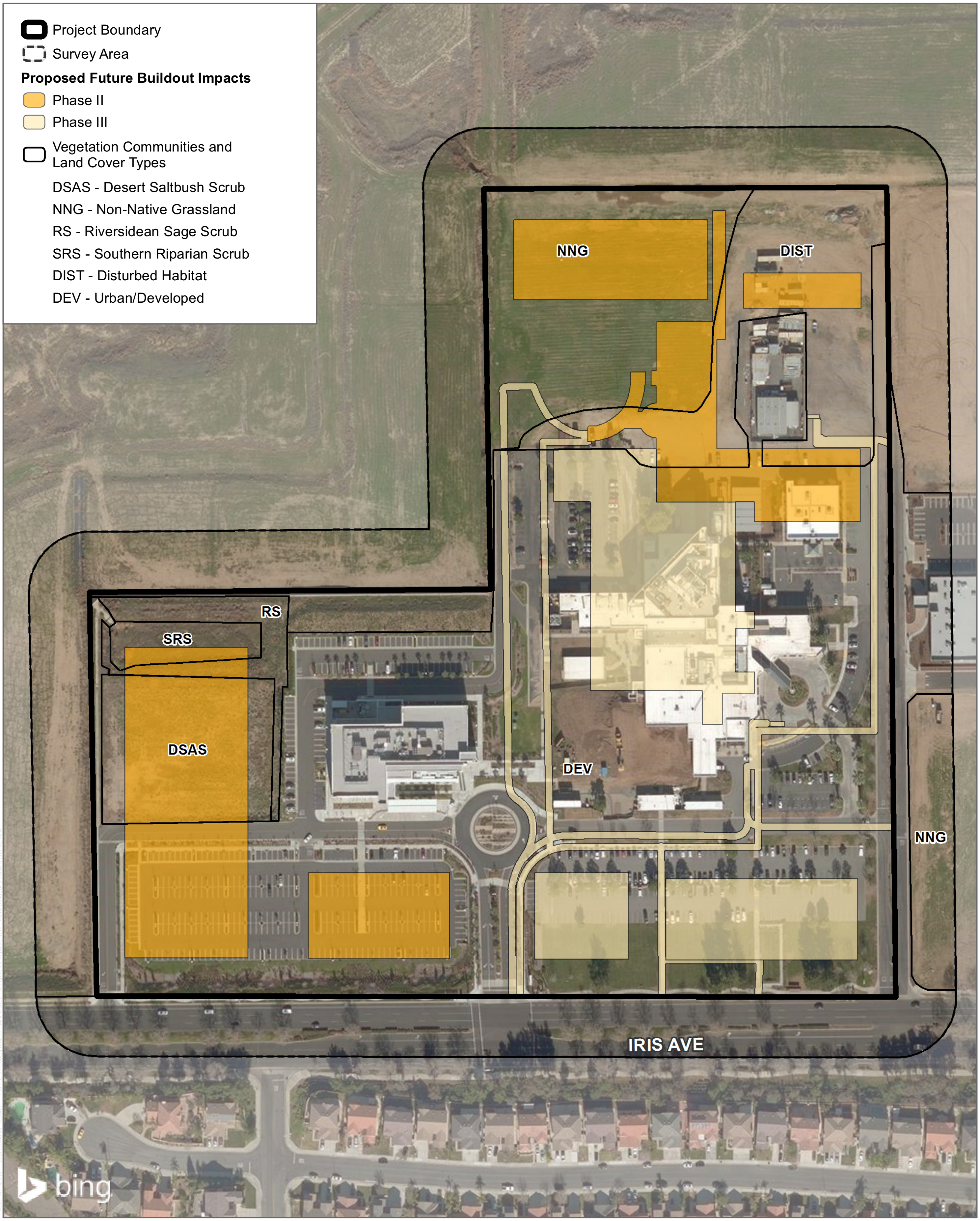


SOURCE: BING Maps

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**FIGURE 4.3-4**

Impacts from Future Buildout (Phase II and III)

Kaiser Permanente Moreno Valley

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# 4.4 CULTURAL RESOURCES

This section identifies associated regulatory requirements, describes the extent of any existing cultural resources of the project site, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project).

## 4.4.1 Relevant Plans, Policies, and Ordinances

**Federal**

While there is no federal nexus for this project, the subject property was evaluated in consideration of the National Register of Historic Places (NRHP) designation criteria and integrity requirements.

***National Register of Historic Places***

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. That are associated with the lives of persons significant in our past; or
>
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, "How to Apply the National Register Criteria," as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity". NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

**State**

***California Public Resources Code***

California Public Resources Code (PRC) Sections 5097–5097.6 provide that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. These sections prohibit the knowing destruction of objects of antiquity without a permit (express permission) on public lands, and provide for criminal sanctions. This section was amended in 1987 to require consultation with the Native American Heritage Commission (NAHC) whenever Native American graves are found. Violations that involve taking or possessing remains or artifacts are felonies.

PRC Section 5097.5, states that "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, rock art, or any other archaeological, paleontological or historic feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands."

***California Register of Historical Resources***

The California Office of Historic Preservation maintains the California Register of Historical Resources (CRHR). The CRHR is the authoritative guide to the state's significant historic and archaeological resources. The program provides for the identification, evaluation, registration, and protection of California's historic resources. The CRHR encourages public recognition and protection of resources of architectural, historic, archaeological, and cultural significance; identifies historic resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protection to resources under the California Environmental Quality Act (CEQA).

The CRHR also has established context types to be used when evaluating the eligibility of a property or resource for listing. The four criteria are as follows:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- It is associated with the lives of persons important to local, California, or national history.
- It represents the work of a master, or possesses high artistic values.
- It has yielded, or is likely to yield, information important to prehistory or history of the local area, California, or the nation.

Similar to the National Register of Historic Places (NRHP), eligibility for the CRHR requires an establishment of physical integrity, including the seven aspects previously described. The CRHR's list of special considerations is less stringent than the NRHP's, providing allowances for relocated buildings, structures, or objectives as reduced requirements for physical integrity.

***California Environmental Quality Act***

As described further below, the following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5(b)). If a site is listed or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is an "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA, which presumption may be rebutted by a preponderance of the evidence (PRC Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, 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

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (14 CCR 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a "unique archaeological resource," the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required as provided in PRC Sections 21083.2(a)–(c).

PRC Section 21083.2(g) defines a “unique archaeological resource” as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2(g)).

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); 14 CCR 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a tribal cultural recourse. (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains, and specifically to Native American remains, and specifies procedures to be used when remains are discovered. CEQA Guidelines Section 15064.5 also provides for compliance with PRC Section 5097.98 when Native American remains are discovered or likely to be discovered

***California Health and Safety Code***

California Health and Safety Code protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code, Section 7050.5, requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify a Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

### Local

#### *City of Moreno Valley General Plan*

Objective 7.6 of the City of Moreno Valley (City) General Plan states that the city will try to "identify and preserve Moreno Valley's unique historical and archaeological resources for future generations" (City of Moreno Valley 2006). To achieve this objective, the city laid out five policies including:

**7.6.1** Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.

**7.6.2** Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities.

**7.6.3** Minimize damage to the integrity of historic structures when they are altered.

**7.6.4** Encourage restoration and adaptive reuse of historical buildings worthy of preservation.

**7.6.5** Encourage documentation of historic buildings when such buildings must be demolished.

#### *City of Moreno Environmental and Historic Preservation Board*

The Environmental and Historical Preservation Board of Moreno Valley considers matters pertaining to the preservation of the City's heritage and cultures, including the designation of landmarks and review of all restoration, rehabilitation, alteration and demolition projects in preservation areas. The Board educates the citizens about the City's heritage and matters of environmental concern to the community

## 4.4.2 Environmental Setting

The proposed project lies in southern Moreno Valley, approximately 1.8 miles north of the Perris Reservoir and 0.20 miles south of the Moreno Valley Ranch Community Association Lake. The area to the north, west, and south of the proposed project site is largely residential. The proposed project area is located at the foothills of a series of northeast-southwest trending hills within the Lake Perris State Recreation area. Elevations within the proposed project site range from approximately 1,510 to 1,560 feet above mean sea level. The City is bordered by the Badlands to the east, State Route 215 to the west, Lake Perris State Recreation area to the south, and Box Springs Mountain Reserve Park to the north (City of Moreno Valley 2006). The climate of the area is characterized by warm, dry summers and relatively mild winters. The proposed project area and surrounding vicinity supports chaparral and various scrub communities as well as non-native grassland and ornamental plants (City of Moreno Valley 2006). The proposed project site includes the entire 30 acre site proposed to be redeveloped which encompasses Assessor's Parcel Numbers 486-310-033 and 486-310-034.

## 4.4.3 Cultural Setting

### Prehistoric Context

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside and San Bernardino Counties, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC to AD 500), Late Prehistoric (AD 500 to 1769), and Ethnohistoric (post-AD 1769).

#### *Paleoindian Period (pre-5500 BC)*

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12 in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,920 to 9,590 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large-stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site—and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos's interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key Early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominantly of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of ground stone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date from a shell produced a date of 6630 BC. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game, and resembles coastal San Dieguito assemblages and spatial patterning.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but it was also not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the Early Holocene (Basgall and Hall 1990).

### *Archaic Period (8000 BC to AD 500)*

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among others), is relatively easy to define with assemblages that consist primarily of processing tools such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow were adopted around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities, and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

***Late Prehistoric Period (AD 500 to 1769)***

The period of time following the Archaic and before the Ethnohistoric (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before AD 1400. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone–handstone versus mortar–pestle technology is tenuous due to incomplete information on archaeological assemblages.

### *Ethnohistoric Period (post-AD 1769)*

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Geiger and Meighan 1976; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the pre-contact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005: 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about Native American life before the arrival of Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja (lower) California Sur to the southern Oregon border at the time of Spanish contact (Johnson and Lorenz 2006). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007: 80). A large amount of variation within the language of a group represents a greater time depth than a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. He has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (Golla 2007: 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007). These groups include the Gabrielino, Cahuilla, and Serrano. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan circa 2600 BC to AD 1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC to AD 1000 (Laylander 2014).

The proposed project is located within the area associated with the Gabrielino, a name derived from the association with the San Gabriel Mission, who are also known as the Tongva. According to the archaeological record, they were not the first inhabitants of the Los Angeles basin but displaced indigenous Hokan speakers around 500 BC. The Gabrielino shared boundaries with the Chumash to the west, the Tataviam to the north, Serrano to the northeast, the Cahuilla to the east, and the Luiseño and Juaneño to the southwest (Bean and Smith 1978; Kroeber 1925).

As with many Native American groups, it is difficult to make population estimates for the Gabrielino, although one estimate gives village population ranges between 50 and 200 people for possibly more than 50 or 100 villages (Bean and Smith 1978). The arrival of the Spanish decimated Native American peoples through disease and changed living conditions, leaving few Gabrielinos by the time ethnographic studies were conducted (Bean and Smith 1978). This makes it difficult to make definitive statements about their culture. The tribes of the region were organized into patrilineal clans or bands centered on a chief, each of which had its own territorial land or range where food and other resources were collected at different locations throughout the year. Place-names were assigned to each territory, often reflecting common animals, plants, physical landmarks, or cosmological elements that were understood as being related to that location. Marriages were sometimes arranged by parents or guardians, and chiefs occasionally had multiple wives (Bean and Smith 1978).

Shamanism was a major component in tribal life. Shamans, who derived their power through dreams or visions, served individual villages. They cured illness using a variety of tools and plants. Some locations and natural resources were of cultural significance. Springs and other water-related features were thought to be associated with spirits. These resources, often a component of origin stories, had power that came with a variety of risks and properties to those who became affected by them. Mourning ceremonies were similar throughout the region, generally involving and burning of the deceased's possessions, dancing, and ritual wailing, followed by the burning of the deceased's remaining items a year after death (Bean and Smith 1978).

**Historic Period Overview**

Post-contact history for the State of California is generally divided into three periods: the Spanish Period (1769 to 1821), Mexican Period (1821 to 1848), and American Period (1848 to present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

***Spanish Period (1769 to 1821)***

Spanish explorers made sailing expeditions along the coast of Southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríguez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic Period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego—a fortified military outpost—as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring Southern California, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Mission San Luis Rey de Francia at the Luiseño village of Temecula was included in those 21 missions established by the Spanish and the Franciscan Order. In 1819, the Mission San Luis Rey de Francia granted land to Leandro Serrano, the highest locally appointed official (or "mayordomo") of San Antonio de Pala Asistencia, for the Mission of San Luis Rey for Rancho Temescal. In 1828, Serrano was elected as the mayordomo of Mission San Juan Capistrano. From around 1819 until his death in 1852, Serrano built and occupied three separate adobe residences in what is now Riverside County. Serrano's family resided in the third adobe residence until around 1898 (Elderbee 1918).

### *Mexican Period (1821 to 1848)*

It was in the early 1820s that Spain's grip on its expansive subjugated territories began to unravel, which greatly affected the political and national identity of the Southern California territory. Mexico established its independence from Spain in 1821, secured California as a Mexican territory in 1822, and became a federal republic in 1824. After the Mexican independence and the 1833 confiscation of former Mission lands, Juan B. Alvarado became governor of the territory. In 1836, Governor Alvarado began the process of subdividing what is now Riverside and San Bernardino Counties into large ranchos: Rancho Jurupa in 1838; El Rincon in 1839; Rancho San Jacinto Viejo in 1842; Rancho San Jacinto y San Gorgonio in 1843; Ranchos La Laguna, Pauba, and Temecula in 1844; Ranchos Little Temecula and Potreros de San Juan Capistrano in 1845; and Ranchos San Jacinto Sobrante, La Sierra (Sepulveda), La Sierra (Yorba), Santa Rosa, and San Jacinto Nuevo y Potrero in 1846 (Fitch 1993). While these ranchos were established in documentation, the cultural and commercial developments of the ranchos were punctuated and generally slow with little oversight or assistance from the government in Mexico. On May 22, 1840, Governor Alvarado granted the "11-league" Rancho Jurupa to Don Juan Bandini (Stonehouse 1965).

In 1843, La Placita de los Trujillos, or "La Placita" (also known as "San Salvador" and regionally nicknamed "Spanish Town"), was established in modern-day Riverside County and has been since recognized as one of the first non-native settlements in the San Bernardino Valley (Brown and Boyd 1922). A group of genízaro (Native American slave or servant) colonists from Abiquiú, New Mexico, arrived in the area in the early 1840s (Nostrand 1996). Don Juan Bandini donated a portion of Rancho Jurupa to them on the condition that they would assist in protecting his livestock from Native American raids. Lorenzo Trujillo led 10 of the colonist families to 2,000 acres on the "Bandini Donation" on the southeast bank of the Santa Ana River and formed the village of La Placita. In 1852, the same year that Leandro Serrano died, the Los Angeles County Board of Supervisors established a town called "San Salvador" encompassing a number of small, growing communities in the area initially known as "La Placita." San Salvador was mainly a community of agriculture and animal husbandry until around the late 1860s with the occurrence of "the Great Flood of 1862" and a second flood later in 1886, causing the local population to abandon the immediate area. The area remained largely a ghost town until the recent modern introduction of waste transferal and recycling facilities to the area (Elderbee 1918).

### *American Period (1848 to Present)*

In the late 1840s and early 1850s—after the arrival of a growing European-descended American and other foreign populations, and the conclusion of the Mexican–American war with the Treaty of Guadalupe Hidalgo—issues concerning land rights immediately ensued with results that often favored newly introduced American interests (Starr 2007; Hale 1888). The California Gold Rush was in full steam by the late 1840s and early 1850s, resulting in a heavy influx of new immigrants from not only across the United States, but also from foreign countries (many from Asia and Latin America). These diverse immigrants changed the dynamics of the local populations. Growth in the region's population was inevitable with the major shifts in the popular social perceptions of potential economic opportunities that California had to offer during the 1850s. The local population growth was further facilitated by the creation of the Temescal Station of the Butterfield Overland Mail Route in 1857, and the organization of the first Temescal School District (Elderbee 1918).

## Local History of the Project Site

### *Riverside County*

For a brief time, tin mining was a source of local development in Riverside County. Tin mining had been initiated in the 1850s by Able Stearns, but proved largely unsuccessful; it remained stagnant for years due to litigation disputes that were not settled until 1888 by the U.S. Supreme Court. After the dispute settlement, miners converged on the region, swelling the immediate population while the tin mine enjoyed a 2-year run of operations, closing down for good in 1892 (Elderbee 1918). The growth of the area increased steadily as the economic focus shifted from ranching and animal husbandry to a more fruit orchard/agricultural lifestyle greatly influenced by the region's Mediterranean climate and the introduction of large numbers of honeybees and hives (Elderbee 1918).

In March 1870, John Wesley North issued a circular entitled "A Colony for California" to promote the idea of founding an agriculture-based colony in California. Prospective investors met in Chicago on May 18 of that same year, and the interest expressed led to the formation of the Southern California Colony Association. This success prompted North to head to Los Angeles, where he arrived on May 26, 1870, initially intending to settle the colony there. However, the association directors decided on Rancho Jurupa along the banks of the Santa Ana River, purchasing it from the California Silk Association in August 1870. North then took up residence on site for the purpose of surveying and developing the colony. He envisioned small-scale farmers growing oranges, lemons, figs, walnuts, olives, almonds, grapes, sweet potatoes, sorghum, and sugar beets (Stonehouse 1965). The community was originally called "Yurupa," but the name was changed to "Riverside" in December of 1870 (Stonehouse 1965; Patterson 1971; Wlodarski 1993). The citrus industry increased dramatically during the 1880s, with promotion of the area shifting to focus on the potential wealth to be had through agriculture (California Department of Transportation 2007).

Of particular note is the introduction of the navel orange to the budding California citrus industry. Two navel orange trees from Brazil's Bahia Province were gifted to Eliza Tibbets, one of the founders of Riverside County, by William Saunders, horticulturalist at the U. S. Department of Agriculture. Mrs. Tibbets and her husband, Luther C. Tibbets, brought the trees to the Riverside colony and planted them in 1873. These parent trees produced sweet-tasting seedless fruits, sparking the interest of local farmers and becoming so popular that the fruits from these trees eventually became known as "Riverside Navel." The fruit's popularity helped establish Riverside as a national leader in cultivating oranges. One of the two original parent Washington navel orange trees is still extant, growing near the intersection of Arlington and Magnolia Avenues. It is "mother to millions of navel orange trees the world over;" the tree is designated as California Historical Landmark No. 20 (Hurt 2014).

North originally intended that the colony would build, own, and operate its own irrigation system, but the desert mesa location made such a venture prohibitively expensive. Thus, the Southern California Company Association joined forces with the Silk Center Association to develop the irrigation project. After completing a canal survey, work began in October 1870 to construct a canal 12 feet wide, narrowing to 8 feet at the base, and 3 feet deep (Stonehouse 1965). With continued growth of the area, a second canal was constructed, and by 1878, the Riverside Canal Company was formed; it was superseded in 1886, due to litigation, by the Riverside Water Company (Bailey 1961). Further growth in the region led to construction of a third major canal, called the "Gage Canal," built between 1882 and 1888 (Guinn 1907; Wlodarski 1993). Development of such a stable water supply bolstered the agricultural industry, helping facilitate the booming citrus industry in Riverside County. By 1895, around 20,000 acres of navel orange groves had been planted, and the citrus industry became the primary economic influence for the region well into the turn of the twentieth century (Guinn 1907). This rapid growth of such a vibrant citrus industry led to Riverside County becoming the wealthiest city per capita in the United States by 1895 (March Field Air Museum 2011). The growing citrus industry was in turn stimulated by another major factor that would strongly influence the cultural development of Riverside County: the advent of the railroad, in particular, the transcontinental railroad.

In the later-nineteenth century, the railroad industry began to connect vast swaths of the country with a rail-line transportation system that had previously required extremely slow travel and often with dangerous travel conditions. The initial rail line developed in the region was the California Southern railroad, around 1882, which then connected with the Santa Fe transcontinental line in 1885. In 1887, C.W. Smith and Fred Ferris of the California Southern Railroad, and J.A. Green, incorporated the Valley Railway to serve the region. The San Jacinto Valley Railroad was constructed the next year, in 1888; it traveled southeast from Perris, then east across the valley, gradually curving northeast to its terminus at San Jacinto (George and Hamilton 2009). With the combination of rail transportation, the packing industry, and cold storage facilities, Riverside County was able to yield over 0.5 million boxes of oranges by 1890 (Wlodarski 1993).

The towns of Winchester and Hemet were quickly established along the San Jacinto Valley Railroad. The railroad connected the eastern part of the valley to Perris, where it met the California Southern Railroad. This ensured transportation of valley products to markets in Los Angeles and San Diego. The Hemet–San Jacinto Growers' Association Cannery was located adjacent to the railroad; the canned fruit was loaded directly onto railcars for shipment outside of the valley (George and Hamilton 2009). In addition, many of the ranches that were located along the rail line had their own sidings, where the farm products were directly loaded onto the trains. The railroad also provided passenger service to Los Angeles; however, the construction of modern highways in the 1950s lessened the importance of the railroad. Later, the route was taken over by the Atchison, Topeka, and Santa Fe Railroad, and then the Burlington Northern Santa Fe.

During this time in Southern California history, counties were established, and the area known today as Riverside County was established from portions of Los Angeles County and San Diego Counties. In 1853, the eastern part of Los Angeles County was used to create San Bernardino County. Between 1891 and 1893, several proposals and legislative attempts were put forth to form new counties in Southern California. These proposals included one for a Pomona County and one for a San Jacinto County; however, no proposals were adopted to create Riverside County until the California Board of Commissioners filed the final canvass of the votes and the measure was signed by Governor Henry H. Markham on March 11, 1893.

***City of Moreno Valley***

The City is an amalgamation of three communities: Moreno, Edgemont, and Sunnymead. After four incorporation attempts, the City was officially incorporated on December 3, 1984; though the area was settled long before that. Moreno, which got its name from the Spanish word for brown, was originally planned as an agricultural community, specifically focused on citrus. Frank Brown, a civil engineer and water company owner, built a water pipeline from Bear Valley to the area in 1891, bringing much needed irrigation to the fledgling agricultural town. After the pipeline was finished, major roads were laid out, and the City began to take shape. March Air Field, originally known as Alessandro Aviation Field, was built in 1918 and represents the first major development in the area. The construction of the airfield brought many more people to the community. After the incorporation of the City in 1984, it experienced its first major population increase, growing from 48,000 at the time of incorporation to over 100,000 in 1990 (Ghori 2014). Today, Moreno Valley has a population of just over 200,000 people (Data USA 2018).

## 4.4.4 Cultural Resources Records Search

On November 27, 2018, Dudek completed a search of the California Historical Resources Information System (CHRIS) at the Eastern Information Center (EIC), located on the University of California, Riverside campus of the proposed project site and a 1.0-mile (1,608 meters) record search buffer. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation (DPR) site records; technical reports; archival resources; and ethnographic references. The records search results are provided in Confidential Appendix B of the cultural resources technical report (Appendix D of this environmental impact report (EIR)).

**Previously Conducted Cultural Resources Studies**

The EIC records indicate that 18 previous cultural resources technical investigations have been conducted within 1.0-mile (1,609 meters) of the proposed project site between 1974 and 2017 (Table 4.4-1). Of these, one previous study (RI-02160) overlaps approximately 33% of the proposed project site and one previous study (RI-10238) is adjacent to the proposed project site on the eastern border; both reports are briefly summarized below. The remaining 16 are within the 1.0-mile records search buffer.

**Table 4.4-1**
**Previously Conducted Cultural Resource Studies within 1.0-Mile of the Project Site**

| EIC Report Number (RI-) | Authors | Year | Title | Proximity to Proposed Project Site |
|---|---|---|---|---|
| 00137 | James F. O'Conell, Philip J. Wilke, Thomas F. King, and Carol L. Mix | 1974 | Perris Reservoir Archaeology, Late Prehistoric Demographic Change In Southeastern California | Outside |
| 00182 | Richard A. Weaver | 1975 | Environmental Impact Evaluation: Archaeology Of Brodiaea Avenue, Pl 984, Water Systems Addition, Riverside County, California | Outside |
| 01843 | Scientific Resource Surveys Inc. | 1984 | Cultural Resource Survey Report On Wolfskill Ranch | Outside |
| 01979 | Mack, Joanne M. And G.A. Clopine | 1986 | Archaeological Assessment Of Assessor's Parcel # 483-340-005 And 009, Vicinity Of Oliver Street And Alessandro Blvd., Moreno Valley, Riverside County, California | Outside |
| 02105 | Drover, C.E. | 1987 | An Archaeological Assessment Of The A.L.T.A. Specific Plan, Moreno Valley, California | Outside |
| 02160 | Drover, C.E. | 1987 | Letter Report: Archaeological Evaluation Of Potential Hospital Site In Moreno Valley | Overlapping |
| 02709 | Padon, Beth | 1990 | Moreno Ranch Studies Archaeological Documentation Of Ca-Riv-2994 Moreno Valley, California. | Outside |

## Table 4.4-1
## Previously Conducted Cultural Resource Studies within 1.0-Mile of the Project Site

| EIC Report Number (RI-) | Authors | Year | Title | Proximity to Proposed Project Site |
|---|---|---|---|---|
| 04397 | McCarthy, Daniel F. | 2000 | Archaeological Survey Of Parcel Map 29700, Moreno Valley, Riverside County, California. | Outside |
| 05288 | White, Laurie | 2000 | Letter Report: Records Search Results For Sprint Pcs Facility Rv35Xc093D (Golf Course Maintenance), City Of Moreno Valley, Riverside County, Ca | Outside |
| 05296 | White, Laurie | 2000 | Letter Report: Records Search Results For Sprint Pcs Facility Rv35Xc093A (Upper Emwd Water Tank), City Of Moreno Valley, Riverside County, Ca | Outside |
| 06644 | Carla Allred | 2006 | Letter Report: Proposed Cellular Tower Project(s) In Riverside County, California, Site Number(s)/ Name(s): Ca-8393B/ Ashley Tcns# 16652 | Outside |
| 08125 | Wayne Bonner and Marnie Aislin-Kay | 2008 | Letter Report: Cultural Resource Records Search Telecommunications Facility Candidate | Outside |
| 08266 | Madeleine Bray | 2009 | Negative Survey Of Approximately 25 Acres For The Riverside County Regional Medical Center Expansion Project, City Of Moreno Valley, County Of Riverside, California | Outside |
| 08358 | Deidre Encarnacion and Daniel Ballester | 2010 | Identification And Evaluation Of Historic Properties: Moreno Valley Medical Village Project, Assessor's Parcel Nos. 486-290-001 And -002, City Of Moreno Valley, Riverside County, California. | Outside |
| 08802 | Bai "Tom" Tang, Michael Hogan, Deirdre Encarnacion, and Daniel Ballester | 2012 | Phase I Archaeological Assessment: Moreno Master Drainage Plan Revision | Outside |
| 09652 | Heather R. Puckett | 2014 | Cultural Resources Summary For The Proposed Verizon Wireless Inc., Property Site, 27905 John F Kennedy Drive, Moreno Valley, Riverside County, California 92555 | Outside |
| 10128 | Riordan Goodwin | 2017 | Cultural Resources Assessment Sater Arco Project City Of Moreno Valley Riverside County, California | Outside |
| 10238 | Sandy Chandler | 2016 | Phase I Cultural Resources Assessment For The Mainstreet Skilled Nursing Facility Project, Moreno Valley, California | Adjacent |

***RI-02160***

Report RI-2160 is an archaeological evaluation report for the then potential Moreno Valley Hospital site prepared by Christopher E. Drover in 1987. The report stated that the parcel had been heavily cultivated in recent years. Drover stated that the extent of the plowing meant that the original ground level was higher than it was during the investigation. No cultural materials were identified during the 1987 archaeological evaluation and no mitigation was proposed.

***RI-10238***

Report RI-10238 is a cultural resource study prepared by Applied Earthworks in 2016 in support of the Main Street Skilled Nursing Facility Project. The study included a literature records search at the EIC, a SLF search, and an intensive pedestrian survey. The record search and the SLF search did not identify any cultural resources within the project site. During the intensive pedestrian survey for the 2016 study, soils were identified to be heavily disturbed by agricultural activities and no cultural resources were identified.

**Previously Recorded Cultural Resources**

The EIC records indicate that 27 cultural resources have been recorded within 1.0-mile (1,609 m) of the proposed project site (Table 4.4-2). Twenty-six of the resources identified within the record search area are prehistoric bedrock milling stations with between one and seven milling slicks. One of the resources identified within the record search area is a historic isolate. None of the 27 cultural resources were recorded within the proposed project site.

**Table 4.4-2**
**Previously Recorded Cultural Resources within 1.0-Mile of the Project Site**

| Primary Number (P-33-) | Trinomial (CA-RIV-) | Period | NRHP Eligibility | Record By and Year | Descriptions | Proximity To Proposed Project Site |
|---|---|---|---|---|---|---|
| 000482 | 000482 | Prehistoric | Not evaluated | 1971 (P. Wilke, n/a); 1972 (Leland Lutz, Department of Parks and Recreation); 1989 (K. Owens, R. Olson, S. Dies, n/a) | Bedrock milling station with six bedrock milling slicks on four separate outcrops | Outside |
| 000483 | 000483 | Prehistoric | Not evaluated | 1971 (P. Wilke, n/a); 1972 (Leland Lutz, California Department of Parks and Recreation); 1989 (K. Owens, S. Dies, R. Olson, n/a) | Bedrock milling station with two bedrock milling stations on two separate outcrops | Outside |

**Table 4.4-2**
**Previously Recorded Cultural Resources within 1.0-Mile of the Project Site**

| Primary Number (P-33-) | Trinomial (CA-RIV-) | Period | NRHP Eligibility | Record By and Year | Descriptions | Proximity To Proposed Project Site |
|---|---|---|---|---|---|---|
| 000484 | 000484 | Prehistoric | Not evaluated | 1971 (Wilke, n/a); 1972 (Leland Lutz, Department of Parks and Recreation); 1989 (M. Romano, S. Williams, E. Crabtree, n/a) | Large bedrock milling station site continuing 32 slicks on 17 outcrops | Outside |
| 000485 | 000485 | Prehistoric | Not evaluated | 1971 (P. Wilke, San Bernardino County Museum); 1972 (Lealand Lutz, State of California); 1989 (M. Romano, S. Williams, E. Crabtree, n/a) | Six bedrock milling slicks and two bedrock mortars on four outcrops; could not be relocated in 1989 | Outside |
| 000532 | 000532 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU) | Bedrock milling station with several milling slicks | Outside |
| 000533 | 000533 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys Inc.) | Bedrock milling station with one milling slick | Outside |
| 000534 | 000534 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, ARU-UCR); 1983 (Don Carey, Scientific Resource Surveys Inc.) | Bedrock milling station with one milling slick | Outside |
| 000535 | 000535 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys Inc.) | Bedrock milling station with seven milling slicks | Outside |
| 000536 | 000536 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling stations; two boulders each with one slick | Outside |

# Table 4.4-2
## Previously Recorded Cultural Resources within 1.0-Mile of the Project Site

| Primary Number (P-33-) | Trinomial (CA-RIV-) | Period | NRHP Eligibility | Record By and Year | Descriptions | Proximity To Proposed Project Site |
|---|---|---|---|---|---|---|
| 000537 | 000537 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling station with two slicks | Outside |
| 000538 | 000538 | Prehistoric | Found ineligible through survey process | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling station, two boulders one with two milling slicks and one with one milling slick | Outside |
| 000539 | 000539 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU) | Bedrock milling station with two milling slicks | Outside |
| 000540 | 000540 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, n/a); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling stations, three boulders one with four milling slicks, one with two milling slicks, and one with one milling slick | Outside |
| 000541 | 000541 | Prehistoric | Ineligible | 1963 (P. Chace & E. Shepard, n/a); 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling slick with seven milling slicks and one mortar | Outside |
| 000542 | 000542 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys.) | Bedrock milling station with one milling slick | Outside |
| 000543 | 000543 | Prehistoric | Not evaluated | 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Bedrock milling stations, two boulders one with one milling slicks and one with two milling slicks | Outside |

## Table 4.4-2
## Previously Recorded Cultural Resources within 1.0-Mile of the Project Site

| Primary Number (P-33-) | Trinomial (CA-RIV-) | Period | NRHP Eligibility | Record By and Year | Descriptions | Proximity To Proposed Project Site |
|---|---|---|---|---|---|---|
| 000544 | 000544 | Prehistoric | Not evaluated | 1963 (P. Chace E. Shepard, n/a); 1972 (Terry Ambrose, UCR-ARU); 1983 (Don Carey, Scientific Resource Surveys) | Rock shelter with a midden and two separate bedrock milling stations each with one slick | Outside |
| 002829 | 002829 | Prehistoric | Not evaluated | 1983 (Ann Cody, Scientific Resource Surveys, Huntington Beach, CA.) | Bedrock milling station with four milling slicks | Outside |
| 002867 | 002867 | Prehistoric | Not evaluated | 1983 (Thomas Banks, Scientific Resource Surveys, Huntington Beach, CA.); 1989 (K. Owens, R. Olson and S. Dies) | Bedrock milling station with three milling slicks | Outside |
| 002963 | 002963 | Prehistoric | Not evaluated | 1983 (Thomas J. Banks, Scientific Resource Surveys Inc., Huntington Beach, CA.) | One bedrock milling station with one slick | Outside |
| 002964 | 002964 | Prehistoric | Not evaluated | 1984 (Thomas J. Banks, Scientific Resource Surveys Inc., Huntington Beach, CA.) | Bedrock milling station with ten milling slicks on a split boulder outcrop | Outside |
| 002965 | 002965 | Prehistoric | Not evaluated | 1983 (Thomas J. Banks, Scientific Resource Surveys Inc., Huntington Beach, CA.); 1989 (K. Owens, R. Olson and S. Dies) | Bedrock milling station with four milling slicks on two large outcrops | Outside |
| 002968 | 002968 | Prehistoric | Not evaluated | 1983 (Thomas J. Banks, Scientific Resource Surveys Inc., Huntington Beach, CA.); 1989 (K. Owens, S. Dies and R. Olson) | One bedrock milling station with one milling slick | Outside |

**Table 4.4-2**
**Previously Recorded Cultural Resources within 1.0-Mile of the Project Site**

| Primary Number (P-33-) | Trinomial (CA-RIV-) | Period | NRHP Eligibility | Record By and Year | Descriptions | Proximity To Proposed Project Site |
|---|---|---|---|---|---|---|
| 002994 | 002994 | Prehistoric | Not evaluated | 1984 (Roger Mason, Scientific Resource Surveys, Huntington Beach, CA.) | Bedrock milling station with ten milling slicks on a split boulder outcrop | Outside |
| 004218 | 004218 | Prehistoric | Not evaluated | 1991 (Michael P. Sampson, California Department of Parks & Recreation/ Southern Region HQ/ 8885 Rio San Diego Drive, Suite 270/ San Diego 92108) | Bedrock milling station with two milling slicks on one boulder and three milling slicks on a separate boulder | Outside |
| 013110 | 007307 | Prehistoric | Not evaluated | 1987 (Banks, Thomas, Scientific Resource Surveys) | Bedrock milling station with on milling slick and a rock circle | Outside |
| 027260 | | Historic | Not evaluated | 2017 (Riordan Goodwin, LSA Associates Inc.) | Fragment of a pre WWII steel irrigation pipe (Isolate) | Outside |

## 4.4.5 Native American Coordination

### Sacred Lands File Search and Tribal Outreach

Dudek contacted the NAHC on November 26, 2018 and requested a review of the Sacred Lands File (SLF). The NAHC replied via email on December 5, 2018 stating that the SLF search did not identify the presence of Native American cultural resources in the proposed project site; though they stated that this did not preclude the existence of cultural resources within the proposed project site. The NAHC suggested contacting six Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the proposed project site. Two responses were received as a result of the tribal outreach letters and is summarized in Table 4.4-3.

**Table 4.4-3**
**Native American Heritage Commission-Listed Native American Contacts**

| Native American Tribes | Response Received |
|---|---|
| Thomas Rodriguez, Chairperson<br>La Jolla Band of Luiseño Indians | No response received. |

**Table 4.4-3**
**Native American Heritage Commission-Listed Native American Contacts**

| Native American Tribes | Response Received |
|---|---|
| Robert H. Smith, Chairperson<br>Pala Band of Mission Indians | No response received. |
| Mark Macarro, Chairman<br>Pechanga Band of Luiseño Indians | No response received. |
| Bo Mazzetti, Chairperson<br>Rincon Band of Luiseño Indians (RBLI) | Response received on January 15, 2019 via email from Deneen Peltron, Administrative Assistant for the RBLI. Within the email was an attached letter response from Destiny Colocho, Tribal Historic Preservation Officer for the RBLI. In the letter, Ms. Colocho stated that the proposed project site is within the territory of the Luiseño people and within the RBLI's area of historic interest. However, Ms. Colocho stated that the RBLI did not have any knowledge of any tribal cultural resources within the proposed project site. |
| Carmen Mojado, Tribal Council<br>San Luis Rey Band of Mission Indians | No response received. |
| Joseph Ontiveros, Cultural Resource Department<br>Soboba Band of Luiseño Indians (SBLI) | Response received on January 8, 2019 via email from Jessica Valdez, Cultural Resource Specialist. Ms. Valdez stated that the proposed project site is culturally sensitive to SBLI and their in-house search identified multiple areas of potential impact. Ms. Valdez stated that the specifics would be shared with the lead agency through direct consultation. The email included an attached letter from Joseph Ontiveros in which he reiterates the information provided by Ms. Valdez. Additionally, Mr. Valdez requested consultation with the lead agency, provide project progress to the SBLI, and retention of a SBLI monitor for all ground-disturbance work, including surveys and testing. The email and letter from the SBLI was forwarded to the City. |

This outreach was conducted for informational purposes only and does not constitute formal government-to-government consultation as specified by AB 52, which is discussed in detail in the following section. Documents related to the NAHC SLF search and Native American outreach efforts are included in Appendix C of the cultural resources technical report (Appendix D of this EIR). All AB 52 consultation between the lead agency and Native American groups and/or individuals is discussed in Section 4.15, Tribal Cultural Resources.

## 4.4.6 Historic Aerial Review

Dudek consulted historic maps and aerial photographs to understand development of the proposed project site and surrounding properties. Topographic maps are available from 1954 to the present and aerial images are available from 1966 to the present (NETR 2018a, 2018b).

Topographic maps from 1954 show the proposed project site and general vicinity as undeveloped land. On the 1954 map, there are only a few roads running through the general area. The nearest development in 1954 was March Air Force Base to the west. The proposed project site remained undeveloped until sometime between 1985 and 2012. Topographic maps indicate that development in the entire Moreno Valley area was rather slow during most of the twentieth century. By 1968, the first planned subdivisions appear, located to the northwest of the proposed project site. Development continued slowly and the area did not see major development until between 1985 and 2012, when the majority of the City was developed.

The first aerial for the proposed project site dates to 1966 and shows the area as primarily agricultural land. The 1966 aerial shows a small planned subdivision between Perris Boulevard and Kitching Street along Gentian Avenue and a much larger planned subdivision along the Moreno Valley Freeway (State Route 60) between Heacock Street and Perris Boulevard. The proposed project site was undeveloped in 1966. During the 1970s, smaller subdivisions to the west and northeast of proposed project site were built; however, the proposed project site remained agricultural land throughout this time. The aerial from 1996 shows that by this time the existing medical center facilities on the project site had begun to be developed. The residential subdivision south of Iris Avenue also began to be developed at this time. In 1996 the hospital only consisted of one building and one parking lot. There were no changes to the hospital or the proposed project site until between 2010 and 2012 when the westernmost parking lot was built. Throughout the 1990s and 2000s, there was a small but steady increase in development in eastern Moreno Valley and by 2012 the City was essentially built out to its current extent.

## 4.4.7 Cultural Resource Survey

### Field Methodology

A qualified Dudek archaeologist conducted a survey of the proposed project site on December 18, 2018. The survey was conducted to identify and record any cultural resources that may be present within the proposed project site using standard archaeological procedures and techniques that meet the Secretary of Interior’s standards and guidelines for cultural resources inventory. The survey was conducted for all portions of the proposed project site with exposed ground surface using north-south transects, where possible, and spaced no more than 15 meters apart. In developed areas of the proposed project site, transects were not feasible and were not utilized. Instead, a mixed approach (opportunistic survey) was utilized, selectively examining open ground surface where possible. The ground surface was examined for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discolorations that might indicate the presence of a cultural midden, and depressions and other features that might indicate the former presence of structures or buildings.

**Results**

The proposed project site is situated on a relatively flat landform in an almost entirely developed area. There are two large sections of open ground surface at the northernmost section and the north-western section of the proposed project site. Transects were walked over these areas where possible, though extremely thick vegetation in the north-western section prevented transects in that area. These areas have been extensively impacted by grading and landscaping activities, evidenced by grading scars, irrigation lines, and drainage infrastructure. Additionally, these areas, particularly the northern section, were strewn with construction materials, ballast, large push piles, and modern trash. The northwestern section appeared to be used for drainage purposes. This section is also densely covered with vegetation, primarily grasses and brush. Soils in both these areas are light brownish-yellow sand. Within the developed portions of the proposed project site, open ground surface, associated with landscaped areas such as lawns and flower boxes, was inspected. The soils in these areas appear to have been imported. No cultural resources were identified during the cultural resource pedestrian survey. Figures 4 through 7 in Appendix A of the cultural resources technical report (Appendix D of this EIR) show overviews of the proposed project site.

## 4.4.8 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if the project would:

CUL-1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

CUL-2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

CUL-3. Disturb any human remains, including those interred outside of dedicated cemeteries.

## 4.4.9 Impacts Analysis

***Threshold CUL-1. Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?***

The proposed project site was initially developed in the late 1990s for its current use as a hospital. Prior to this, the entire project site was subject to major disturbances related to agricultural activities (such as disking and plowing). Due to the very recent development of the proposed project site, and the lack of any structure development within the proposed project site prior to the 1990's, there are no historic buildings or structures present within the proposed project site which could be designated as historically significant, as defined in the CRHR to mean a resource that is associated with important events, persons, history, or possess high artistic value or important information for the prehistory or history of the area. (See Section 4.4.1, Relevant Plans, Policies, and Ordinances). In addition, Dudek conducted a pedestrian survey of the proposed project site for archaeological resources on December 18, 2018. No cultural resources were identified during the pedestrian survey. Therefore, construction and operation of the proposed project would not cause a substantial change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5, and **less-than-significant impacts** would occur.

***Threshold CUL-2. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?***

As previously discussed, Dudek conducted a pedestrian survey of the proposed project site on December 18, 2018, for archaeological resources. Additionally, a CHRIS records search was conducted for the proposed project site and within 1-mile buffer around the proposed project site. No archaeological resources were identified within the project site as a result of the CHRIS records search, Native American outreach, or intensive pedestrian survey.

Additionally, historic aerials indicate that until the late 1990s the proposed project site has been subject to disturbances associated with agricultural activities. Given the agricultural activities of the early twentieth century and the developments associated with the existing medical center improvements throughout the late 1990s and 2000s, as well as the lack of records of archeological resources on the project site, it is unlikely that such resources exist on site today.

Although no archaeological resources were identified within the proposed project site, there is the potential to encounter unanticipated cultural resources during the course of construction. Management recommendations to reduce potential impacts to unanticipated archaeological resources during construction activities are provided in **MM-CUL-1**. Adherence to the mitigation measure would ensure that the proposed project would have a **less-than-significant impact on archaeological resources with mitigation incorporated**.

***Threshold CUL-3. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?***

There is no indication that human remains are present within the boundaries of the proposed project site as a result of the CHRIS records search, Native American coordination, or pedestrian survey. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the Los Angeles County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, they shall notify the NAHC in Sacramento within 24 hours. In accordance with California PRC, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The most likely descendant shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains. **MM-CUL-2** has been included to ensure impacts associated with human remains would be **less than significant with mitigation incorporated**.

## 4.4.10 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts to cultural resources and human remains to a less-than-significant level.

**MM-CUL-1** The applicant shall ensure that all ground-disturbing activities are ceased and treatment plans are implemented if archaeological resources are encountered. In the event that archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals should be contacted and consulted and Native American construction monitoring should be initiated. The Applicant and City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis.

In the event that a cultural resource is encountered during ground-disturbing activities, the landowner(s) shall relinquish ownership of all such resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains. The artifacts shall be relinquished through one or more of the following methods and evidence of such shall be provided to the City of Moreno Valley Planning Department:

1. Accommodate the process for Preservation-In-Place/Onsite reburial of the discovered items with the consulting Native American tribes or bands, as detailed in the treatment plan prepared by the professional archaeologist. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;
2. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79; therefore, the resources would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and/or
3. For purposes of conflict resolution, if more than one Native American tribe or band is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.

Once artifact analysis is completed, a final written report detailing the results of all research procedures and interpretation of the site shall be submitted to the lead agency for review and approval.

**MM-CUL-2** In the event that any human remains are unearthed during project construction, the City of Moreno Valley and the Applicant shall comply with State Health and Safety Code Section 7050.5. The City of Moreno Valley and the Applicant shall immediately notify the Riverside County Coroner's office and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition. If remains are determined to be of Native American descent, the coroner has 24-hours to notify the Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely Descendant (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment or disposal, with appropriate dignity, of the human remains and any associated funerary objects. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD all reasonable options regarding the MLDs preferences for treatment.

If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

## 4.4.11 Level of Significance After Mitigation

Implementation of **MM-CUL-1** and **MM-CUL-2** would reduce potentially significant impacts to below a level of significance.

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# 4.5 ENERGY

The following discussion and analysis is based on California Environmental Quality Act (CEQA) Guidelines Sections 15126.2(b) and 15126.4 and Appendices G and F of the CEQA Guidelines. The section evaluates potential impacts to energy resources, including electricity, natural gas, and petroleum, from implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) in the City of Moreno Valley (City). This section also lists applicable project design features (PDFs) related to the project.

## 4.5.1 Relevant Plans, Policies, and Ordinances

**Federal**

***Federal Energy Policy and Conservation Act***

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards. In 2010, fuel economy standards were set at 27.5 miles per gallon (mpg) for new passenger cars and 23.5 mpg for new light trucks. Fuel economy is determined based on each manufacturer’s average fuel economy for the fleet of vehicles available for sale in the United States.

***Energy Independence and Security Act of 2007***

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the act includes other provisions related to energy efficiency:

- Renewable fuel standard (RFS) (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441).

This federal legislation requires ever-increasing levels of renewable fuels to replace petroleum (Section 202, RFS). The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation's renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces (EPA 2013).

Additional provisions of EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

**State**

***Title 24 of the California Code of Regulations***

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

Title 24, Part 6, does not apply to hospitals, but applies to other facilities associated with the medical center, such as the medical office buildings. Title 24, Part 11, also known as CALGreen, was developed to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of CALGreen apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure throughout the State of California. The CALGreen has both mandatory and voluntary measures.

### *Senate Bill 1368*

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to power plants that meet an emissions performance standard jointly established by the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC).

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of carbon dioxide ($CO_2$) per megawatt-hour (MWh). This will encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This will facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (Perata, Chapter 598, Statutes of 2006).

### *Assembly Bill 1493*

Adopted in 2002 by the state legislature, Assembly Bill 1493 ("Pavley" regulations) required that the California Air Resources Board (CARB) develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.

The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005 and was denied by the EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions."

The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment to a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September 2009 amendments will allow for California's enforcement of the Pavley rule while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles.

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22% in 2012 and about 30% in 2016, all while improving fuel efficiency and reducing motorists’ costs.

CARB has adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California (CARB 2013).

***Senate Bill 375***

In August 2008, the legislature passed, and in September 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. By September 30, 2010, CARB was required to assign regional GHG reduction targets for the automobile and light truck sector for 2020 and 2035. Regional metropolitan planning organizations will be responsible for preparing a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP). The goal of the SCS is to establish a development plan for the region that, after considering transportation measures and policies, will achieve the GHG reduction targets. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for “transit priority projects,” as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the SCS or Alternative Planning Strategy. In September 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations.

On April 7, 2016, the Southern California Association of Governments (SCAG) adopted the 2016–2040 RTP/SCS which looks to build on the success of the 2012–2035 RTP/SCS. Targets for the SCAG region in the updated plan includes an 8% per capita reduction in GHG emissions from automobiles and light trucks by 2020, an 18% reduction by 2035, and a 21% reduction by 2040 compared with 2005 levels (SCAG 2016).

***Renewable Portfolio Standards (SB 1078; SB 107; SBX1-2; and SB 100)***

As most recently amended by SB 350, California’s Renewables Portfolio Standard Program requires retail sellers of electric services and local publicly-owned electric utilities to increase procurement from eligible renewable energy resources to 33% of total retail sales by 2020, 40% of total retail sales by 2024, 45% of total retail sales by 2027, and 50% of total retail sales by 2030. On September 10, 2018 the goals of this standard were revised to a 50% renewable resources target by December 21, 2026, and to a 60% target by December 31, 2030.

Executive Order S-13-08

Governor Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The executive order is intended to hasten California's response to the impacts of global climate change, particularly sea level rise. It directs state agencies to take specified actions to assess and plan for such impacts. It directs the California Natural Resources Agency (CNRA), in cooperation with the California Department of Water Resources, CEC, California's coastal management agencies, and the Ocean Protection Council, request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies are required to conduct a public workshop to gather information relevant to the Sea Level Rise Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of the order the vulnerability of the state's transportation systems to sea level rise. The Governor's Office of Planning and Research (OPR) and the CNRA are required to provide land use planning guidance related to sea level rise and other climate change impacts. The order also requires the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final adaption strategies report was issued in December 2009. To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure. The report then recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Senate Bill X1 2

On April 12, 2011, Governor Jerry Brown signed SB X1 2 in the First Extraordinary Session, which would expand the Renewable Portfolio Standard (RPS) by establishing a goal of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107, SB X1 2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC is required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20% by December 31, 2013; 25% by December 31, 2016; and 33% by December 31, 2020. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets and that the governing boards be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

### Local

#### *City of Moreno Valley Energy Efficiency and Climate Action Strategy*

The City's Energy Efficiency and Climate Action Strategy (Strategy) main objectives are to reduce the environmental impact and fiscal impact of energy usage and GHG emissions in municipal facilities and within the community (City of Moreno Valley 2012). The genesis of the Strategy is the Federal Energy Efficiency and Conservation Block Grant awarded to the City to implement energy efficiency projects and strategies for the City as an organization. The Strategy is intended to be a comprehensive living policy document for the City organization and the community to address energy and water conservation and effects of climate change. The City provided an accounting of GHG emissions within the City and goals and policies to reduce energy use and GHG emissions citywide.

#### *City of Moreno Valley General Plan*

The Community Development, Circulation, and Conservation Elements of the City's General Plan (City of Moreno Valley 2016) include applicable goals and policies related to energy related emissions. Thesegoals and policies have been analyzed for consistency with the project in Table 4.10-1 within Section 4.10, Land Use and Planning.

The following goals and objectives from the City's General Plan related to energy:

<u>Community Development Element</u>

- Goal 2.5. Maintenance of systems for water supply and distribution; wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution which are capable of meeting the present and future needs of all residential, commercial, and industrial customers within the City of Moreno Valley.
- Policy 2.4.10. Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response.

- Policy 2.10.13. Provide landscaping in automobile parking areas to reduce solar heat and glare.
- Policy 2.13.4. Encourage installation of advanced technology infrastructure, including, but not limited to, infrastructure for high speed internet access and solar energy.

Circulation Element

- Policy 5.1.1. Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.
- Policy 5.1.2. Plan the circulation system to reduce conflicts between vehicular, pedestrian and bicycle traffic.
- Policy 5.8.3. Encourage public transportation opportunities that address the particular needs of transit dependent individuals in the City such as senior citizens, the disabled and low - income residents.
- Policy 5.8.4. Ensure that all new developments make adequate provision for bus stops and turnout areas for both public transit and school bus service.
- Policy 5.9.1. Encourage walking as an alternative to single occupancy vehicle travel, and help ensure the safety of the pedestrian as follows:
  a. All new developments shall provide sidewalks in conformance with the City's streets cross-section standards, and applicable policies for designated urban and rural areas.
  b. The City shall actively pursue funding for the infill of sidewalks in developed areas. The highest priority shall be to provide sidewalks on designated school routes.
- Objective 5.10. Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution.

Conservation Element

- Objective 7.5. Encourage efficient use of energy resources.
- Policy 7.5.1. Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.
- Policy 7.5.2. Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.
- Policy 7.5.3. Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access.
- Policy 7.5.5. Encourage the use of solar power and other renewable energy systems.

## 4.5.2 Existing Conditions

### Electricity

According to the CEC's *California Energy Demand Updated Forecast 2016–2026,* California used approximately 280,536 gigawatt hours of electricity in 2014 (CEC 2016). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Because of the state's energy efficiency standards and efficiency and conservation programs, California's per capita energy use has remained stable for more than 30 years, while the national average has steadily increased.

Southern California Edison (SCE) and the Moreno Valley Electric Utility (MVU) provide electricity to the City. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. MVU was established by the City Council in 2001 and serves over 6,500 customers within its service area, approximately 70% of the City. According to the CEC, approximately 84 billion kilowatt-hours (kWh) of electricity were used in SCE's service area in 2017 and MVU supplied 204 million kWh in 2017 (CEC 2019a). Demand forecasts anticipate that approximately 75 billion kWh of electricity will be used in SCE's service area in 2020 (CPUC 2016). By 2020, MVU is expected to have a demand of over 200,000 kWh (MVU 2018).

SCE receives electric power from a variety of sources. According to CPUC's 2016 Biennial RPS Program Update, 23.2% of SCE's power came from eligible renewables, such as biomass/waste, geothermal, small hydroelectric, solar, and wind sources during the 2014–2016 compliance period (CPUC 2016). This is an increase from the 19.9% that SCE maintained for the 2011–2013 compliance period (CPUC 2014). SCE maintains a lower percentage of renewable energy procurement when compared with California's two other large Investor-Owned Utilities. The other two large utilities, Pacific Gas and Electric Company and San Diego Gas and Electric Company, procured 28% and 36% of their electric power, respectively, from eligible renewables in the 2014–2016 compliance period (CPUC 2016). SCE also maintains a slightly lower percentage of renewables relative to statewide procurement. The CEC estimates that about 26% of the state's electricity retail sales in 2015 came from renewable energy (CEC 2017). The RPS Program establishes a goal for California to increase the amount of electricity generated from renewable energy resources to 20% by 2010 and to 33% by 2020. Recent legislation revised the current RPS target for California to obtain 50% of total retail electricity sales from renewable sources by 2026, and 60% by December 31, 2030.

### Natural Gas

According to the CEC, the state used approximately 12,571 million therms of natural gas in 2017 (CEC 2019a). By sector, industrial uses utilize 35.9% of the state's natural gas, followed by 35.5% from electric power, 16.9% from residential, 10.1% from commercial, and 1.6% from transportation uses (EIA 2016a). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 90% of its supply of natural gas (CEC 2019a).

The Southern California Gas Company (SoCalGas) provides the City with natural gas service. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Demand mid-energy demand scenario, natural gas demand is projected to have an annual growth rate of 0.03% in SoCalGas' service territory. As of 2012, approximately 7,357 million therms[1] were used in SoCalGas' service area per year. Around the time of project building in 2020, natural gas demand is anticipated to be approximately 7,388 million therms per year in SoCalGas' service area (CEC 2014). The total capacity of natural gas available to SoCalGas in 2016 is estimated to be 3.9 billion cubic feet per day. In 2020, the total capacity available is also estimated to be 3.9 billion cubic feet per day[2] (California Gas and Electric Utilities 2016). This amount is approximately equivalent to 3.98 billion thousand British thermal units (kBTU) per day or 39.8 million therms per day. Over the course of a year, the available capacity would therefore be 14.5 billion therms per year, which is well above the existing and future anticipated natural gas demand in SoCalGas' service area.

### Petroleum

According to the CEC, the state used approximately 18.6 billion gallons of petroleum in 2017 (CEC 2019b). This equates to a daily use of approximately 51 million gallons of petroleum.

By sector, transportation uses utilize 86.7% of the state's petroleum, followed by 11.6% from industrial, 1.0% from commercial, 0.8% from residential, and 0.02% from electric power uses (EIA 2016b). In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. Production of petroleum in the United States was 9.7 million barrels per day during April 2015, which was the highest output since April 1971 (CEC 2015a).

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1 One therm is equal to 100,000 Btu or 100 kBtu.

2 One cubic foot of natural gas has approximately 1,020 BTUs of natural gas or 1.02 kBTUs of natural gas.

## 4.5.3 Thresholds of Significance

The significance criteria used to evaluate the project's potential impacts to energy consumption are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to energy consumption would occur if the project would:

ENR-1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

ENR-2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

## 4.5.4 Project Design Features

Aspects of the proposed project's components would directly and indirectly reduce the proposed project's energy usage. Project Design Feature **(PDF)-GHG-1** describes elements of the project design relative to sustainable building design to reduce energy and water usage and features to encourage more walkability. The PDF would also reduce the proposed project's contribution to cumulative GHG emissions.

**PDF-GHG-1** As part of Kaiser's green and sustainability initiatives, the project would incorporate Kaiser's sustainable building standards and green initiatives. Kaiser will obtain LEED Gold certification or equivalent for the buildings that it develops on the project site. The project's design will embrace technology and the environment, incorporate reduced energy demand systems (e.g., solar, thermal insulation), and utilize rainwater, recycling of waste, systems with energy recovery options, prefabrication elements across the project to minimize waste, and local materials for both landscape and construction. To attain this goal, Kaiser would implement many of its current green strategies in the project. These strategies include using:

- polyvinyl chloride–free materials (such as resilient flooring, carpet and roofs)
- low–volatile organic compound or volatile organic compound–free paints
- chlorofluorocarbon-free refrigerants
- innovative construction waste diversion programs to keep harmful materials out of landfills
- formaldehyde-free casework
- high efficiency heating, ventilation, and air conditioning systems
- cogeneration electricity production and heat recovery

- infrared, hands-free faucets
- permeable paving to reduce stormwater runoff in parking areas
- cool roofs for solar reflectivity and building cooling
- turf-free and indigenous native planting for low irrigation demand, and
- water conservation efforts.

Kaiser's future green strategies for the project includes one or more of the following:

- solar power/photovoltaics
- electric vehicle charging stations
- transportation demand management
- fuel-cell technology
- displacement ventilation
- toxin-free furniture, and
- green cement.

## 4.5.5 Impacts Analysis

***Threshold ENR-1. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

Implementation of the project would increase the demand for electricity and natural gas at the project site and gasoline consumption in the region during construction and operation.

### Electricity

#### *Construction Use*

Temporary electric power for as-necessary lighting and electronic equipment such as computers may be needed inside temporary construction trailers. However, the electricity used for such activities would be temporary and would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

#### *Operational Use*

The operational phase would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. These types of uses would be similar to those currently occurring on site. The project's Energy Center would provide backup electrical power for critical infrastructure in the case of a power outage.

CalEEMod (version 2016.3.2) was used to estimate project emissions from energy uses (see Appendix B, Air Quality, for calculations). Default electricity generation rates in CalEEMod were used (based on the proposed land use and climate zone) based on compliance with 2016 Title 24 for non-hospital uses. According to these estimations, the project would consume approximately 1,758,000 kilowatt-hours (kWh) per year from Phase I uses, 3,084,990 kWh per year from Phase II uses, and 2,280,800 kWh from Phase III uses, for a sum total of 7,123,790 kWh per year after full project buildout. This equates to approximately 7.1 gigawatt-hours (GWh) per year. In 2017, the total non-residential electricity demand for Riverside County was 8,346.4 GWh (CEC 2019a).

As described above, the electricity demand calculation for the project assumes compliance with Title 24 standards for 2016, for those parts of the project it applies to (non-hospital). The project would be required to meet the California Building Energy Efficiency Standards (24 CCR, Part 6) which improve the energy efficiency of non-residential buildings. The Title 24, Part 6, standards are updated every three years.

Although electricity consumption would increase due to the implementation of the project, the building envelope; heating, ventilation, and air conditioning; lighting; and other systems, such as electric motor equipment, shall be designed to maximize energy performance. The non-hospital portion of the project are subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Title 24, Part 11, contains voluntary energy measures that are applicable to the project under the California Green Building Standards Code. Prior to project approval, Kaiser would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. For these reasons, the electricity consumption of the project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

### Natural Gas

#### *Construction Use*

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

### *Operational Use*

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling.

Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used and adjusted based on compliance with 2016 Title 24 for non-hospital uses (see Appendix B for calculations). According to these estimations, the project would consume approximately 270,852 therms per year from Phase I uses, 679,000 therms per year from Phase II uses, and 502,000 therms per year from Phase III uses, for a sum total of 1,451,852 therms per year after full project buildout. In comparison, the total non-residential electricity demand for Riverside County in 2017 was 139,166,211 therms (CEC 2019a).

Although natural gas consumption would increase due to the implementation of the project, the building envelope; heating, ventilation, and air conditioning; lighting; and other systems shall be designed to maximize energy performance. The project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations (for those non-hospital components). Title 24, Part 11, contains voluntary energy measures that are applicable to project under the California Green Building Standards Code. Prior to project approval, Kaiser would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. For these reasons, the natural gas consumption of the project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

## Petroleum

### *Construction Use*

Petroleum would be consumed throughout construction of the project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and vehicle miles traveled (VMT) associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities, and haul trucks involved in relocating dirt around the project site would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during construction. CalEEMod was used to estimate construction equipment usage; results are included in Appendix B of this environmental impact report (EIR). Based on that analysis, diesel-fueled construction equipment would operate for an estimated 145,705 hours, as summarized in Table 4.5-1.

**Table 4.5-1**
**Hours of Operation for Construction Equipment**

| Phase | Hours of Equipment Use |
|---|---|
| Demolition Phase I | 720 |
| Site Preparation Phase I | 1,150 |
| Grading Phase I | 975 |
| Building Construction Phase I | 24,800 |
| Trenching Phase I | 3,840 |
| Paving Phase I | 480 |
| Architectural Coating Phase I | 180 |
| *Phase I Total* | *32,145* |
| Demolition Phase II | 480 |
| Site Preparation Phase II | 1,200 |
| Grading Phase II | 3,360 |
| Building Construction Phase II | 51,000 |
| Trenching Phase II | 4,480 |
| Paving Phase II | 960 |
| Architectural Coating Phase II | 840 |
| *Phase II Total* | *62,320* |
| Demolition Phase III | 4,800 |
| Site Preparation Phase III | 1,200 |
| Grading Phase III | 2,400 |
| Building Construction Phase III | 39,000 |
| Trenching Phase III | 2,880 |
| Paving Phase III | 480 |
| Architectural Coating Phase III | 480 |
| *Phase III Total* | *51,240* |
| **Total** | **145,705** |

**Source:** Appendix B.

Fuel consumption from construction equipment was estimated by converting the total $CO_2$ emissions from each construction phase to gallons using conversion factors for $CO_2$ to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton $CO_2$ per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton $CO_2$ per gallon (The Climate Registry 2018). The estimated diesel fuel use from construction equipment is shown in Table 4.5-2.

**Table 4.5-2**
**Construction Equipment Diesel Demand**

| Phase | Pieces of Equipment[a] | Equipment $CO_2$ (MT)[a] | kg $CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Demolition Phase I | 6 | 21.55 | 10.21 | 2,110.25 |
| Site Preparation Phase I | 6 | 41.40 | 10.21 | 4,055.10 |
| Grading Phase I | 5 | 30.09 | 10.21 | 2,947.56 |
| Building Construction Phase I | 8 | 586.14 | 10.21 | 57,408.50 |
| Trenching Phase I | 4 | 73.84 | 10.21 | 7,232.22 |
| Paving Phase I | 3 | 10.01 | 10.21 | 980.78 |
| Architectural Coating Phase I | 2 | 3.83 | 10.21 | 375.11 |
| *Phase I Total* | | | | *75,109.52* |
| Demolition Phase II | 3 | 15.11 | 10.21 | 1,480.24 |
| Site Preparation Phase II | 3 | 28.22 | 10.21 | 2,764.09 |
| Grading Phase II | 6 | 83.79 | 10.21 | 8,206.83 |
| Building Construction Phase II | 13 | 918.49 | 10.21 | 89,959.84 |
| Trenching Phase II | 4 | 86.27 | 10.21 | 8,449.50 |
| Paving Phase II | 3 | 20.02 | 10.21 | 1,960.75 |
| Architectural Coating Phase II | 2 | 17.87 | 10.21 | 1,750.50 |
| *Phase II Total* | | | | *114,571.75* |
| Demolition Phase III | 10 | 173.57 | 10.21 | 16,999.66 |
| Site Preparation Phase III | 3 | 33.75 | 10.21 | 3,305.15 |
| Grading Phase III | 6 | 80.19 | 10.21 | 7,853.76 |
| Building Construction Phase III | 10 | 833.69 | 10.21 | 81,654.62 |
| Trenching Phase III | 4 | 66.38 | 10.21 | 6,501.11 |
| *Paving Phase III* | *3* | *12.05* | *10.21* | *1,180.19* |
| Architectural Coating Phase III | 2 | 10.21 | 10.21 | 1,000.29 |
| *Phase III Total* | | | | *118,494.78* |
| | | | **Total** | **308,176.07** |

**Sources:**
[a] Appendix B.
[b] The Climate Registry 2018.
**Notes:** $CO_2$ = carbon dioxide; kg = kilogram; MT = metric ton.

Fuel consumption from worker and vendor trips was estimated by converting the total $CO_2$ emissions from the construction phase to gallons using the conversion factors for $CO_2$ to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor/hauling vehicles are assumed to be diesel fueled.

Calculations for total worker, vendor, and hauler fuel consumption are provided in Table 4.5-3, Table 4.5-4, and Table 4.5-5.

## Table 4.5-3
## Construction Worker Vehicle Gasoline Demand

| Phase | Trips | Vehicle $CO_2$ (MT)[a] | kg $CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Demolition Phase I | 600 | 2.76 | 8.78 | 314.21 |
| Site Preparation Phase I | 1,000 | 4.60 | 8.78 | 523.69 |
| Grading Phase I | 750 | 3.45 | 8.78 | 392.77 |
| Building Construction Phase I | 120,000 | 534.98 | 8.78 | 60,931.64 |
| Trenching Phase I | 7,200 | 30.83 | 8.78 | 3,511.48 |
| Paving Phase I | 480 | 2.06 | 8.78 | 234.10 |
| Architectural Coating Phase I | 450 | 1.93 | 8.78 | 219.46 |
| *Phase I Total* | | | | *66,127.35* |
| Demolition Phase II | 800 | 2.94 | 8.78 | 334.81 |
| Site Preparation Phase II | 2,000 | 7.35 | 8.78 | 837.03 |
| Grading Phase II | 1,960 | 7.20 | 8.78 | 820.28 |
| Building Construction Phase II | 100,000 | 355.72 | 8.78 | 40,514.40 |
| Trenching Phase II | 8,400 | 28.95 | 8.78 | 3,297.36 |
| Paving Phase II | 640 | 2.15 | 8.78 | 244.79 |
| Architectural Coating Phase II | 1,960 | 6.57 | 8.78 | 748.63 |
| *Phase II Total* | | | | *46,797.3* |
| Demolition Phase III | 4,800 | 15.13 | 8.78 | 1,723.25 |
| Site Preparation Phase III | 2,000 | 6.30 | 8.78 | 718.02 |
| Grading Phase III | 1,500 | 4.73 | 8.78 | 538.51 |
| Building Construction Phase III | 175,000 | 541.85 | 8.78 | 61,714.42 |
| Trenching Phase III | 5,400 | 16.48 | 8.78 | 1,876.82 |
| Paving Phase III | 480 | 1.46 | 8.78 | 166.83 |
| Architectural Coating Phase III | 1,200 | 3.63 | 8.78 | 413.28 |
| *Phase III Total* | | | | *67,151.13* |
| **Total** | | | | **180,075.79** |

**Sources:**
[a] Appendix B.
[b] The Climate Registry 2018.
**Notes:** $CO_2$ = carbon dioxide; kg = kilogram; MT = metric ton.

## Table 4.5-4
## Construction Vendor Truck Diesel Demand

| Phase | Trips | Vehicle $CO_2$ (MT)[a] | kg/$CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Demolition Phase I | 60 | 0.74 | 10.21 | 72.25 |
| Site Preparation Phase I | 100 | 1.23 | 10.21 | 120.41 |
| Grading Phase I | 100 | 1.23 | 10.21 | 120.41 |
| Building Construction Phase I | 16,000 | 195.31 | 10.21 | 19,129.24 |
| Trenching Phase I | 480 | 5.81 | 10.21 | 568.56 |
| Paving Phase I | 40 | 0.48 | 10.21 | 47.38 |

**Table 4.5-4**
**Construction Vendor Truck Diesel Demand**

| Phase | Trips | Vehicle $CO_2$ (MT)[a] | kg/$CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Architectural Coating Phase I | 30 | 0.36 | 10.21 | 35.53 |
| *Phase I Total* | | | | *20,093.78* |
| Demolition Phase II | 80 | 0.93 | 10.21 | 90.77 |
| Site Preparation Phase II | 200 | 2.32 | 10.21 | 226.93 |
| Grading Phase II | 280 | 3.24 | 10.21 | 317.71 |
| Building Construction Phase II | 22,000 | 253.60 | 10.21 | 24,838.24 |
| Trenching Phase II | 560 | 6.43 | 10.21 | 629.36 |
| Paving Phase II | 80 | 0.91 | 10.21 | 89.58 |
| Architectural Coating Phase II | 140 | 1.60 | 10.21 | 156.74 |
| *Phase II Total* | | | | *26,349.33* |
| Demolition Phase III | 240 | 2.73 | 10.21 | 267.86 |
| Site Preparation Phase III | 200 | 2.28 | 10.21 | 223.21 |
| Grading Phase III | 200 | 2.28 | 10.21 | 223.21 |
| Building Construction Phase III | 20,000 | 227.66 | 10.21 | 22,298.19 |
| Trenching Phase III | 360 | 4.09 | 10.21 | 401.07 |
| Paving Phase III | 40 | 0.46 | 10.21 | 44.56 |
| Architectural Coating Phase III | 80 | 0.91 | 10.21 | 89.08 |
| *Phase III Total* | | | | *23,547.18* |
| | | | **Total** | **69,990.30** |

**Sources:**
[a] Appendix B.
[b] The Climate Registry 2018.
**Notes:** $CO_2$ = carbon dioxide; MT = metric ton; kg = kilogram.

**Table 4.5-5**
**Construction Haul Truck Diesel Demand**

| Phase | Trips | Vehicle $CO_2$ (MT)[a] | kg $CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Demolition Phase I | 400 | 26.32 | 10.21 | 2,577.92 |
| Site Preparation Phase I | 100 | 3.63 | 10.21 | 355.09 |
| Grading Phase I | 900 | 52.57 | 10.21 | 5,149.21 |
| Building Construction Phase I | 320 | 11.49 | 10.21 | 1,125.41 |
| Trenching Phase I | 96 | 3.40 | 10.21 | 333.44 |
| Paving Phase I | 240 | 8.51 | 10.21 | 833.60 |
| Architectural Coating Phase I | 0 | 0.00 | 10.21 | 0.00 |
| *Phase I Total* | | | | *10,374.67* |
| Demolition Phase II | 300 | 18.45 | 10.21 | 1,806.70 |
| Site Preparation Phase II | 200 | 6.75 | 10.21 | 661.45 |
| Grading Phase II | 1,300 | 8.76 | 10.21 | 858.04 |
| Building Construction Phase II | 320 | 10.76 | 10.21 | 1,053.42 |

**Table 4.5-5**
**Construction Haul Truck Diesel Demand**

| Phase | Trips | Vehicle $CO_2$ (MT)[a] | kg $CO_2$/Gallon[b] | Gallons |
|---|---|---|---|---|
| Trenching Phase II | 96 | 3.21 | 10.21 | 314.70 |
| Paving Phase II | 400 | 13.34 | 10.21 | 1,306.85 |
| Architectural Coating Phase II | 0 | 0.00 | 10.21 | 0.00 |
| *Phase II Total* | | | | *6,001.16* |
| Demolition Phase III | 2,000 | 121.33 | 10.21 | 11,883.41 |
| Site Preparation Phase III | 120 | 3.99 | 10.21 | 390.71 |
| Grading Phase III | 1,300 | 8.46 | 10.21 | 828.41 |
| Building Construction Phase III | 280 | 9.30 | 10.21 | 910.44 |
| Trenching Phase III | 96 | 3.18 | 10.21 | 311.84 |
| Paving Phase III | 200 | 6.63 | 10.21 | 649.67 |
| Architectural Coating Phase III | 0 | 0.00 | 10.21 | 0.00 |
| *Phase III Total* | | | | *14,974.48* |
| | | | **Total** | **31,350.30** |

**Sources:**
[a] Appendix B.
[b] The Climate Registry 2018.
**Notes:** $CO_2$ = carbon dioxide; kg = kilogram; MT = metric ton.

As shown in Tables 4.5-2 through 4.5-5, the project is estimated to consume 589,593 gallons of petroleum during the construction phase (for all three phases combined). By comparison, approximately 122.7 billion gallons of petroleum would be consumed in California over the course of the project's construction phase based on the California daily petroleum consumption estimate of approximately 52.9 million gallons per day (CEC 2019b). In 2018, the total petroleum consumption within the County of Riverside was 1.0 billion gallons (CARB 2019). The project would also be required to comply with CARB's Airborne Toxics Control Measures, which restrict heavy-duty diesel vehicle idling time to 5 minutes. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant**.

### *Operational Use*

The majority of fuel consumption resulting from the project's operational phase would be attributable to employees and customers traveling to and from the project site.

Petroleum fuel consumption associated with motor vehicles and delivery trucks traveling to and from the project site during operation is a function of VMT. Based on the traffic impact report (Appendix I), the annual VMT attributable to the project is expected to be 453,454 VMT per year for Phase I uses, 4,327,836 VMT per year for Phase II uses, 4,003,744 VMT per year for

Phase III uses, for a sum total of 8,785,034 VMT per year after project buildout. Similar to construction worker and vendor trips, fuel consumption for operation was estimated by converting the total $CO_2$ emissions from each land use type to gallons using the conversion factors for $CO_2$ to gallons of gasoline or diesel. The employee and customer vehicles were assumed to be gasoline powered and the vendor trucks were assumed to be diesel.

Calculations for annual fuel consumption are provided in Table 4.5-6. Mobile sources and the backup generator from the project would result in approximately 547,146 gallons of gasoline per year and 43,225.98 gallons of diesel per year, for a total of 590,372 gallons of petroleum consumed per year beginning in 2035 after project buildout. By comparison, California as a whole consumes approximately 19.3 billion gallons of petroleum per year (CEC 2019b). It is forecasted that in 2036 approximately 849 million gallons of petroleum in Riverside County will be consumed (CARB 2019).

**Table 4.5-6**
**Petroleum Consumption – Operation**

| Fuel | Vehicle MT $CO_2$ | kg $CO_2$/Gallon | Gallons |
|---|---|---|---|
| Gasoline Phase I (mobile sources) | 262.55 | 8.78 | 29,902.64 |
| Gasoline Phase II (mobile sources) | 2,139.43 | 8.78 | 243,67035 |
| Gasoline Phase III (mobile sources) | 2,401.97 | 8.78 | 273,572.49 |
| Diesel Phase I (mobile sources) | 21.34 | 10.21 | 2,090.58 |
| Diesel Phase I (generator) | 50.78 | 10.21 | 4,973.49 |
| Diesel Phase II (mobile sources) | 173.93 | 10.21 | 17,035.68 |
| Diesel Phase III (mobile sources) | 195.28 | 10.21 | 19,126.23 |
| | | **Total** | **590,371.45** |

**Sources:**
[a] Appendix B.
[b] The Climate Registry 2018.
**Notes:** $CO_2$ = carbon dioxide; kg = kilogram; MT = metric ton.

Over the lifetime of the project, the fuel efficiency of the vehicles being used by the employees is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, as mentioned previously, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the number of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions from 2005 levels by 8% by 2020, and 18% by 2035 for light-duty passenger vehicles in the planning area for the Southern California Association of Governments. As such, operation of the project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy.

In summary, although the project would increase petroleum use during operation as a result of employees and customers commuting to the site and vendor trucks, the use would be a small fraction of the state- and County-wide use and, due to efficiency increases, would diminish over time. Given these considerations, petroleum consumption associated with the project would not be considered inefficient or wasteful and would result in a **less-than-significant impact**.

***Threshold ENR-2. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

The project would comply with applicable provisions of Title 24, Part 6, which does not apply to hospitals, but applies to other facilities associated with the proposed medical center, such as the medical office buildings. Title 24, Part 11, contains voluntary energy measures that are applicable to hospital facilities under the California Green Building Standards Code. Kaiser Permanente would also follow voluntary energy measures by incorporating Kaiser Permanente's sustainable building standards and green initiatives. Kaiser Permanente will pursue LEED Gold certified or equivalent for the buildings on the project site (**PDF-GHG-1**). The project would not conflict with the City's Energy Efficiency and Climate Action Strategy and would support the green building, energy efficiency, and renewable energy goals for the City. Because the project would comply with all applicable energy efficiency requirements, and would also voluntarily implement design features and programs to reduce energy consumption beyond what is required by the state, the project would implement energy efficiency requirements and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts related to a state or local plan for renewable energy or energy efficiency would be **less than significant.**

## 4.5.6 Mitigation Measures

Impacts related to energy conservation were found to be less than significant. Therefore, no mitigation measures are necessary.

## 4.5.7 Level of Significance After Mitigation

Since there would be no significant impacts needing mitigation, residual impacts would be less than significant.

## 4.5.8 References Cited

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# 4.6 GEOLOGY AND SOILS

This section provides an analysis of the potential impacts of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) with regard to geology and soils, including fault rupture, ground shaking, ground failure (e.g., liquefaction), landslides, expansive soils, and soil stability. The analysis is based, in part, on the following reports, which are included as Appendix E-1 and Appendix E-2, respectively:

- Geotechnical Report, Kaiser Permanente, Moreno Valley Medical Center, Diagnostic and Treatment (D&T) Building, 27300 Iris Avenue, Moreno Valley, California, prepared by GeoBase Inc. (August 2017)
- Geotechnical Report, Kaiser Permanente, Moreno Valley Medical Center, Central Utility Plant (CUP), 27300 Iris Avenue, Moreno Valley, California, prepared by GeoBase Inc. (August 2017)

## 4.6.1 Relevant Plans, Policies, and Ordinances

**Federal**

No federal laws, plans, or policies related to geology and soils are applicable to the proposed project.

**State**

***Alquist-Priolo Earthquake Fault Zoning Act***

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621) was enacted by the State of California in 1972 to address the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act was a direct result of the 1971 San Fernando Earthquake in Southern California, which was associated with extensive surface fault ruptures that damaged homes, commercial buildings, and other structures. The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent the construction of buildings intended for human occupancy on the surface traces of active faults. The Alquist-Priolo Earthquake Fault Zoning Act is also intended to provide citizens with increased safety and minimize the loss of life during and immediately following earthquakes, by facilitating seismic retrofitting to strengthen buildings against ground shaking.

The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish regulatory zones, known as "earthquake fault zones," around the surface traces of active faults and to issue appropriate maps to assist cities and counties in planning, zoning, and building regulation functions. Maps are distributed to all affected cities and counties for the controlling of new or renewed construction and are required to sufficiently define potential surface rupture or fault creep. The State

Geologist is charged with continually reviewing new geologic and seismic data and revising existing zones and delineating additional earthquake fault zones when warranted by new information.

Local agencies must enforce the Alquist-Priolo Earthquake Fault Zoning Act in the development permit process, where applicable, and may be more restrictive than state law requires. According to the Alquist-Priolo Earthquake Fault Zoning Act, before a project can be permitted, cities and counties shall require a geologic investigation, prepared by a licensed geologist, to demonstrate that buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy cannot be place over the trace of the fault and must be set back a minimum of 50 feet. The Alquist-Priolo Earthquake Fault Zoning Act and its regulations are presented in California Department of Conservation, California Geological Survey, Special Publication 42, Fault-Rupture Hazard Zones in California.

***Seismic Safety Act and Hospital Facilities Seismic Safety Act***

The California Seismic Safety Commission was established by the Seismic Safety Act in 1975 with the intent to provide oversight, review, and recommendations to the governor and state legislature regarding seismic issues. The Commission's name was changed to Alfred E. Alquist Seismic Safety Commission in 2006 (Alfred E. Alquist Seismic Safety Commission 2018).

The Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983 established, under the jurisdiction of the Office of Statewide Health Planning and Development, a program of seismic safety building standards for certain hospitals constructed on and after March 7, 1983.

The Hospital Facilities Seismic Safety Act was amended in 1994 by Senate Bill (SB) 1953, following the 1994 Northridge earthquake, which caused extensive structural damage to hospitals throughout the Los Angeles region and necessitated the closure of 11 facilities. This bill directed all hospitals in California to comply with three seismic building code safety requirements by specific deadlines, as follows (California Healthcare Association 2007):

- By 2002, major non-structural systems, such as backup generators, exit lighting, etc., were required to be braced.
- By 2008, all general acute care inpatient buildings at risk of collapsing during a strong earthquake were required to be rebuilt, retrofitted, or closed.
- By 2030, all hospital buildings in the state are required to be able to be operational following a major earthquake.

The legislation was estimated at the time of its passage to affect approximately 2,700 general acute care inpatient hospital buildings at approximately 470 hospitals statewide, at a projected cost of approximately $24 billion. As of 2007, it was estimated that 60% of hospitals in Southern

California were noncompliant. Hospitals were given several interim deadlines and opportunities for possible extensions to comply with the requirements, including:

- By January 1, 2001, hospitals were required to file reports documenting their building status with the Office of Statewide Health Planning and Department. A one-year extension for compliance was granted if requested.
- By January 1, 2002, all general acute care inpatient hospital buildings were required to meet specific requirements for bracing nonstructural building elements, as well as install brace systems for communications, emergency power, bulk medical gas, and fire alarms.
- By January 1, 2008, all general acute care inpatient hospital buildings were required to meet at least certain requirements to brace structural and nonstructural building elements so as not to pose a risk of collapsing in a major earthquake. Meeting these requirements would allow hospital buildings to remain operational until 2030. Nonstructural mechanical, electrical, and plumbing systems, including fire sprinkler branch lines, were required to be braced and anchored in critical-care areas such as surgery, intensive care, pharmacy, central supply, emergency department, and radiology.
- By January 1, 2030, all general acute care inpatient buildings are required to be in substantial compliance with SB 1953, and buildings must be classified as Seismic Retrofit Program-3, -4, or -5, and have braced all structural and nonstructural building elements and equipment.

In addition, Section 130060 of the Health and Safety Code required that after January 1, 2008, a general acute care hospital building that is determined to be a potential risk of collapse, or to pose significant loss of life in the event of seismic activity, be used only for non-acute care hospital purposes. This health and safety code was amended in 2015, by Assembly Bill 232, Chapter 555, to allow critical access hospitals an extension to submit a seismic safety application, under certain circumstances (California Legislative Information 2015).

***Seismic Hazards Mapping Act***

In order to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, the State of California passed the Seismic Hazards Mapping Act of 1990 (Public Resources Code Section 2690-2699). Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate "seismic hazard zones." Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plan and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.

Under Public Resources Code Section 2697, cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval. Public Resources Code Section 2698 does not prevent cities and counties from establishing policies and criteria that are stricter than those established by the State Mining and Geology Board.

State publications supporting the requirements of the Seismic Hazards Mapping Act include the California Geological Survey Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, and Special Publication 118, Recommended Criteria for Delineating Seismic Hazard Zones in California. The objectives of Special Publication 117A are to assist in the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations and to promote uniform and effective statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. Special Publication 118 implements the requirements of the Seismic Hazards Mapping Act in the production of Probabilistic Seismic Hazard Maps for the state.

### *Office of Statewide Health Planning and Development (OSHPD)*

The Office of Statewide Health Planning and Development's (OSHPD) Facilities Development Division reviews and approves plans and specifications of proposed medical office buildings to ensure compliance with the provisions of the CBC, Title 24, California Code of Regulations. OSHPD's Facilities Development Division, Building Standards Unit, is responsible for the development of administrative regulations and building standards for the construction of hospitals, skilled nursing facilities, licensed clinics and correctional treatment centers in California.

### *California Building Standards Code*

The state regulations protecting structures from geo-seismic hazards are contained in the California Building Code (CBC; 24 CCR, Part 2), which is updated on a triennial basis. These regulations apply to public and private buildings in the state. Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained additions, amendments, and repeals specific to building conditions and structural requirements of the State of California. The 2016 CBC, effective January 1, 2017, is based on the current (2015) International Building Code and enhances the sections dealing with existing structures. Seismic-resistant construction design is required to meet more stringent technical standards than those set by previous versions of the CBC.

Chapters 16 and 16A of the 2016 CBC include structural design requirements governing seismically resistant construction, including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design. Chapters 18 and 18A include (but are not limited to) the requirements for foundation and soil investigations (Sections 1803 and 1803A); excavation, grading, and fill (Sections 1804 and 1804A); damp-proofing and water-proofing (Sections 1805 and 1805A); allowable load-bearing values of soils (Sections 1806 and 1806A); the design of foundation walls, retaining walls, embedded posts and poles (Sections 1807 and 1807A), and foundations (Sections 1808 and 1808A); and design of shallow foundations (Sections 1809 and 1809A) and deep foundations (Sections 1810 and 1810A). Chapter 33 of the 2016 CBC includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304).

Construction activities are subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in Chapter 33 of the CBC. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The proposed project would be required to employ these safety measures during excavation and trenching.

As indicated previously, the CBC is updated and revised every three years. The 2019 version of the CBC will be effective January 1, 2020. It is anticipated that individual phases of the proposed project would use the most applicable CBC at the time of building permit issuance.

***Paleontological Resources per the California Environmental Quality Act***

The California Environmental Quality Act (CEQA) requires lead agencies to determine whether a proposed program would have a significant impact on paleontological resources. In particular, Appendix G (Part VII) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, stating that "a Program will normally result in a significant impact on the environment if it will . . . directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." According to the Standard Environmental Reference for Paleontology prepared by the California Department of Transportation (Caltrans) (2014), the significance of a paleontological resource may be stated for a particular fossil species, fossil assemblage, or for a rock unit as a whole. There are two generally recognized types of paleontological significance:

- **National**: A National Natural Landmark-eligible paleontological resource is an area of national significance (as defined under 36 CFR, Part 62) that contains an outstanding example of fossil evidence of the development of life on earth.

- **Scientific**: Definitions of a scientifically significant paleontological resource can vary by jurisdictional agency and paleontological practitioner.

Generally, scientifically significant paleontological resources are identified sites or geological deposits containing individual fossils or assemblages of fossils that are unique or unusual, are diagnostically or stratigraphically important, and add to the existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (SVP 2010). Particularly important are fossils found in situ (undisturbed) in primary context (i.e., fossils that have not been subjected to disturbance subsequent to their burial and fossilization). As such, fossils aid in stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, the relationships between aquatic and terrestrial species, and evolution in general. Discovery of in situ fossil-bearing deposits is rare for many species, especially vertebrates. Terrestrial vertebrate fossils are often assigned greater significance than other fossils because they are rarer than other types of fossils.

The Society of Vertebrate Paleontology (SVP 2010) provides the following definitions of significance:

> **Significant Nonrenewable Paleontological Resources** are fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate and botanic fossils except when present within a given vertebrate assemblage. Certain plant and invertebrate fossils or assemblages may be defined as significant by a project paleontologist, local paleontologist, specialist, or special interest groups, or by lead agencies or local governments.
>
> A **Significant Fossiliferous Deposit** is a rock unit or formation that contains significant nonrenewable paleontological resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals [e.g., trackways or nests and middens, which provide datable material and climatic information]). Paleontological resources are considered to be older than recorded history and/or older than 5,000 years before present.

According to Caltrans (2014), scientifically significant paleontological resources are identified sites or geologic deposits containing individual fossils or assemblages of fossils that are unique or unusual, are diagnostically or stratigraphically important, and add to the existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (Reynolds 1990, p. 6, as cited in Caltrans 2014).

### Local

#### *Moreno Valley General Plan Safety Element*

The Safety Element of the Moreno Valley General Plan (City of Moreno Valley 2006) summarizes the geologic hazards in the area and provides a map illustrating areas of active faulting and potential liquefaction. Regarding assessment of seismic hazards, Public Resources Code Section 2699 requires that a safety element consider available seismic hazard maps prepared by the State Geologist, pursuant to the Alquist-Priolo Earthquake Fault Zoning Act. The Seismic Hazards Mapping Act requires additional studies and appropriate mitigation measures for development projects in the areas identified as potential hazard areas by the state seismic hazard maps. The 2006 Safety Element geologic hazards map delineates the active San Jacinto Fault Zone and indicates that prior to approval of structures for human occupancy within a special study zone, a geologic study must be undertaken to determine the precise location and necessary setbacks from identified faults.

The State of California released the official and final Earthquake Zones of Required Investigation Map for the Sunnymead Quadrangle on July 1, 1974 (CDMG 1974). This map serves as the State of California's official earthquake fault zone map for the project area and is the most current and accurate map available to delineate the boundaries of earthquake fault zones in the area. Accordingly, the seismic hazards analysis in this section relies primarily on the official State of California map to determine the location of the project site in relation to the nearest officially mapped earthquake fault zone and other seismic hazard zones.

#### *Moreno Valley Building Code*

The Moreno Valley Building and Safety Division issues permits, provides plan check and inspection services, conducts code enforcement, and provides assistance to citizens in complying with jurisdictional and state building codes to ensure the safety of the citizens of Moreno Valley. The City of Moreno Valley (City) relies on the 2016 CBC, as described above, for its building code.

## 4.6.2 Existing Conditions

### General Site Conditions

The project site is located along the southeast margin of the Moreno Valley, on gently sloping (to the northwest) topography. The site is occupied by existing hospital buildings and at-grade parking and driveways. The northern and western portions of the project site are partially unpaved.

### Regional Geology

The Moreno Valley lies in the northern portion of the Peninsular Ranges Physiographic Province of California, at the eastern margin of a structural block known as the Perris Block. This structural block is a mass of granitic rock, generally bound by the San Jacinto Fault, the Elsinore Fault, and the Santa Ana River. The Perris Block has been vertically uplifted several thousand feet. The granitic mountain areas of the Perris Block, including the Box Springs Mountains and the Mount Russell area, are underlain primarily by quartz diorite bedrock. The area is characterized by many rock outcrops and large weathered boulders. The geologic and seismic setting of the Moreno Valley is dominated by the proximity of the Holocene-active San Jacinto Fault, which traverses the eastern city limits. The potential for major earthquake damage to Moreno Valley is from activity along this fault zone (City of Moreno Valley 2006; Appendices E-1 and E-2).

**Regional Faulting and Seismicity**

The California Geological Survey (CGS 2018) classifies faults as:

- Holocene-active faults, which are faults that have moved during the past approximately 11,700 years. These faults are capable of surface rupture.
- Pre-Holocene faults, which are faults that have not moved in the past 11,700 years. This class of fault may be capable of surface rupture but is not regulated under the Alquist-Priolo Special Studies Zones Act of 1972, which regulates construction of buildings to be used for human occupancy.
- Age-undetermined faults, which are faults where the recency of fault movement has not been determined.

Holocene-active faults have been responsible for large historical earthquakes in Southern California, including the 1971 San Fernando earthquake (moment magnitude [Mw] 6.7), the 1992 Landers earthquake (Mw 7.3), the 1952 Kern County earthquake (Mw 7.5), and the 1933 Long Beach earthquake (Mw 6.4). Moment magnitude is the most common used method of describing the size of earthquakes. It measures the size of seismic events in terms of how much energy is released and it relates to the amount of movement of rock. The Southern California region also includes blind thrust faults, which are faults that do not rupture at the surface but are, however, capable of generating substantial earthquakes. Examples include the 1987 Whittier Narrows earthquake (Mw 5.9) and the 1994 Northridge earthquake (Mw 6.7). Both of these earthquakes occurred on previously unidentified thrust faults.

**Regional Faults**

The closest known Holocene-active faults to the project site are the San Jacinto, San Andreas, and Elsinore faults (USGS 2019) (Figure 4.6-1, Regional Faults). Each of these faults have been designated as Alquist-Priolo earthquake fault zones.

The San Jacinto Fault is one of the most active faults in California, having been an important source of moderate- to large-magnitude earthquakes during this century. The San Jacinto Fault is of extreme interests to scientists and state building engineers because the fault is remarkably long and has the potential of hundreds of kilometers of rupture length, thus creating larger magnitude earthquakes and potentially affecting larger areas. This fault, over 130 miles in length and located approximately 4 miles northeast of the project site (CDMG 1974), extends to the southern border of California and joins the San Andreas Fault west of the City of San Bernardino. Tension is regularly released on this right-lateral fault in the form of small earthquakes (local magnitude [$M_L$] 3 and 4). Historically, this fault has experienced numerous medium size earthquakes ($M_L$ of upper 4s and 5s) and several large earthquakes (larger than $M_L$ 6). This fault may have been the source of the December 25, 1899, magnitude 6.4 earthquake and the April 21, 1918, magnitude 6.8 earthquake. In the early 1900s, large earthquakes in the Hemet and San Jacinto areas resulted in fault surface rupture (Appendices E-1 and E-2).

The San Andreas Fault extends for several hundred miles, from the Gulf of California in the south to Cape Mendocino in Northern California, and is the main element of the boundary between the Pacific and North American tectonic plates. The central and southern San Andreas Fault has been divided into five segments, including the Cholame, Carrizo, Mojave, San Bernardino Mountains, and Coachella Valley. Although these segments are treated as independent sources of earthquakes, historical and paleoseismological observations indicate that ruptures may overlap and that some segments may both produce their own earthquakes and fail when large ruptures nucleate in an adjacent segment and propagate into the adjacent segment. The January 9, 1857 Mw 8 Fort Tejon earthquake, one of the greatest earthquakes ever recorded in the United States, occurred along the San Andreas Fault and produced a surface rupture of approximately 217 miles in length, from Cholame on the north to the Cajon Pass on the south. The closest segment to the project site is the San Bernardino Mountains segment, located approximately 15 miles to the northeast. Earthquakes along this fault segment resulted in ground surface rupture in 1812, 1693, 1587, 1452, and 1192, with cumulative displacement of 23 to 26 feet (Appendices E-1 and E-2).

The Elsinore Fault Zone forms the northeast boundary of the Santa Ana Mountains and extends nearly 125 miles, from Whittier to the Mexican border. This fault zone has been divided into six segments, including (from north to south) the Whittier, Glen Ivy, Temecula, Julian, Coyote Mountain, and Laguna Salada. The closest segments to the project site are the Glen Ivy and Temecula segments, located approximately 20 miles to the southwest. Probably six earthquakes have occurred along the Glen Ivy segment since approximately 1060, yielding an average recurrence interval of 150 to 200 years. The most recent surface rupture is associated with the 1910 Temescal Valley earthquake, with an estimated magnitude Mw 6.0. The Temecula Fault segment has demonstrated Holocene movement, with the most recent movement having occurred about 2,000 to 2,400 years ago, and a recurrence interval of between 250 and 600 years (Appendices E-1 and E-2).

### Local Geology

Earth materials on the floor of the Moreno Valley have been differentiated into Holocene age (<11,700 years old) and late Pleistocene age (126,000 to 11,700 years old), young alluvial fan and alluvial valley deposits, and very old alluvial fan deposits of early Pleistocene age (2.58 million to 781,000 years old) (Dibblee and Minch 2003; Cohen et al. 2013). Maximum depths of valley fill in the project area are approximately 900 feet. The young alluvial fan and valley deposits consist primarily of sandy materials with silty, gravelly, and cobbly interbeds. The very old alluvial fan deposits consist of well-dissected, well-indurated sand deposits that flank the bedrock outcrops in the project area to the southeast. Very old alluvium underlies the project site, whereas Cretaceous age quartz diorite constitutes the hilly areas of the Perris State Recreational area to the south (Appendices E-1 and E-2).

Borings drilled on site confirmed that the site is underlain by unconsolidated Quaternary (young and older, undifferentiated) alluvial fan deposits, covered by a thin mantle of human-made fill. The fill material consists primarily of loose to medium dense, silty sands, to a maximum depth of 8 feet. The alluvium consists of unconsolidated, medium-grained silty sands, with a 5- to 10-foot thick silt layer across most of the site, in the upper 25 feet. In addition, a 5-foot thick, stiff to very hard silt layer was encountered at depths of 50 to 55 feet in two of the borings. The density of the alluvial materials generally increases with depth (Appendices E-1 and E-2).

### Groundwater

The project site overlies the western portion of the San Jacinto Groundwater Basin, which underlies the San Jacinto, Perris, Moreno, and Menifee valleys, in western Riverside County. Geotechnical borings drilled at the site did not encounter groundwater, to a maximum depth of 71.5 feet (Appendices E-1 and E-2).

### Liquefaction/Lateral Spreading

Liquefaction is the process in which saturated, silty to cohesionless soils below the groundwater table temporarily lose strength during strong ground shaking as a consequence of increased pore pressure, during conditions such as those caused by earthquakes. The vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity. Potentially liquefiable soils must be saturated or nearly saturated to be susceptible to liquefaction. Significant factors that affect liquefaction include water level, soil type, particulate size and gradation, relative density, confining pressure, intensity of shaking, and duration of shaking. Liquefaction potential has been found to be the greatest where the groundwater level is shallow and submerged loose, fine sand occur within a depth of about 50 feet or less.

Based on the Earthquake Zones of Required Investigation Map for the Sunnymead Quadrangle on July 1, 1974 (CDMG 1974), this quadrangle has not been mapped by the State Geologist with respect to liquefaction. However, the Moreno Valley General Plan Safety Element (City of Moreno Valley 2006) indicates that the project site is not located in an area of potential liquefaction. Similarly, site-specific geotechnical investigations (Appendices E-1 and E-2) indicate that the site has a very low potential for liquefaction, due to dense to very dense and stiff to hard subsoils, and a historic highest groundwater table at a depth greater than 50 feet.

Lateral spreading is the finite, lateral movement of gently sloping, saturated soils deposits caused by earthquake-induced liquefaction. Based on the low likelihood of liquefaction to occur at the site, the potential for lateral spreading is similarly low (Appendices E-1 and E-2).

### Seismically Induced Settlement

Seismically induced settlement, or the compaction of dry or moist cohesionless soils, may also occur during a major earthquake. Typically, settlements occur in thick beds of dry and loose sands. Site-specific geotechnical investigations (Appendices E-1 and E-2) indicate that seismically induced settlement is not anticipated to exceed 0.5 inch at the project site.

### Subsidence

Ground subsidence is typically associated with regional changes in ground surface elevation, associated with seismic warping, lowering of groundwater through pumping, and removal of oil and natural gas through pumping. Alluvial valley regions are especially susceptible to subsidence. Based on the Riverside County General Plan, Safety Element (Riverside County 2015), the Moreno Valley, including the project site, is an area susceptible to subsidence.

### Expansive Soil

Expansive soils swell when subjected to moisture and shrink when dried. Depending on the soil characteristics and design of building construction, expansive soils can cause extensive damage to building foundations. Based on geotechnical reports completed for the project site, on-site soils locally possess a very low expansion potential (Appendices E-1 and E-2).

### Paleontological Resources

Paleontological resources include fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. Paleontological resources are generally found within sedimentary rock formations. Based on a 1-mile radius, paleontological records search for the project site, completed on December 10, 2018 by the Natural History Museum of Los Angeles County (LACM) (see Appendices E-1 and E-2 to this environmental impact report (EIR)), no vertebrate fossil localities are present on the project site. The closest vertebrate fossil locality from somewhat similar deposits is LACM 4540, located in the gravel pits immediately west of Jack Rabbit Trail, almost due east of the project site, on the eastern side of the San Jacinto Valley. This fossil locality produced a specimen of fossil horse, *Equus* (Appendices E-1 and E-2).

Past excavation activities in the area surrounding the proposed project site have encountered paleontological resources in older Quaternary alluvial deposits. Review of the paleontological literature revealed numerous Pleistocene older alluvial fossil vertebrate localities within Riverside County. For instance, in his compilation of Pleistocene vertebrate localities in California, Jefferson (1991) lists many Pleistocene older alluvial or equivalent localities from Riverside County that have yielded fossil fish, amphibians, reptiles, birds, and mammals. The Diamond Valley Lake Local Fauna (DVLLF), which was recovered from older lacustrine and fluvial deposits near the city of Hemet in Riverside County, yielded over 100,000 fossil specimens including plants, invertebrates, and vertebrates (Jefferson 1991; Springer et al. 2009). With the exclusion of asphaltic localities such as the La Brea Tar Pits, the DVLLF represents the largest late Pleistocene vertebrate fauna in the southwest and continues to yield important scientific data (Springer et al. 2009).

## 4.6.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a significant impact related to geology and soils would occur if the project would:

GEO-1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a. 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 based on other substantial evidence of as known fault. Refer to Division of Mines and Geology Special Publication 42.

b. Strong seismic ground shaking.

c. Seismic-related ground failure, including liquefaction.

d. Landslides.

GEO-2. Result in substantial soil erosion or the loss of topsoil.

GEO-3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

GEO-4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

GEO-5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

GEO-6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## 4.6.4 Impacts Analysis

***Threshold GEO-1. Would the project directly or indirectly cause potential substantial adverse effects, including the 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 based on other substantial evidence of as known fault (Refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?***

**Project- and Program-Level Elements**

***Fault Rupture***

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest such zones are located along the San Jacinto, San Andreas, and Elsinore fault zones, located 4 miles, 15 miles, and 20 miles from the project site, respectively (Figure 4.6-1). As a result, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. **No impacts** related to fault rupture would occur and no mitigation is required.

***Seismic Ground Shaking and Seismic-Related Ground Failure***

The proposed project would redevelop, modernize, and expand the existing Medical Center campus to create a state-of-the-art medical center with approximately 1,125,000 square feet of medical service facilities and ancillary uses. The project would be developed in three phases. Phase I would include an expansion of the existing hospital for a Diagnostic and Treatment building and the construction of a new Energy Center. Phase II would include the construction of two new hospital towers and expansion of the Diagnostic and Treatment building, construction of one new outpatient medical office building, expansion of the Energy Center, and the construction of two multilevel aboveground parking structures. Phase III would include the demolition, of the original hospital tower and the construction of two new hospital towers and new emergency department, construction of an additional outpatient medical office building, and construction of a third multilevel aboveground parking structure.

The City is located in a seismically active area. Movement along major faults in proximity to the City, such as the Elsinore, San Jacinto, and San Andreas faults, can occur in the project area. These faults, as well as other regional faults, are capable of producing moderate to major earthquakes that could cause strong seismically induced ground shaking at the project site. Due to the depth of groundwater at the site in excess of 71 feet, the potential for liquefaction and associated lateral spreading at the site is low. Seismically induced settlement up to 0.5 inch could occur at the site. Impacts are considered **less than significant with implementation of MM-GEO-1, MM-GEO-2, and MM-GEO-3.** MM-GEO-1 and MM-GEO-2 mandate that proposed Phase I, II, and III construction be completed in accordance with recommendations by a site-specific geotechnical report and MM-GEO-3 requires the Office of Statewide Health Planning and Development's Facilities Development Division review and approval of the project plans to ensure compliance with the CBC. Compliance with these mitigation measures would reduce potential soils and geologic hazard impacts by incorporating final design features that would reduce the risk of structural damage and/or failure as a result of existing soils and geologic hazard conditions.

***Landslides***

The site slopes gently toward the northwest. The surrounding topography is similarly relatively flat to gently sloping, with no potential for landslides to exist. The proposed project would not directly or indirectly cause or exacerbate adverse effects involving landslides. Impacts would be **less than significant** and no mitigation is required.

***Threshold GEO-2. Would the project result in substantial soil erosion or the loss of topsoil?***

**Project- and Program-Level Elements**

The project site is located on gently sloping (to the northwest) topography. The site is occupied by existing hospital buildings and at-grade parking and driveways. The northern and western portions of the project site are partially unpaved. Construction would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities, an architectural coating phase, and a paving phase. Approximately 6,000 cubic yards of fill would be imported to the site during Phase I. Each of these phases of construction would result in disturbance of existing sediments, such that erosion could be exacerbated during precipitation or high-wind events.

Because all phases of the project would involve construction within an area that is larger than 1 acre, the project applicant would be required to apply for and receive coverage under the current General Construction Permit. Coverage under the General Construction Permit would require adherence to a variety of conditions designed to protect receiving water quality from degradation that could otherwise result from construction activities, as specified in a project-specific Stormwater Pollution Prevention Plan (SWPPP). Conditions would include adherence to sediment and stormwater pollutant control Best Management Practices (BMPs), effluent monitoring and compliance, post-construction-period requirements, worker training, and various other measures designed to minimize potential for soil erosion and loss of topsoil. Stormwater BMPs would include those recommended by the California Stormwater Quality Association (further discussed in Section 4.9, Hydrology and Water Quality, of this EIR). With implementation of the SWPPP and BMPs, project construction of Phases I, II, and III would result in **less than significant impacts** associated with soil erosion and loss of topsoil. No mitigation is required.

**Operation**

In accordance with requirements of the MS4 Permit for San Bernardino and Riverside counties, as well as the NPDES Permit and Waste Discharge Requirements for the Upper Santa Ana River Watershed (Order No. R8-2002-0012), a project-specific WQMP has been prepared for Phases I, II, and III (combined) of the project (Appendix G-1, Water Quality Management Plan). The WQMP commits the developer to the implementation of long-term BMPs and Low Impact Development (LID) features (further discussed in Section 4.9 of this EIR). Upon project implementation, the site would be graded, paved, and landscaped, greatly reducing the possibility for soil erosion or loss of topsoil compared to during the construction phases. In addition, paving of the site would not result in a loss of planned/zoned uses (e.g., agricultural land) or resources that would depend on the presence of topsoil. With construction and implementation of long-term LID features, project operation of Phases I, II, and III would result in **less than significant impacts** associated with soil erosion and loss of topsoil. No mitigation is required.

***Threshold GEO-3. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

**Project- and Program-Level Elements**

As previously discussed, the closest Holocene-active fault zones are the San Jacinto, San Andreas, and Elsinore fault zones, located 4 miles, 15 miles, and 20 miles from the project site, respectively (Figure 4.6-1). GeoBase (Appendices E-1 and E-2) stated that the potential for liquefaction and associated lateral spreading at the Phase I site is considered low. The landslide potential is similarly low due to the relatively flat to gently sloping topography in the vicinity of the site. Seismically induced settlement up to 0.5 inch could occur at the project site and the alluvial sediments in project area are susceptible to regional subsidence. The same would apply for Phases II and III of the project, as the entire site is underlain by similar alluvial soils. Impacts are considered **less than significant with implementation of MM-GEO-1, MM-GEO-2, and MM-GEO-3**. MM-GEO-1 and MM-GEO-2 mandate that proposed Phase I, II, and III construction be completed in accordance with recommendations by a site-specific geotechnical report and MM- GEO-3 requires the Office of Statewide Health Planning and Development's Facilities Development Division review and approval of the project plans to ensure compliance with the CBC. Compliance with these mitigation measures would reduce potential soils and geologic hazard impacts by incorporating final design features that would reduce the risk of structural damage and/or failure as a result of existing soils and geologic hazard conditions.

***Threshold GEO-4. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?***

**Project- and Program-Level Elements**

Based on geotechnical reports completed for the Phase I project site (Appendices E-1 and E-2), on-site soils locally possess a very low expansion potential. The same would apply for Phases II and III of the project, as sandy alluvium underlies the entire project site (Dibblee and Minch 2003; Cohen et al. 2013). As such, impacts are considered to be **less than significant,** and no mitigation is required.

***Threshold GEO-5. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

**Project- and Program-Level Elements**

No septic tanks exist on the project site. Proposed Phases I, II, and III would connect to the existing sewer systems and would not involve other alternative wastewater disposal methods. Therefore, **no impacts** would occur, and no mitigation is required.

***Threshold GEO-6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

**Project- and Program-Level Elements**

Proposed Phases I, II, and III would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities, an architectural coating phase, and a paving phase. Past excavation activities in the area surrounding the proposed project site have encountered paleontological resources in older Quaternary alluvial deposits. Shallow excavations in the younger Holocene alluvium exposed in project excavations are unlikely to encounter significant fossil vertebrate remains. However, deeper excavations into older Quaternary deposits may encounter significant remains of vertebrate fossils (Appendices E-1 and E-2). Because ground-disturbing activities associated with construction have the potential to uncover and damage/or destroy a unique paleontological resource or site, implementation of mitigation measures **MM-GEO-4** through **MM-GEO-7** would be required to reduce potential impacts. These mitigation measures, which include retention of a qualified paleontologist, paleontological sensitivity training, and construction monitoring and reporting, would reduce potentially significant impacts to **less than significant with mitigation incorporated**.

## 4.6.5 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts related to geology to a less-than-significant level.

**MM-GEO-1** Kaiser Permanente shall include in the Phase I project design all recommendations provided in the site-specific geotechnical investigations prepared for the proposed Diagnostic and Treatment Building and proposed Energy Center (Appendices E-1 and E-2). These recommendations include but are not limited to those related to ground improvements, drainage improvements, foundation design, and pavement design. Recommendations for remedial actions related to geotechnical concerns shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.

**MM-GEO-2** A geotechnical study shall be prepared during the design phases for Phases II and III of the program. Recommendations for remedial actions related to geotechnical concerns, provided by the geotechnical consultant, shall be implemented by Kaiser Permanente, to the satisfaction of the City of Moreno Valley.

**MM-GEO-3** The Office of Statewide Health Planning and Development's (OSHPD's) Facilities Development Division shall review and approve the plans and specifications of the proposed medical office building, hospital, and related hospital facilities.

Consistent with City protocol pertaining to paleontological resources management, the following mitigation measures would reduce potentially significant impacts related to paleontological resources to a less-than-significant level.

**MM-GEO-4** Prior to the issuance of a grading permit, the Applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. Prior to commencement of excavation activities, the paleontologist shall conduct a Paleontological Sensitivity Training for all construction personnel that will conduct earthwork or grading activities. The training shall include a handout and shall focus on how to identify paleontological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event, including who to contact and the appropriate avoidance measures that need to be undertaken until the find(s) can be properly evaluated; the duties of paleontological monitors; notification and other procedures to follow upon discovery of resources; and the general steps a qualified professional paleontologist would follow in conducting a salvage investigation if one is necessary. All new construction personnel that will conduct earthwork or grading activities must take the Paleontological Sensitivity Training prior to beginning work on the project and the professional paleontologist shall make themselves available to provide the training on an as-needed basis.

**MM-GEO-5** The applicant shall ensure the monitoring of construction excavations for paleontological resources is required for all excavations in older Quaternary alluvial fan deposits. Prior to the issuance of a grading permit, the Applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, and who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall have the authority to temporarily redirect earthmoving activities in the event that suspected paleontological resources are unearthed during project construction. The paleontological monitor shall be present during all construction excavations including, but not limited to grading, trenching, boring, and clearing/grubbing. Multiple earth-moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading. Monitoring may be reduced if potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by the professional paleontologist to have a low potential to contain or yield fossil resources.

**MM-GEO-6** The applicant shall ensure that in the event that paleontological resources and/or unique geological features are unearthed during ground-disturbing activities, all ground-disturbing activities shall be halted or diverted away from the vicinity of the find in order to evaluate the resource. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until appropriate paleontological treatment plan has been approved by the Applicant and the City of Moreno Valley. Work shall be allowed to continue outside of the buffer area. The Applicant and City of Moreno Valley shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing. Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage is required for significant discoveries.

**MM-GEO-7** The applicant shall ensure that a professional paleontologist prepares a report summarizing the results of the monitoring and any salvaging efforts, the methodology used in these efforts, as well as a description of any fossils collected and their significance, as well as any necessary maps and graphics to accurately record the original location of any such resources. The report shall be submitted to the Applicant, the City of Moreno Valley, the San Bernardino County Natural History Museum, Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the required mitigation measures.

## 4.6.6 Level of Significance After Mitigation

Implementation of **MM-GEO-1** through **MM-GEO-7** would reduce potentially significant impacts to less than significant.

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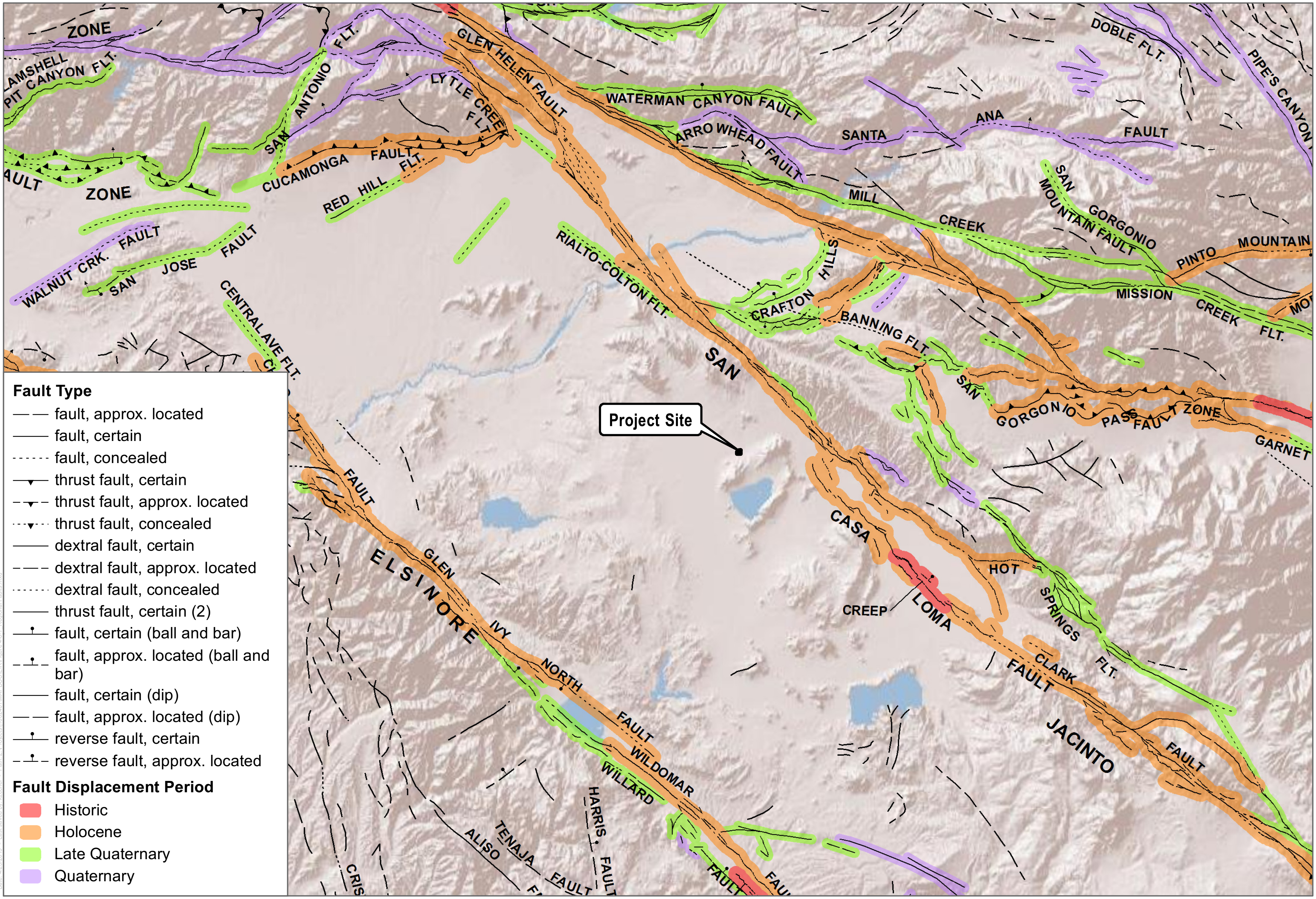


SOURCE: USGS 2019

DUDEK

0 21,250 42,500 Feet

**FIGURE 4.6-1**

Regional Faults

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# 4.7 GREENHOUSE GAS EMISSIONS

This section identifies relevant regulatory requirements, describes the existing setting with respect to climate change, evaluates potentially adverse impacts related to greenhouse gas (GHG) emissions during construction and operation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) in the City of Moreno Valley (City), lists any applicable project design features (PDFs) and identifies any feasible mitigation measures related to implementation of the project.

## 4.7.1 Relevant Plans, Policies, and Ordinances

Regulation of GHGs in the United States and California is relatively recent, beginning early in the 2000s. In the absence of major federal efforts, California's former governor, Arnold Schwarzenegger, and the legislature took initiatives to establish goals for reductions of GHG emissions in California and to prescribe a regulatory approach to ensuring that the goals would be met. The federal government, primarily through actions of the U.S. Environmental Protection Agency (EPA), has also begun to regulate GHG emissions, although not as comprehensively. This section provides a brief foundation for these regulatory efforts and discusses the key federal and state regulatory efforts that could apply to construction and operation of the project.

### Federal

#### *Massachusetts v. U.S. Environmental Protection Agency*

On April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency*, the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The elevated concentrations of GHGs—carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride ($SF_6$)—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The combined emissions of GHGs—$CO_2$, $CH_4$, $N_2O$, and hydrofluorocarbons—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

It was expected that Congress would enact GHG legislation, primarily for a cap-and-trade system. However, proposals circulated in both the House of Representatives and Senate were controversial and it may be some time before Congress adopts major climate change legislation. Under the Consolidated Appropriations Act of 2008 (HR 2764), Congress has established mandatory GHG reporting requirements for some emitters of GHGs. In addition, on September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires annual reporting to the EPA of GHG emissions from large sources and suppliers of GHGs, including facilities that emit 25,000 metric tons (MT) or more a year of GHGs.

***EPA and National Highway Traffic Safety Administration Joint Final Rule for Vehicle Standards***

The EPA and NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016 (April 2010) that is intended to reduce GHG emissions and improve fuel economy. The EPA approved the first-ever national GHG emissions standards under the Clean Air Act, and NHTSA approved Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act (75 FR 25324–25728), which became effective on July 6, 2010 (75 FR 25324–25728).

***Heavy-Duty Engines and Vehicles Fuel Efficiency Standards***

In addition to the regulations applicable to cars and light-duty trucks, on August 9, 2011, the EPA and the National Highway Traffic Safety Administration (NHTSA) announced fuel economy and GHG standards for medium- and heavy-duty trucks, which applies to vehicles from model years 2014–2018 (EPA 2016b). EPA and NHTSA have adopted Phase 1 standards for $CO_2$ emissions and fuel consumption, respectively, tailored to each of three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to EPA, this program will reduce GHG emissions and fuel consumption for affected vehicles by 9% to 23%. In August 2016, EPA and NHTSA announced adoption of Phase 2 standards, affecting model years 2021–2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks, and expected to reduce GHG emissions beyond the first phase by 16%–25%. The second round of regulation introduces an additional vehicle category, trailers. Commitments for trailers are voluntary from 2018–2021 and mandatory after 2021, and are projected to reduce GHG emissions up to 9%. The final rule was adopted on August 16, 2016.

In August 2018, the EPA and NHTSA released a notice of proposed rulemaking called Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). This rule would modify the existing Corporate Average Fuel

Economy standards and tailpipe $CO_2$ emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026. SAFE standards are expected to uphold model year 2020 standards through 2026 (NHTSA 2018).

#### *Energy Independence and Security Act*

On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the act sought to do the following to aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel by 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

#### *American Recovery and Reinvestment Act*

On February 17, 2009, President Obama signed the American Recovery and Reinvestment Act of 2009. The act was passed in response to the economic crisis of the late 2000s, with the primary purpose to maintain existing jobs and create new jobs. Among the secondary objectives of the American Recovery and Reinvestment Act was investment in "green" energy programs, including funding the following through grants, loans, or other funding; private companies developing renewable energy technologies; local and state governments implementing energy efficiency and clean energy programs; research in renewable energy, biofuels, and carbon capture; and development of high efficiency or electric vehicles (EPA 2016b).

### State

#### *Title 24*

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California to reduce energy demand and consumption. The Title 24, Part 6 standards are updated every three years. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. The 2019 standards will become effective on January 1, 2020.

Title 24, Part 6, does not apply to hospitals, but applies to other facilities associated with the medical center, such as the medical office buildings.

Title 24 also includes Part 11, known as California's Green Building Standards. California's Green Building Standards, which initially took effect in January 2011, were updated effective January 1, 2014, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The standards were further revised with the 2016 Building Energy Efficiency Standards. For non-residential buildings, the most substantial efficiency improvement is alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1 2013 national standards. The non-residential standards include new efficiency requirements for elevators, escalators, and moving walkways and direct digital controls and requirement revisions for building envelope, lighting, and mechanical and electrical systems. The California Energy Commission's (CEC's) 2016 Building Energy Efficiency Standards (2016 Building Standards), which become on effective January 1, 2017, are the most current version of these standards.

***Assembly Bill 1493***

In response to the transportation sector accounting for more than half of California's $CO_2$ emissions, Assembly Bill (AB) 1493 was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Before these regulations could go into effect, the EPA had to grant California a waiver under the federal Clean Air Act, which ordinarily preempts state regulation of motor vehicle emission standards. The waiver was granted by Lisa Jackson, the EPA administrator, on June 30, 2009. On March 29, 2010, the CARB executive officer approved revisions to the motor vehicle GHG standards to harmonize the state program with the national program for 2012–2016 model years (see EPA and NHTSA Joint Final Rule for Vehicle Standards). The revised regulations became effective April 1, 2010.

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

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The executive order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050. The California Environmental Protection Agency (CalEPA) secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The Climate Action Team (CAT) is responsible for implementing global warming emissions reduction programs. Representatives from several state agencies compose the CAT. Under the executive order, the CalEPA secretary is directed to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The CAT fulfilled its initial report requirements through the 2006 *Climate Action Team Report to Governor Schwarzenegger and the Legislature* (CAT 2006).

The 2009 *Climate Action Team Biennial Report* (CAT 2010a), published in April 2010, expands on the policy outlined in the 2006 assessment. The 2009 report provides new information and scientific findings regarding the development of new climate and sea level projections using new information and tools that have recently become available and evaluates climate change within the context of broader social changes, such as land use changes and demographics. The 2009 report also identifies the need for additional research in several different aspects that affect climate change in order to support effective climate change strategies. The aspects of climate change determined to require future research include vehicle and fuel technologies, land use and smart growth, electricity and natural gas, energy efficiency, renewable energy and reduced carbon energy sources, low GHG technologies for other sectors, carbon sequestration, terrestrial sequestration, geologic sequestration, economic impacts and considerations, social science, and environmental justice.

Subsequently, the 2010 *Climate Action Team Report to Governor Schwarzenegger and the California Legislature* (CAT 2010b) reviews past Climate Action Milestones including voluntary reporting programs, GHG standards for passenger vehicles, the Low Carbon Fuel Standard (LCFS), a statewide renewable energy standard, and the Cap-and-Trade program. Additionally, the 2010 report includes a cataloguing of recent research and ongoing projects; mitigation and adaptation strategies identified by sector (e.g., agriculture, biodiversity, electricity, and natural gas); actions that can be taken at the regional, national, and international levels to mitigate the adverse effects of climate change; and today's outlook on future conditions. The 2010 report also focuses on case studies involving collaborative efforts among multiple agencies on research projects related to climate change and policy development.

### *Cap-and-Trade Program*

The Cap-and-Trade Program reduces greenhouse gas (GHG) emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in MT $CO_2e$, commenced in 2013 and declines over time, achieving GHG emission reductions throughout the program's duration. Each covered entity is required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of ARB offset credits) for each ton of GHG emissions they emit. Some covered entities are allocated some allowances and are able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits.

### *Executive Order B-16-12*

Governor Brown issued Executive Order B-16-12 on March 23, 2012. The Executive Order requires that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emission vehicles. It orders CARB, the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and other relevant agencies work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following by 2015:

- The state's major metropolitan areas will be able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting
- The state's manufacturing sector will be expanding zero-emission vehicle and component manufacturing
- The private sector's investment in zero-emission vehicle infrastructure will be growing
- The state's academic and research institutions will be contributing to zero-emission vehicle research, innovation and education.

CARB, the CEC, and CPUC, are also directed to establish benchmarks to help achieve the following goals by 2020:

- The state's zero-emission vehicle infrastructure will be able to support up to one million vehicles
- The costs of zero-emission vehicles will be competitive with conventional combustion vehicles
- Zero-emission vehicles will be accessible to mainstream consumers
- There will be widespread use of zero-emission vehicles for public transportation and freight transport

- Transportation sector GHG emissions will be falling as a result of the switch to zero emission vehicles
- Electric vehicle charging will be integrated into the electricity grid
- The private sector's role in the supply chain for zero-emission vehicle component development and manufacturing will be expanding.

Benchmarks are also to be established to help achieve the following goals by 2025:

- Over 1.5 million zero-emission vehicles will be on California roads and their market share will be expanding
- Californians will have easy access to zero-emission vehicle infrastructure
- The zero-emission vehicle industry will be a strong and sustainable part of California's economy
- California's clean, efficient vehicles will annually displace at least 1.5 billion gallons of petroleum fuels.

On a statewide basis, the executive order establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

***Assembly Bill 32***

In furtherance of the goals established in Executive Order S-3-05, the legislature enacted AB 32, the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed in September 2006. The GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB was assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

The first action under AB 32 resulted in the adoption of a report listing early action GHG emissions reduction measures in June 2007.

In December 2008, CARB approved the *Climate Change Proposed Scoping Plan: A Framework for Change* (Scoping Plan) (CARB 2008) to achieve the goals of AB 32. An update to the Scoping Plan (First Scoping Plan Update) was adopted in May 2014 (CARB 2014). In November 2017, CARB published California's 2017 Climate Change Scoping Plan (Second Scoping Plan Update). The 2017 Climate Change Scoping Plan was adopted by CARB on December 14, 2017 (CARB 2017).

The Second Scoping Plan Update outlines CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32, including continuation of the Cap-and-Trade Program through 2030, and incorporation of a Mobile Source Strategy that includes strategies targeted to increase zero emission vehicle fleet penetration and a more stringent target for the LCFS by 2030. The Second Scoping Plan Update also incorporates approaches to cutting short-lived climate pollutants under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017) and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon.

With regard to project-level GHG emissions reduction actions and thresholds, the Second Scoping Plan Update states "[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under [California Environmental Quality Act] CEQA."

#### *Senate Bill 1368*

In September 2006, Governor Schwarzenegger signed Senate Bill (SB) 1368, which requires the CEC to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

#### *Executive Order S-1-07*

Issued on January 18, 2007, Executive Order S-1-07 sets a declining LCFS for GHG emissions measured in carbon dioxide equivalent ($CO_2e$) grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In addition, the LCFS would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The LCFS is anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

***Senate Bill 375***

In August 2008, the legislature passed, and in September 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. By September 30, 2010, CARB was required to assign regional GHG reduction targets for the automobile and light truck sector for 2020 and 2035. Regional metropolitan planning organizations will be responsible for preparing a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP). The goal of the SCS is to establish a development plan for the region that, after considering transportation measures and policies, will achieve the GHG reduction targets. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for “transit priority projects,” as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the SCS or Alternative Planning Strategy. In September 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations.

On April 7, 2016, the Southern California Association of Governments (SCAG) adopted the 2016-2040 RTP/SCS which looks to build on the success of the 2012-2035 RTP/SCS. Targets for the SCAG region in the updated plan includes an 8% per capita reduction in GHG emissions from automobiles and light trucks by 2020, an 18% reduction by 2035, and a 21% reduction by 2040 compared with 2005 levels (SCAG 2016). On June 28, 2016, the California Air Resources Board (CARB) accepted SCAG’s conclusion that the 2016-2040 RTP/SCS, if implemented, would achieve the 2020 and 2035 emission reduction targets set by the California Air Resources Board for the SCAG region.[1]

***Supreme Court Ruling in Center for Biological Diversity. v. California Fish and Wildlife***

In its 2015 decision, Center for Biological Diversity v. Department of Fish and Wildlife, S217763 (Newhall),[2] the California Supreme Court evaluated the California Department of Fish and Wildlife’s analysis of potential impacts caused by GHG emissions contained in the

1 California Air Resources Board Executive Order 6-16-066. June 28, 2016.
2 The Newhall decision is available at https://caselaw.findlaw.com/ca-supreme-court/1719578.html (accessed November 2018).

environmental impact report (EIR) for the proposed land development called Newhall Ranch. In the EIR, the California Department of Fish and Wildlife analyzed GHG emissions under AB 32, using the business-as-usual comparison as its sole criterion of significance.

In Newhall, the California Supreme Court concluded that a finding of consistency with meeting statewide emission reduction goals is a legally permissible criterion of significance when analyzing potential impacts of GHG emissions under CEQA. However, the Court found that the EIR's conclusion that the project's emissions would be less than significant under that criterion was not supported by substantial evidence, and remanded back to the appellate court the narrow issue of whether substantial evidence supported the application of AB 32 statewide GHG reduction goal of 29% to new land use projects.

The Court then identified "potential options" for lead agencies evaluating cumulative significance of a proposed land use development's GHG emissions in future CEQA documents:

1. Business-As-Usual Model: While the Court cautioned that the Scoping Plan may not be appropriate at the project-level, the business-as-usual model might be used to determine what level of reduction from business as usual a new land use development at the proposed location must contribute in order to comply with statewide goals pursuant to AB 32.
2. Compliance With Regulatory Programs Designed To Reduce Greenhouse Gas Emissions: The Court suggests that a lead agency could rely on a showing of compliance with regulatory programs designed to reduce GHG emissions. The Court clarifies that a significance analysis based on compliance with such statewide regulations only goes to impacts within the area governed by the regulations.
3. Local Climate Action Plan (CAP) Or Other "Geographically Specific Greenhouse Gas Emission Reduction Plans": The Court points out that these plans may provide a basis for the tiering or streamlining of project-level CEQA analysis, so long as the plan is "sufficiently detailed and adequately supported."
4. Regional SCS: The Court also articulates that a lead agency need not additionally analyze GHG emissions from cars and light trucks in CEQA documents for certain residential, mixed use and transit priority projects that are consistent with an applicable SCS adopted pursuant to SB 375.
5. Numerical GHG Significance Thresholds: Although noting that use of such thresholds are GHG significance thresholds, which are based on compliance with AB 32, and use a "service population" GHG ratio threshold for land use projects and a 10,000 ton annual GHG emission threshold for industrial projects. The Court remanded for further consideration the application of the 29% overall Scoping Plan metric, which is used by several Air Districts and, like the favorably-cited Bay Area Air Quality Management District metric, is based on AB 32.

Citing to Executive Order Nos. S-3-05 and B-30-15, the Court cautioned that those EIRs taking a goal-consistency approach to CEQA significance may in the future need to consider the project's effects on meeting emissions reduction targets beyond 2020.

### *Renewable Portfolio Standards (SB 1078, SB 107, SBX1-2, and SB 100)*

On April 12, 2011, Governor Jerry Brown signed SB X1 2 in the First Extraordinary Session, which would expand the Renewable Portfolio Standard (RPS) by establishing a goal of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107, SB X1 2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC is required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20% by December 31, 2013; 25% by December 31, 2016; and 33% by December 31, 2020. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets and that the governing boards be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

SB 350 requires retail sellers of electric services and local publicly-owned electric utilities to increase procurement from eligible renewable energy resources to 33% of total retail sales by 2020, 40% of total retail sales by 2024, 45% of total retail sales by 2027, and 50% of total retail sales by 2030. On September 10, 2018 the goals of this standard were revised by SB 100 to a 50% renewable resources target by December 21, 2026, and to a 60% target by December 31, 2030. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

### *Executive Order S-13-08*

Governor Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The executive order is intended to hasten California's response to the impacts of global climate change, particularly sea level rise. It directs state agencies to take specified actions to assess and plan for such impacts. It directs the California Natural Resources Agency (CNRA), in cooperation with the California Department of Water Resources, CEC, California's coastal management agencies, and the Ocean Protection Council, request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies are required to conduct a public workshop to gather information relevant to the Sea Level Rise Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of the order the vulnerability of the state's transportation systems to sea level rise. The Governor's Office of Planning and Research (OPR) and the CNRA are required to provide land use planning guidance related to sea level rise and other climate change impacts. The order also requires the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final adaptation strategies report was issued in December 2009. To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure. The report then recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

**Local**

***City of Moreno Valley Energy Efficiency and Climate Action Strategy***

The main objectives in the City's Energy Efficiency and Climate Action Strategy (Strategy) are to reduce the environmental impact and fiscal impact of energy usage and GHG emissions in municipal facilities and within the community (City of Moreno Valley 2012). The genesis of the Strategy is the Federal Energy Efficiency and Conservation Block Grant awarded to the City to implement energy efficiency projects and strategies for the City as an organization. The Strategy is intended to be a comprehensive living policy document for the City organization and the community to address energy and water conservation and effects of climate change. The City provided an accounting of GHG emissions within the City and goals and policies to reduce GHG emissions citywide. However, the Strategy is not considered a qualified GHG reduction plan under CEQA Guidelines Section 15183.5 as a formal CEQA document was not prepared.

***City of Moreno Valley General Plan***

The Community Development, Circulation, Conservation, and Housing Elements of the City's General Plan (City of Moreno Valley 2016) includes the goals and policies that will be applied to the project related to GHG emissions. The goals and policies applicable to the proposed project are analyzed in Section 4.10, Land Use and Planning and the project was found to be consistent with these goals and policies.

The following goals and objectives from the City's General Plan related to GHG emissions:

Community Development Element

- Goal 2.5. Maintenance of systems for water supply and distribution; wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution which are capable of meeting the present and future needs of all residential, commercial, and industrial customers within the City of Moreno Valley.
- Policy 2.4.10. Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response.
- Policy 2.10.13. Provide landscaping in automobile parking areas to reduce solar heat and glare.
- Policy 2.13.4. Encourage installation of advanced technology infrastructure, including, but not limited to, infrastructure for high speed internet access and solar energy.

Circulation Element

- Policy 5.1.1. Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.
- Policy 5.1.2. Plan the circulation system to reduce conflicts between vehicular, pedestrian and bicycle traffic.
- Policy 5.8.3. Encourage public transportation opportunities that address the particular needs of transit dependent individuals in the City such as senior citizens, the disabled and low - income residents.
- Policy 5.8.4. Ensure that all new developments make adequate provision for bus stops and turnout areas for both public transit and school bus service.
- Policy 5.9.1. Encourage walking as an alternative to single occupancy vehicle travel, and help ensure the safety of the pedestrian as follows:
  a. All new developments shall provide sidewalks in conformance with the City's streets cross-section standards, and applicable policies for designated urban and rural areas.
  b. The City shall actively pursue funding for the infill of sidewalks in developed areas. The highest priority shall be to provide sidewalks on designated school routes.
- Objective 5.10. Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution.

Conservation Element

- Objective 7.5. Encourage efficient use of energy resources.
- Policy 7.5.1. Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.
- Policy 7.5.2. Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.
- Policy 7.5.3. Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access.
- Policy 7.5.5. Encourage the use of solar power and other renewable energy systems.

***SCAQMD Proposed GHG Thresholds***

In October 2008, the SCAQMD released draft guidance in its Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008a). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions and was described as a "work in progress" of efforts to date. However, the draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. In December 2008, the SCAQMD adopted an interim 10,000 MT $CO_2e$ per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2008b).

SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, used the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

- **Tier 1** Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- **Tier 2** Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.
- **Tier 3** Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT $CO_2e$ per year threshold for industrial

uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT $CO_2e$ per year), commercial projects (1,400 MT $CO_2e$ per year), and mixed-use projects (3,000 MT $CO_2e$ per year). Under option 2, a single numerical screening threshold of 3,000 MT $CO_2e$ per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

- **Tier 4** Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT $CO_2e$ per service population for project level analyses and 6.6 MT $CO_2e$ per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.
- **Tier 5** Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

***Kaiser Permanente***

Kaiser Permanente has established environmental performance goals for the entire company to be achieved by the year 2025, including (Kaiser Permanente 2016):

- Becoming “carbon net positive” by buying enough clean energy and carbon offsets to remove more GHGs from the atmosphere than it emits
- Buying all of its food locally or from farms and producers that use sustainable practices
- Recycling, reusing, or composting 100% of its non-hazardous wastes
- Reducing the amount of water it uses by 25% per square foot of buildings
- Increasing its purchase of products and materials that meet environmental standards to 50%
- Meet international standards for environmental management at all its hospitals
- Pursue new collaborations to reduce environmental risks to the foodsheds, watersheds, and air basins supplying its communities

Notably, since new strategies in operations, investments, grant making, public policy, research, and community collaborations are needed to achieve Kaiser’s 2025 goals, these goals were not accounted for in the quantitative modeling for the project. As such, and considering Kaiser Permanente’s aggressive environmental performance goals, it is likely that the emissions presented herein and impacts assessment for the project are conservative.

## 4.7.2 Existing Conditions

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer). Gases that trap heat in the atmosphere are often called GHGs. The greenhouse effect traps heat in the troposphere through a threefold process: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and back toward the Earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

Principal GHGs include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), ozone ($O_3$), and water vapor ($H_2O$). Some GHGs, such as $CO_2$, $CH_4$, and $N_2O$, can occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, $CO_2$ and $CH_4$ are emitted in the greatest quantities from human activities. Emissions of $CO_2$ are largely byproducts of fossil-fuel combustion, whereas $CH_4$ results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than $CO_2$, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride ($SF_6$), and nitrogen trifluoride ($NF_3$), which are associated with certain industrial products and processes (CAT 2006).

The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Without it, the temperature of the Earth would be about 0°F (−18°C) instead of its current 57°F (14°C). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The GWP varies among GHGs; for example, the GWP of $CH_4$ is 21, and the GWP of $N_2O$ is 310. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of $CO_2$. Thus, GHG gas emissions are typically measured in terms of pounds or tons of $CO_2$ equivalent ($CO_2e$).[3]

### Contributions to Greenhouse Gas Emissions

Per the U.S. Environmental Protection Agency's (EPA's) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016, total United States GHG emissions were approximately 6,511 million metric tons of carbon dioxide equivalent (MMT $CO_2e$) in 2016 (EPA 2018). The primary

[3] The $CO_2$ equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of $CO_2e$ = (metric tons of a GHG) × (GWP of the GHG). For example, the GWP for $CH_4$ is 21. This means that emissions of 1 metric ton of $CH_4$ are equivalent to emissions of 21 metric tons of $CO_2$.

GHG emitted by human activities in the United States was $CO_2$, which represented approximately 81% of total GHG emissions (5,313 MMT $CO_2e$). The largest source of $CO_2$, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94% of $CO_2$ emissions in 2016 (4,966 MMT $CO_2e$). Relative to 1990, gross United States GHG emissions in 2016 are higher by 5%; down from a high of 16% above 1990 levels in 2007. GHG emissions decreased from 2015 to 2016 by 2% (83 MMT $CO_2e$), and overall, net emissions in 2016 were 12% below 2005 levels (EPA 2018).

According to California's 2000–2016 GHG emissions inventory (2018 edition), California emitted 429 MMT $CO_2e$ in 2016, including emissions resulting from out-of-state electrical generation (CARB 2018). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2016 are presented in Table 4.7-1.

**Table 4.7-1**
**Greenhouse Gas Emissions Sources in California**

| Source Category | Annual GHG Emissions (MMT $CO_2e$) | Percent of Total* |
|---|---|---|
| Transportation | 176.1 | 41% |
| Industrial | 98.8 | 23% |
| Electricity (in state) | 42.9 | 10% |
| Electricity (imports) | 25.8 | 6% |
| Agriculture | 34.4 | 8% |
| Residential | 30.1 | 7% |
| Commercial | 21.5 | 5% |
| **Total** | **429.4** | **100%** |

**Source:** CARB 2018.
**Notes:** MMT $CO_2e$ = million metric tons of carbon dioxide equivalent.
* Column may not add due to rounding.

Table 4.7-2 presents the City's 2007 community-wide GHG emissions and the percent contribution of each emissions sector (transportation, energy, area sources, water and wastewater, and solid waste).

**Table 4.7-2**
**Baseline (Year 2007) Community-Wide GHG Emissions Inventory**

| Community Sector | Total MT $CO_2e$/year | % of Total $CO_2e$ |
|---|---|---|
| Transportation | 517,098 | 55 |
| Energy | 287,261 | 31 |
| Area Sources | 69,390 | 7 |

**Table 4.7-2**
**Baseline (Year 2007) Community-Wide GHG Emissions Inventory**

| Community Sector | Total MT $CO_2$e/year | % of Total $CO_2$e |
|---|---|---|
| Water and Wastewater | 21,595 | 2 |
| Solid Waste | 44,294 | 5 |
| **Total**[1] | **939,639** | **100** |

**Source:** City of Moreno Valley 2012.
**Note:** GHG = greenhouse gas; MT $CO_2$e = metric tons of carbon dioxide equivalent per year
1 Total may be slightly off due to rounding.

### Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates could induce more extreme climate changes during the twenty-first century than were observed during the twentieth century.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed with less winter precipitation falling as snow and both snowmelt and rainwater running off earlier in the year. Sea levels have risen. Wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010a).

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011 and warming in the Sierra Nevada area has been the greatest (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures would rise more than winter temperatures, and the increases would be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There would be fewer extremely cold nights (CCCC 2012). A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late 21st century in Central and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation would decline by more than 10% below the historical average (CCCC 2012).

Wildfire risk in California will increase as a result of climate change. Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season would directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. However, human activities will continue to be the biggest factor in ignition risk. It is estimated that the long-term increase in fire occurrence associated with a higher emissions scenario is substantial, with increases in the number of large fires statewide ranging from 58% to 128% above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57% to 169%, depending on location (CCCC 2012).

Reduction in the suitability of agricultural lands for traditional crop types may occur. However, adaptation could allow farmers and ranchers to minimize potential negative effects on agricultural outcomes through adjusting timing of plantings or harvesting and changing crop types. Public health-related effects of increased temperatures and prolonged temperature extremes, including heat stroke, heat exhaustion, and exacerbation of existing medical conditions, could be particular problems for the elderly, infants, and those who lack access to air conditioning or cooled spaces (CNRA 2009a).

## 4.7.3 Thresholds of Significance

The project's potential impacts on GHG's will be assessed using the GHG thresholds set forth in Appendix G, Environmental Checklist Form:

GHG-1. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG-2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009b). Additional guidance regarding assessment of GHG's is discussed below.

**CEQA Guidelines**

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)).

**OPR Guidance**

The OPR's Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

### Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the South Coast Air Basin, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b). Accordingly, further discussion of the project's GHG emissions and their impact on global climate are addressed below.

In the absence of any adopted numeric threshold, the significance of a project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For this project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2016 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. This analysis also considers consistency with regulations or requirements adopted by the 2008 Climate Change Scoping Plan and subsequent updates.

**SCAQMD**

As discussed in Section 4.7.1, the SCAQMD proposed an interim GHG significance threshold for development projects that was never finalized or formally adopted. Therefore, the threshold is not applicable to the project.

***City of Moreno Valley Energy Efficiency and Climate Action Strategy***

As discussed in Section 4.7.1, the City's Strategy is not considered a qualified GHG reduction plan under CEQA Guidelines Section 15183.5 as a formal CEQA document was not prepared. Furthermore, the Strategy is only applicable through 2020 which is prior to the buildout of the project. Therefore, consistency with the Strategy is not determinative for purposes of assessing GHG impacts. However, for informational purposes this analysis considers the project's consistency with the Strategy.

## 4.7.4 Project Design Features

Aspects of the proposed project's components would directly and indirectly reduce the proposed project's GHG emissions. Project design feature (**PDF)-GHG-1** describes elements of the project design relative to sustainable building design to reduce energy and water usage and features to encourage more walkability. The PDF would also reduce the proposed project's contribution to cumulative GHG emissions. The PDF is summarized below.

**PDF-GHG-1** As part of Kaiser's green and sustainability initiatives, the project would incorporate Kaiser's sustainable building standards and green initiatives, as described below. Kaiser will pursue LEED Gold certification or equivalent for the buildings that it develops on the project site. The project's design will embrace technology and the environment, incorporate reduced energy demand systems (e.g., solar, thermal insulation), and utilize rainwater, recycling of waste, systems with energy recovery options, prefabrication elements across the project to minimize waste, and local materials for both landscape and construction. To attain this goal, Kaiser would implement many of its current green strategies in the project. These strategies include using:

- polyvinyl chloride (PVC)-free materials (such as resilient flooring, carpet and roofs)
- low or volatile organic compound (VOC)-free paints
- chlorofluorocarbon (CFC)-free refrigerants

- innovative construction waste diversion programs to keep harmful materials out of landfills
- formaldehyde-free casework
- high efficiency heating-ventilation-air conditioning (HVAC) systems
- cogeneration electricity production and heat recovery
- infrared, hands-free faucets
- permeable paving to reduce stormwater runoff in parking areas
- cool roofs for solar reflectivity and building cooling
- turf-free and indigenous native planting for low irrigation demand, and
- water conservation efforts.

Kaiser's future green strategies for the project includes one or more of the following:

- solar power/photovoltaics
- electric vehicle charging stations
- transportation demand management
- fuel-cell technology
- displacement ventilation
- toxin-free furniture, and
- green cement.

## 4.7.5 Impacts Analysis

***Threshold GHG-1.*** ***Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

***Threshold GHG-2.*** ***Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

In view of the above considerations in Section 4.7.3, this Draft EIR quantifies the project's total annual GHG emissions for informational purposes, taking into account the GHG emission reduction features that would be incorporated into the project's design.

### Construction Emissions

Construction of the project would result in GHG emissions that are primarily associated with use of off-road construction equipment and on-road construction, vendor (delivery) trucks, and worker vehicles. The SCAQMD has not proposed or adopted relevant quantitative GHG thresholds for construction-generated emissions. However, per the SCAQMD guidance, construction emissions for the project have been amortized over the operational life of the project, which is assumed to be 30 years, as discussed further below. Accordingly, estimated GHG emissions generated during construction of the proposed project are calculated below and are discussed further in *Operational Impacts*, below.

The California Emissions Estimator Model (CalEEMod) was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.2, Air Quality. The GHG emissions are expressed in units of MT $CO_2e$. On-site sources of GHG emissions include off-road equipment, and off-site sources include hauling and vendor (delivery) trucks and worker vehicles. Table 4.7-3 presents construction emissions for Phase I of the project in 2020 to 2022 from on-site and off-site emission sources.

**Table 4.7-3**
**Phase I Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Year | MT $CO_2$ | MT $CH_4$ | MT $N_2O$ | MT $CO_2e$ |
|---|---|---|---|---|
| 2020 | 489.01 | 0.07 | 0.00 | 490.85 |
| 2021 | 865.32 | 0.11 | 0.00 | 868.13 |
| 2022 | 304.22 | 0.05 | 0.00 | 305.48 |
| | | | **Total** | **1,664.46** |
| | | | **Amortized over 30 years** | **55.48** |

**Notes:** See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-3, the estimated total GHG emissions during Phase I construction would be approximately 1,665 MT $CO_2e$, or 56 MT $CO_2e$ per year when amortized over 30 years. Additional details regarding these calculations are provided in Appendix B, Air Quality.

Table 4.7-4 presents construction emissions for Phase II of the project in 2026 to 2029 from on-site and off-site emission sources.

**Table 4.7-4**
**Phase II Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Year | MT $CO_2$ | MT $CH_4$ | MT $N_2O$ | MT $CO_2e$ |
|---|---|---|---|---|
| 2026 | 560.56 | 0.10 | 0.00 | 562.95 |
| 2027 | 802.86 | 0.11 | 0.00 | 805.63 |

**Table 4.7-4**
**Phase II Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Year | MT $CO_2$ | MT $CH_4$ | MT $N_2O$ | MT $CO_2e$ |
|---|---|---|---|---|
| 2028 | 486.89 | 0.08 | 0.00 | 488.87 |
| 2029 | 60.65 | 0.01 | 0.00 | 60.84 |
| | | | **Total** | **1,918.29** |
| | | | **Amortized over 30 years** | **63.94** |

**Notes:** See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-4, the estimated total GHG emissions during Phase II construction would be a total of approximately 1,918 MT $CO_2e$, or 64 MT $CO_2e$ per year when amortized over 30 years. Additional details regarding these calculations are provided in Appendix B.

Table 4.7-5 presents construction emissions for the project in 2032 to 2035 from on-site and off-site emission sources.

**Table 4.7-5**
**Phase III Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Year | MT $CO_2$ | MT $CH_4$ | MT $N_2O$ | MT $CO_2e$ |
|---|---|---|---|---|
| 2032 | 785.72 | 0.03 | 0.00 | 786.41 |
| 2033 | 838.67 | 0.03 | 0.00 | 839.34 |
| 2034 | 558.01 | 0.02 | 0.00 | 558.47 |
| 2035 | 10.32 | 0.00 | 0.00 | 10.32 |
| | | | **Total** | **2,194.54** |
| | | | **Amortized over 30 years** | **73.15** |

**Notes:** See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-5, the estimated total GHG emissions during Phase III construction would be a total of approximately 2,195 MT $CO_2e$ and 73 MT $CO_2e$ per year when amortized over 30 years. Additional details regarding these calculations are provided in Appendix B.

As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period for each phase, and would not represent a long-term source of GHG emissions.

### Operational Emissions

Operation of the project would result in GHG emissions from vehicular traffic, area sources (natural gas combustion, landscaping), stationary sources (diesel generators and boilers), electrical generation, water supply, and solid waste. The detailed methodology for vehicular traffic (mobile sources), area sources, and stationary sources is presented in Section 4.2.5. The GHG only emissions include indirect emissions from electricity use, water supply, and solid waste. These sources are described in detail below.

Phase I would demolish the existing facilities services and educational services trailers, and the existing Medical Office Building No.1 (7,600 square feet) and would construct a new 95,000 square-foot Diagnostic and Treatment building and a new 22,000 square-foot Energy Center. The existing Central Utility Plant currently includes two emergency generators and two boilers. One of the existing emergency generators would be moved to the new Energy Center, and the other emergency generator and two boilers would be dismantled and removed from the site. The new Energy Center would consist of the one existing emergency generator and a new 3,000 kW diesel emergency generator. As such, in order to identify the net increase in emissions from the new Energy Center, the emissions from the existing emergency generator and two boilers were estimated and subtracted from the emissions from the new Energy Center.

***Electricity***

As represented in CalEEMod, energy sources include GHG emissions associated with building electricity. The electricity use for the project was provided by Kaiser for each Phase. CalEEMod utilizes a default emission factor for SCE based on data from 2012. In order to more accurately account for the indirect GHG emissions from each phase, an adjustment was made to the emission factor based on the renewable portfolio standard (RPS) requirements. The SCE reported a renewables content of 32% in 2017 which was used for the buildout of Phase I. For Phases II and III, the RPS goals of 60% renewables by 2030 and 100% renewables by 2045 were used to interpolate to the respective buildout years.

***Solid Waste***

The proposed project would generate solid waste and would, therefore, result in $CO_2$ and $CH_4$ emissions associated with landfill off-gassing. Solid waste generation was derived from the CalEEMod default rates for each land use type. Emission estimates associated with solid waste were estimated using CalEEMod. A solid waste diversion rate of 75 percent was assumed in accordance with AB 341.

***Water Supply and Wastewater***

Water supplied to the proposed project would require the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. Annual water use for the proposed project and GHG emissions associated with the electricity used for water supply were calculated based upon estimated water use for Phase I provided by Kaiser. For Phases II and III, the CalEEMod default water use estimates were used.

Using CalEEMod, Phase I operational GHG emissions from the Energy Center, electricity usage, motor vehicles, solid waste generation, water consumption, and wastewater treatment associated with the project were estimated as shown in Table 4.7-6. Other operational factors were based on the default values in CalEEMod, except project trip generation, which was obtained in the traffic impact analysis (Appendix I). Additional details regarding these calculations are provided in Appendix B.

**Table 4.7-6**
**Phase I Estimated Operational GHG Emissions**

| | MT $CO_2$/year | MT $CH_4$/year | MT $N_2O$/year | MT $CO_2e$/year |
|---|---|---|---|---|
| *Components to be Removed in Phase I* | | | | |
| Energy | 24.46 | 0.00 | 0.00 | 24.55 |
| Waste | 16.66 | 0.98 | 0.00 | 41.28 |
| Water | 4.90 | 0.03 | 0.00 | 5.91 |
| | | | **Total** | 71.74 |
| *Phase I* | | | | |
| Area | 0.01 | 0.00 | 0.00 | 0.01 |
| Energy | 1,925.09 | 0.05 | 0.03 | 1,935.68 |
| Mobile | 283.89 | 0.02 | 0.00 | 284.45 |
| Stationary | 50.78 | 0.01 | 0.00 | 50.96 |
| Waste | 52.35 | 3.09 | 0.00 | 129.69 |
| Water | 51.90 | 0.43 | 0.01 | 65.77 |
| | | | **Phase I total** | **2,466.56** |
| | | | **Phase I Amortized Construction Emissions** | **55.48** |
| | | | **Phase I Total (Operational plus Amortized Construction Emissions)** | **2,522.04** |
| | | | **Phase I Net Total (Phase I minus components removed)** | **2,450.30** |

**Notes:** See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-6, the estimated Phase I annual project-generated GHG emissions during operational year 2023 would be approximately 2,467 MT $CO_2e$ per year as a result of Phase I project operations. When amortized construction emissions are added to Phase I, the total operational emissions for Phase I are 2,522 MT $CO_2e$ per year. When the decommissioned medical office building emissions are subtracted from the Phase I emissions, the net total would be 2,450 MT $CO_2e$ per year.

Phase II of the project would expand the Diagnostic and Treatment Building and Energy Center added in Phase I, and would add a new hospital tower, a new medical office building, and two parking structures (Refer to Chapter 3 for Phase II details). Operational GHG emissions from the Energy Center; electricity usage; motor vehicles; solid waste generation; water consumption; and wastewater treatment associated with Phases I and II of the project are shown in Table 4.7-7. CalEEMod default assumptions were used for all operational emissions except mobile sources (traffic impact analysis) and energy usage provided by Kaiser. Additional details regarding these calculations are provided in Appendix B.

**Table 4.7-7**
**Phase I and Phase II Estimated Operational GHG Emissions**

| | MT $CO_2$/year | MT $CH_4$/year | MT $N_2O$/year | MT $CO_2e$/year |
|---|---|---|---|---|
| Area | 0.07 | 0.00 | 0.00 | 0.07 |
| Energy[1] | 4,932.19 | 0.14 | 0.09 | 4,961.28 |
| Mobile | 2,597.25 | 0.18 | 0.00 | 2,601.78 |
| Stationary | 50.78 | 0.01 | 0.00 | 50.96 |
| Waste[1] | 280.09 | 16.55 | 0.00 | 693.90 |
| Water[1] | 161.46 | 1.91 | 0.05 | 223.21 |
| **Phase I and II total** | | | | **8,531.20** |
| **Amortized Construction Emissions (Phase I and II)** | | | | **119.42** |
| **Phase II Total (Operational plus Amortized Construction Emissions)** | | | | **8,650.62** |

**Notes:**
1 Emissions have accounted for the existing components emissions shown in Table 4.7-6.
See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-7, the estimated Phase I and Phase II annual project-generated GHG emissions during operational year 2030 would be approximately 8,531 MT $CO_2e$ per year as a result of build-out of Phase II project operations. With amortized construction emissions added, the total buildout operational emissions at the end of Phase II would be 8,651 MT $CO_2e$ per year.

Phase III, would demolish the existing Central Utility Plant and replace and expand the existing hospital tower resulting in the net addition of 240 beds, would add a 95,000 square-foot outpatient medical office building, and a multilevel aboveground parking structure with a total of 600 parking spaces. Parking structures would not generate additional operational emissions because parking structures do not generate vehicle trips or other sources of air pollutants. The motor vehicles utilizing the parking structures and their associated emissions would be captured from the development (e.g., medical office buildings, hospital, diagnostic and treatment building) on site. Operational GHG emissions from the Energy Center; electricity usage; motor vehicles; solid waste generation; water consumption; and wastewater treatment associated with Phases I, II and III of the project are shown in Table 4.7-8. Other operational factors were based on the default values in CalEEMod, except project trip generation, which was obtained in the traffic impact analysis (Appendix I), and energy usage provided by Kaiser. Additional details regarding these calculations are provided in Appendix B.

**Table 4.7-8**
**Phases I through III Estimated Operational GHG Emissions**

| | MT $CO_2$/year | MT $CH_4$/year | MT $N_2O$/year | MT $CO_2e$/year |
|---|---|---|---|---|
| *Components to be removed in Phase III* | | | | |
| Energy | 781.00 | 0.03 | 0.01 | 783.80 |
| Stationary | 1,179.25 | 0.03 | 0.00 | 1,179.88 |
| Waste | 291.58 | 17.23 | 0.00 | 722.37 |
| Water | 85.79 | 0.55 | 0.01 | 103.50 |
| | | | **Total** | **2,789.54** |
| *Phases I, II, and III* | | | | |
| Area | 0.10 | 0.00 | 0.00 | 0.10 |
| Energy | 7,054.51 | 0.20 | 0.13 | 7,097.34 |
| Mobile | 4,628.91 | 0.31 | 0.00 | 4,636.60 |
| Stationary | 50.78 | 0.01 | 0.00 | 50.96 |
| Waste | 537.68 | 31.77 | 0.00 | 1,332.08 |
| Water | 245.39 | 3.46 | 0.09 | 357.12 |
| **Phases I through III total** | | | | **13,474.20** |
| **Amortized Construction Emissions (Phase I through III)** | | | | **192.57** |
| **Phases I through III Total (Operational plus Amortized Construction Emissions)** | | | | **13,666.77** |
| **Phases I through III Net Total (Phase III minus components removed in Phase III)** | | | | **10,877.23** |

**Notes:** See Appendix B for detailed results.
MT = metric tons; $CO_2$ = carbon dioxide; $CH_4$ = methane; $N_2O$ = nitrous oxide; $CO_2e$ = carbon dioxide equivalent

As shown in Table 4.7-8, the estimated Phase I through III annual project-generated GHG emissions during operational year 2035 would be approximately 13,474 MT $CO_2e$ per year as a result of build-out of Phase III project operations. With amortized construction emissions added, the total buildout operational emissions would be 13,667 MT $CO_2e$ per year. When the demolished hospital tower and Central Utility Plant is subtracted from the Phase III emissions, the net total would be 10,877 MT $CO_2e$ per year.

## Consistency with Applicable Plans and Policies

### *Consistency with CARB's Scoping Plan*

The Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[4] It

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4 The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009b).

does provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the state's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 4.7-9 highlights measures that have been, or will be, developed under the Scoping Plan and presents the project's consistency with Scoping Plan measures. The project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the project.

**Table 4.7-9**
**Project Consistency with Scoping Plan GHG Emission Reduction Strategies**

| Scoping Plan Measure | Measure Number | Proposed Project Consistency |
|---|---|---|
| *Transportation Sector* | | |
| Advanced Clean Cars | T-1 | *Consistent.* The project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. |
| Low Carbon Fuel Standard | T-2 | *Consistent.* Motor vehicles driven by the project's employees and customers would use compliant fuels. |
| Regional Transportation-Related GHG Targets | T-3 | *Consistent.* The project would result in a GHG per capita that is less that that projected for the region within the SCAG 2016 RTP/SCS. |
| Advanced Clean Transit | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Last-Mile Delivery | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Reduction in VMT | N/A | *Consistent.* The project would result in a GHG per capita that is less that that projected for the region within the SCAG 2016 RTP/SCS. |
| Vehicle Efficiency Measures<br>1. Tire Pressure<br>2. Fuel Efficiency Tire Program<br>3. Low-Friction Oil<br>4. Solar-Reflective Automotive Paint and Window Glazing | T-4 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Ship Electrification at Ports (Shore Power) | T-5 | *Not applicable.* The project would not prevent CARB from implementing this measure. |

## Table 4.7-9
## Project Consistency with Scoping Plan GHG Emission Reduction Strategies

| Scoping Plan Measure | Measure Number | Proposed Project Consistency |
|---|---|---|
| Goods Movement Efficiency Measures<br>1. Port Drayage Trucks<br>2. Transport Refrigeration Units Cold Storage Prohibition<br>3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification<br>4. Goods Movement Systemwide Efficiency Improvements<br>5. Commercial Harbor Craft Maintenance and Design Efficiency<br>6. Clean Ships<br>7. Vessel Speed Reduction | T-6 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Heavy-Duty Vehicle GHG Emission Reduction<br>• Tractor-Trailer GHG Regulation<br>• Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I) | T-7 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project | T-8 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Medium and Heavy-Duty GHG Phase 2 | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| High-Speed Rail | T-9 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Electricity and Natural Gas Sector* | | |
| Energy Efficiency Measures (Electricity) | E-1 | *Consistent.* The project would be constructed in accordance with Cal Green and Title 24 building standards. |
| Energy Efficiency (Natural Gas) | CR-1 | *Consistent.* The project would be constructed in accordance with Cal Green and Title 24 building standards. |
| Solar Water Heating (California Solar Initiative Thermal Program) | CR-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Combined Heat and Power | E-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Renewables Portfolio Standard (33% by 2020) | E-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Renewables Portfolio Standard (50% by 2050) | N/A | *Not applicable.* The project t would not prevent CARB from implementing this measure. |
| SB 1 Million Solar Roofs<br>(California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs | E-4 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Water Sector* | | |
| Water Use Efficiency | W-1 | *Consistent.* The project would be constructed in accordance with Cal Green and Title 24 building standards. |

**Table 4.7-9**
**Project Consistency with Scoping Plan GHG Emission Reduction Strategies**

| Scoping Plan Measure | Measure Number | Proposed Project Consistency |
|---|---|---|
| Water Recycling | W-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Water System Energy Efficiency | W-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Reuse Urban Runoff | W-4 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Renewable Energy Production | W-5 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Green Buildings* | | |
| State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings) | GB-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings) | GB-1 | *Consistent.* The project is committed to achieving the LEED Gold certification or better. |
| Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings) | GB-1 | *Consistent.* The project is committed to achieving the LEED Gold certification or better. |
| Greening Existing Buildings (Greening Existing Homes and Commercial Buildings) | GB-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Industry Sector* | | |
| Energy Efficiency and Co-Benefits Audits for Large Industrial Sources | I-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Oil and Gas Extraction GHG Emission Reduction | I-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Reduce GHG Emissions by 20% in Oil Refinery Sector | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| GHG Emissions Reduction from Natural Gas Transmission and Distribution | I-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Refinery Flare Recovery Process Improvements | I-4 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks | I-5 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Recycling and Waste Management Sector* | | |
| Landfill Methane Control Measure | RW-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Increasing the Efficiency of Landfill Methane Capture | RW-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Mandatory Commercial Recycling | RW-3 | *Consistent.* The project would include recycling during both construction and operation. |
| Increase Production and Markets for Compost and Other Organics | RW-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |

**Table 4.7-9**
**Project Consistency with Scoping Plan GHG Emission Reduction Strategies**

| Scoping Plan Measure | Measure Number | Proposed Project Consistency |
|---|---|---|
| Anaerobic/Aerobic Digestion | RW-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Extended Producer Responsibility | RW-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Environmentally Preferable Purchasing | RW-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Forests Sector* | | |
| Sustainable Forest Target | F-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *High GWP Gases Sector* | | |
| Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing | H-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| $SF_6$ Limits in Non-Utility and Non-Semiconductor Applications | H-2 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Reduction of Perfluorocarbons (PFCs) in Semiconductor Manufacturing | H-3 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Limit High GWP Use in Consumer Products | H-4 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Air Conditioning Refrigerant Leak Test During Vehicle Smog Check | H-5 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program | H-6 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration | H-6 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| $SF_6$ Leak Reduction Gas Insulated Switchgear | H-6 | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| 40% Reduction in Methane and Hydrofluorocarbon (HFC) Emissions | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| 50% Reduction in Black Carbon Emissions | N/A | *Not applicable.* The project would not prevent CARB from implementing this measure. |
| *Agriculture Sector* | | |
| Methane Capture at Large Dairies | A-1 | *Not applicable.* The project would not prevent CARB from implementing this measure. |

**Source:** CARB 2008, 2017.
**Notes:** GHG = greenhouse gas; CARB = California Air Resources Board; VMT = vehicle miles traveled; SB = Senate Bill; N/A = not applicable; $SF_6$ = sulfur hexafluoride.

Based on the analysis in Table 4.7-9, the project would be consistent with the applicable strategies and measures in the Scoping Plan.

The project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in Executive Order (EO) S-03-05 and SB 32. EO S-03-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory toward meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-03-05. This is confirmed in the Second Update, which states (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

As discussed previously, the project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. The project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-03-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-03-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. The project would not interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 or impede the state's trajectory toward the previously described statewide GHG reduction goals for 2030 or 2050.

***Consistency Evaluation with SB 375 (SCAG RTP/SCS)***

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The SCS will integrate land use and transportation strategies that will achieve GHG emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state's 2035 and 2040 GHG reduction goals. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS.

The 2016 RTP/SCS projects that within the City there were 31,400 jobs in 2012 and will have 83,200 jobs by 2040, or 1,850 jobs per year. The project would not result in direct population growth, because the project does not include the development of additional housing. However, the project would require approximately 4,761 additional employees at full build-out to serve the new medical office buildings, hospital, and hospital related facilities. As the project is expected to employ 300 persons in Phase I, 2,065 persons in Phase II, and 2,395 persons in Phase III, the total average growth rate over the three buildout years would be 1,587 jobs per year. Therefore, the project's average employment growth rate does not exceed the anticipated annual average growth rate for employment in the City, which would be 1,850 jobs per year. Since the jobs created by the project are within the job growth projections in the 2016 RTP/SCS, will not impair the region's ability to achieve the GHG reductions from project related mobile sources as required by SB 375 because the land use development pattern proposed by the project results in jobs within the total number of jobs projected by SCAG's 2016 RTP/SCS, and is consistent with the underlying assumptions upon which SCAG's 2016 RTP/SCS was based.

The 2016 RTP/SCS includes, for the SCAG region as a whole, a daily 22.8 Total vehicle miles traveled (VMT) per capita for the 2012 Base Year, and a daily 20.5 Total VMT per capita for the 2040 Plan Year. For Riverside County, the 2012 Base Year daily Total VMT per capita is 23.3 and the daily Total VMT per capita is 21.7 for the 2040 Plan Year. To analyze the consistency of the project with the 2016 RTP/SCS for informational purposes, the project's Total Daily VMT was divided by the project's service population to arrive at the per capita Total Daily VMT estimates. The total project daily VMT in 2040 is estimated to be 29,507 (Appendix I). As discussed above, the total service population for the project is 4,761. It should be noted that this only includes project employees and does not include patients. Therefore, the Total VMT per capita in 2040 would be 6.2 for the project. The total project VMT per capita of 6.2 would be well below the overall SCAG region's daily 20.5 Total VMT per capita for the 2040 Plan Year and Riverside County's 21.7 daily Total VMT per capita for the 2040 Plan Year. In addition, the project results in a VMT reduction of approximately 71%, which would be consistent with the reduction in transportation emissions per capita provided in the 2016 RTP/SCS.

Because the project is not growth inducing, this type of consistency analysis does not apply. However, the major goals of the 2016 RTP/SCS are outlined in Table 4.7-10, along with the project's consistency with them.

**Table 4.7-10**
**Project Consistency with the SCAG 2016 RTP/SCS**

| RTP/SCS Measure | Proposed Project Consistency |
|---|---|
| Preserve the Transportation System We Already Have | *Does not apply.* The project would not inhibit SCAG from preserving the existing transportation system. |
| Expand Our Regional Transit System to Give People More Alternatives to Driving Alone | *Does not apply.* The project would not inhibit SCAG from preserving expanding the regional transportation system. |
| Expand Passenger Rail | *Does not apply.* The project would not inhibit SCAG from expanding the passenger rail system. |
| Improve Highway and Arterial Capacity | *Does not apply.* The project would not inhibit SCAG from improving highway and arterial capacity. |
| Manage Demands on the Transportation System | *Does not apply.* The project would not inhibit SCAG from managing the demands on the transportation system. |
| Optimize the Performance of the Transportation System | *Does not apply.* The project would not inhibit SCAG from optimizing the performance of the project system. |
| Promoting Walking, Biking and Other Forms of Active Transportation | *Consistent.* The project would be consistent with the General Plan's land use and zoning designations. The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located for residents in the region and would be easily accessible from the RTA Route 20 bus stop, public walkways and bikeways on Iris Avenue. Additionally, the project's site plans include design features such as campus-wide walkways, bikeways, and an internal traffic circle that would ensure efficient and safe pedestrian, bicycle and vehicular circulation. |

**Table 4.7-10**
**Project Consistency with the SCAG 2016 RTP/SCS**

| RTP/SCS Measure | Proposed Project Consistency |
|---|---|
| Strengthen the Regional Transportation Network for Goods Movement | *Does not apply.* The project would not inhibit SCAG from strengthening the regional transportation network for goods movement. |
| Leverage Technology | *Does not apply.* The project would not inhibit SCAG from leveraging technology for the transportation system. |
| Improve Airport Access | *Does not apply.* The project would not inhibit SCAG from improving airport access. |
| Focus New Growth Around Transit | *Consistent.* The project would not inhibit SCAG from focusing new growth around transit corridors. Additionally, the project would be enhancing existing medical services on an existing developed site within the existing Medical Use Overlay. Connections throughout the site would be made to the existing bus stop, and a bicycle circulation network would be included throughout the site. |
| Improve Air Quality and GHG | *Consistent*. The project would result in per capita daily VMT that would be less than the regional targets and thus would support the SCAG regional SB 375 GHG goals. |
| Preserve Natural Lands | *Consistent*. The project would not impact natural lands during construction or operation. A portion of the project site is currently developed with medical center uses; the remainder of the site is not yet developed but is disturbed and is owned by Kaiser and located within the Medical Use Overlay zone. |

**Source:** SCAG 2016.

As shown in Table 4.7-10, the project would not conflict with the goals within SCAG's 2016 RTP/SCS. Based on the growth forecast analysis, per capita VMT analysis, and consistency with the 2016 RTP/SCS goals, the project would be consistent with the principles of the 2016 RTP/SCS and the project would have a **less than significant** impact.

### City of Moreno Valley Energy Efficiency and Climate Action Strategy

The Strategy is a policy document which identifies ways that the City can reduce energy and water consumption and greenhouse gas emissions as an organization (its employees and the operation of its facilities) and outlines the actions that the City can encourage and community members can employ to reduce their own energy and water consumption and greenhouse gas emissions. The Energy Efficiency section's primary focus is to identify potential energy efficiency measures for the City as an organization, both those that have been implemented and those that could be implemented in the future. In addition, the document provides direction and policies to ensure the most effective, practical, and affordable, energy use practices are implemented. The focus of the Climate Action section is to promote measures similar to those identified in the Energy Efficiency section and additional measures that can be implemented by the community's residents and businesses to reduce greenhouse gas emissions on a community-wide basis. The Climate Action Strategy includes an analysis of existing and future greenhouse gas emissions community wide and provides a set of policies to guide efforts to reduce greenhouse gas emissions to meet or exceed state requirements without unduly compromising other community goals. The project would include energy efficiency design elements in accordance with Title 24 standards at the time it is built. Furthermore, the project will be LEED accredited which will help to reduce its GHG emissions. Therefore, the project would not impeded the City from implementing the Strategy. As discussed in Section 4.7.1, the City's Strategy is not a qualified GHG reduction plan under CEQA Guidelines Section 15183.5. Therefore, this discussion is for informational purposes only and is not determinative of significance.

Additionally, the project would incorporate Kaiser's sustainable building standards and green initiatives (**PDF-GHG-1**) aimed at reducing GHG emissions, which are consistent with the City's goals. As outlined in **PDF-GHG-1**, Kaiser would pursue LEED Gold certification or equivalent for the buildings that it develops on the project site. Although Kaiser will be pursuing LEED Gold certification or equivalent for the project, at this time, the reduction to GHG emissions related to LEED cannot be quantified. Implementation of **PDF-GHG-1**, however, would reduce GHG emissions through energy and water conservation and other sustainability measures. Furthermore, as discussed in Section 4.7.1, Kaiser Permanente is striving to become carbon positive by 2025. Although not quantified herein, any company-wide sustainability measures would benefit the project and support the GHG reduction goals within CARB's Scoping Plan and the SCAG 2016 RTP/SCS.

Based on the considerations previously outlined, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. Therefore, impact associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be **less than significant**.

## 4.7.6 Mitigation Measures

Impacts related to GHG emissions were found to be less than significant. No mitigation is required.

## 4.7.7 Level of Significance After Mitigation

The project is less than significant prior to mitigation.

## 4.7.8 References Cited

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* January 2008.

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# 4.8 HAZARDS AND HAZARDOUS MATERIALS

This section identifies associated regulatory requirements; describes the existing hazardous materials within the vicinity of the project site; evaluates potential impacts related to routine transport, use, or disposal of hazardous materials such as accidental release of hazardous materials into the environment; emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. This section also evaluates whether the site is listed on a hazardous materials list indicating that the location could create a hazard to the public or the environment. Lastly, this section evaluates whether the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) interferes with an adopted emergency response plan or emergency evacuation plan; and potential for wildland fires. The section then identifies applicable mitigation measures related to implementation of the project. The analysis within this section is based on the following, included in Appendices F-1, F-2, and F-3, respectively, to this environmental impact report (EIR):

- Phase I Environmental Site Assessment for Kaiser Foundation Health Plan Inc., Moreno Valley Community Hospital; 27300 Iris Avenue, Moreno Valley, California 92586 (April 2007)
- Limited Subsurface Soil Investigation, 27300 Iris Avenue, Moreno Valley, California 92586 (May 2007)
- Phase I Environmental Site Assessment for Kaiser Foundation Health Plan Inc., 10-Acre Undeveloped Parcel, Iris Avenue, Moreno Valley, California 92586 (May 2008)

## 4.8.1 Relevant Plans, Policies, and Ordinances

Hazardous materials and wastes are identified and defined by federal and state regulations for the purpose of protecting public health and the environment. Hazardous materials contain certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous wastes are defined in the Code of Federal Regulations Title 40, Volume 25, Parts 260–265 and in the California Code of Regulations (CCR), Title 22 Div. 4.5, Chapter 11, Article 1, Section 66261. Over the years, the laws and regulations have evolved to deal with different aspects of the handling, treatment, storage, and disposal of hazardous substances.

### Federal

#### *Federal Toxic Substances Control Act of 1976*

The Federal Toxic Substances Control Act of 1976 tasked the U.S. Environmental Protection Agency (EPA) with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The Federal Toxic Substances Control

Act addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls, asbestos, radon, and lead-based paint (EPA 2019a).

### *Resource Conservation and Recovery Act of 1976*

The objectives of the Resource Conservation and Recovery Act are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner. The Resource Conservation and Recovery Act of 1976, which amended the Solid Waste Disposal Act in 1984, addresses solid and hazardous waste management activities. The Resource Conservation and Recovery Act affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. The Hazardous and Solid Waste Amendments of 1984 also added Subtitle I, which governs underground storage tanks (EPA 2018).

### *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986 (EPA 2019b).

### *Superfund Amendments and Reauthorization Act*

The Superfund Amendments and Reauthorization Act amended CERCLA on October 17, 1986. The Superfund Amendments and Reauthorization Act had several changes and additions, including the following:

- Stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites
- Required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations

- Provided new enforcement authorities and settlement tools
- Increased state involvement in every phase of the Superfund program
- Increased the focus on human health problems posed by hazardous waste sites
- Encouraged greater citizen participation in making decisions on how sites should be cleaned up
- Increased the size of the trust fund to $8.5 billion.

The Superfund Amendments and Reauthorization Act also required the EPA to revise the Hazard Ranking System to ensure that it accurately assessed the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the National Priorities List (EPA 2019b).

#### *Occupational Safety and Health Act of 1970 and Occupational Safety and Health Administration*

The Occupational Safety and Health Act of 1970 was passed to prevent workers from being killed or seriously harmed at work. The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA), which sets and enforces protective workplace safety and health standards. OSHA also provides information, training, and assistance to employers and workers. Under the Occupational Safety and Health Act of 1970, employers have the responsibility to provide a safety workplace (OSHA 2011).

### State

Primary state agencies with jurisdiction over public health hazards and hazardous chemical materials management are the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board. Other state agencies involved in hazardous materials management are the Department of Industrial Relations (California OSHA (CalOSHA) implementation), Office of Emergency Services (Office of Emergency Services–California Accidental Release Prevention Implementation), California Department of Fish and Wildlife, California Air Resources Board (CARB), California Department of Transportation (Caltrans), State Office of Environmental Health Hazard Assessment (Proposition 65 implementation), and the California Integrated Waste Management Board.

The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol and Caltrans. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. South Coast Air Quality Management District Rules and Regulations pertain to asbestos abatement (including Rule 1403), Construction Safety Orders 1529 (pertaining to asbestos), and 1532.1 (pertaining to lead) from Title 8 of the CCR. Hazardous chemical and biohazardous materials management laws in California include the following statutes:

- Hazardous Materials Management Act – requires that businesses handling or storing certain amounts of hazardous materials prepare a hazardous materials business plan, which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program.
- Hazardous Waste Control Act (California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100, et seq.) – authorizes the DTSC and local certified unified program agencies to regulate facilities that generate or treat hazardous waste.
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) – requires the governor to publish and update, at least annually, a list of chemicals known to the state to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals.
- Hazardous Waste Management Planning and Facility Siting, also known as the Tanner Act (Assembly Bill (AB) 2948, 1986) – requires counties to prepare, for California DTSC approval, hazardous waste management plans, and prescribes specific public participation activities, which must be carried out during the local land use permit process for siting new or expanding off-site commercial treatment, storage, and disposal facilities.
- Hazardous Materials Storage and Emergency Response (AB 2185) – requires the immediate reporting to local fire departments and Offices of Emergency Services of any release or threatened release of a hazardous material, regardless of the amount handled by the business.
- California Medical Waste Management Act (California Health and Safety Code, Sections 117600–118360) – establishes procedures for the proper handling, storage, treatment, and transportation of medical waste.
- Land Disposal Restrictions (CCR, Chapter 18, Title 22) – set up by Congress in 1984 for the EPA, ensures that toxic constituents present in hazardous waste are properly treated before hazardous waste is land disposed.

State regulations and agencies pertaining to hazardous materials management and worker safety are described in the following subsections.

***California Environmental Protection Agency***

The boards, departments, and offices that make up the California Environmental Protection Agency (CalEPA) include CARB, the Department of Pesticide Regulation, the Department of Resources Recycling and Recovery, the DTSC, the Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. These boards, departments and offices were placed within the CalEPA “umbrella” to create a cabinet-level voice for the protection of human health and the environment (such as clean air, clean water, clean soil, safe pesticides, and waste recycling and reduction) to assure the coordinated deployment of state resources (CalEPA 2019).

***California Government Code Section 65962.5***

Pursuant to Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties with known hazardous substance contamination within the proposed project area (California Government Code, Section 65960 et seq.). Four state agencies are required to provide lists of facilities that have contributed, harbor, or are responsible for environmental contamination within their jurisdiction. The four state agencies that are required to provide these lists to the Secretary for Environmental Protection include the DTSC, the State Department for Health Services, the State Water Resources Control Board, and the California Integrated Waste Management Board. The Secretary for Environmental Protection then takes each of the four respective agency lists and forms one list, referred to as the Hazardous Waste and Substances Site List – Site Cleanup (Cortese List), which is made available to every city and/or county in California (CalEPA 2019).

***California Health and Safety Code Section 25501***

California law defines a hazardous material as any material that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a present or potential hazard to human health and safety or to the environment if released in the workplace or the environment (California Health and Safety Code Section 25501).

***California Occupational Safety and Health Administration***

CalOSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the work place. CalOSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

***California Hazardous Waste Control Law***

The California Hazardous Waste Control Law (Health and Safety Code, Division 20, Chapter 6.5) is administered by the CalEPA to regulate the management of hazardous wastes. While the Hazardous Waste Control Law is generally more stringent than the Resource Conservation and Recovery Act, until the EPA approves the California hazardous waste control program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

***California Accidental Release Prevention Program***

Similar to the Federal Risk Management Program, the California Accidental Release Prevention Program includes additional state requirements as well as an additional list of regulated substances and thresholds. The regulations of the program are contained in CCR Title 19, Division 2, Chapter 4.5. The intent of California Accidental Release Prevention Program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws.

***California Health and Safety Code***

The handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan (HMBP). HMBPs contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Chapter 6.95 of the Health and Safety Code establishes minimum statewide standards for HMBPs.

**Local**

***Riverside County Department of Environmental Health – Hazardous Materials Branch***

The California Environmental Protection Agency designated the County's Hazardous Materials Branch as the Certified Unified Program Agency (CUPA) for Riverside County. The role of the CUPA is to assure consolidation, consistency and coordination of the hazardous materials programs within the County. The CUPA also oversees the two Participating Agencies (Corona Fire and Riverside Fire) that implement hazardous materials programs within the County.

The Riverside County Department of Environmental Health Hazardous Materials Branch is responsible for overseeing the six hazardous materials programs in the County. The Branch is responsible for inspecting facilities that handle hazardous materials, generate hazardous waste, treat hazardous waste, own/operate underground storage tanks, or own/operate aboveground petroleum storage tanks. In addition, the Branch maintains an emergency response team that responds to hazardous materials and other environmental health emergencies 24 hours a day, 7 days a week (County of Riverside 2019).

***City of Moreno Valley Emergency Operations Plan***

The City of Moreno Valley (City) Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City. The EOP is a preparedness document and is designed to be read, understood, and exercised prior to an emergency. The EOP was been developed in accordance with the Standardized Emergency Management System and the National Incident Management System. The City's EOP describes the operations of the City's Emergency Operations Center, which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The City conducts regular Emergency Operations Center disaster exercises providing personnel with an opportunity to become thoroughly familiar with the procedures, equipment, and systems used during emergencies (City of Moreno Valley 2009).

***City of Moreno Valley General Plan***

The Safety Element of the Moreno Valley General Plan (City of Moreno Valley 2006) includes goals and policies related to hazards and hazardous materials. The proposed project's consistency with applicable goals and policies is summarized in Section 4.10, Land Use and Planning and discussed further below.

## 4.8.2 Existing Conditions

A Phase I Environmental Site Assessment (ESA) was prepared by SECOR for the eastern portion of the project site in accordance with the American Society for Testing and Materials (ASTM) Standard of Practice E 1527-05 (provided as Appendix F-1 to this EIR). SECOR conducted a site reconnaissance on March 27, 2007; conducted interviews with the property owner and Hospital Administrator; and reviewed online historical aerial photographs, maps, historical fire insurance maps, and a radius map report from Environmental Data Resources Inc. (EDR); reviewed previously prepared environmental reports; and reviewed available pertinent records of local, state, and federal agencies in its investigation of the project site. Based upon the results of the Phase I ESA, a subsequent limited subsurface investigation was prepared (Appendix F-2) in order to assess the potential presence of significant and/or widespread impacts to soil beneath the site that may have resulted from the land uses identified in the Phase I ESA.

A separate Phase I ESA was prepared for the western portion of the project site in May 2008 (see Appendix F-3 to this EIR). The following discussion summarizes SECOR's findings regarding the existing conditions at the project site.

### Site History

The project site was historically used for agricultural purposes from at least 1938 until 1989. In 1989 the project site was developed with the existing hospital building and ancillary facilities, such as, a backup generator, chillers, on-site x-ray film processing, and a laboratory, each which involve the use, handling, and storage of chemical materials.

### Surrounding Property Use

North, west, and east of the project site are undeveloped lands that were historically used as agricultural fields or pastureland. Beyond the undeveloped land to the east and west are single-family residential developments. South of the project site is Iris Avenue (public right-of-way) with residential development beyond Iris Avenue to the south.

### Hazardous Materials Inventory

The Phase I ESA (Appendix F-1 of this EIR) identified the following sources of potential concern/ contamination that required further soil testing:

- A 12,000 gallon diesel underground storage tank (UST) and associated underground piping associated with one of the existing emergency backup generators. While the UST appeared to be in compliance with requirements for UST construction, integrity, and secondary containment testing, the presence of the UST is considered to be a recognized environmental concern (REC). Records on file with the Riverside County Department of Environmental Health (i.e., the local CUPA) indicate the UST had failed secondary containment testing on March 6, 2003. It was recommended that soil samples be collected in the vicinity of the UST to evaluate the potential for diesel-range petroleum hydrocarbon impacts to soil surrounding the UST and piping.
- Two photo processing machines were identified as being in use and include photo fixer and developer processes. Both machines discharge effluent through a silver recovery unit, to floor drains, which then discharge to the sanitary sewer. Both drains were replaced in 2001 when an underground pipe sleeve apparently broke, causing sediment to back up into both drains. Riverside County records indicate that on-site treatment of silver-bearing photo processing hazardous waste historically occurred on site. Based on the reported pipe damage there was reason to believe that that silver-bearing photo processing effluent may have impacted subsurface soils beneath the first floor of the hospital building. It was recommended that soils samples be collected from beneath the photo processing machines to evaluate the potential for elevated concentrations of silver in subsurface soils.
- Due to the potential for the site to have been historically used for agricultural purposes, there is a potential that widespread application of pesticides associated with former

agricultural operations may have impacted near surface soils. It was recommended that near surface soils across the site be evaluated for the presence of pesticides.

A limited subsurface investigation was prepared by SECOR in May 2007 (Appendix F-2 of this EIR) to implement the recommendations of the April 2007 Phase I ESA. The Limited Subsurface Investigation concluded that diesel-range petroleum hydrocarbons were not detected at or above the method reporting limit of 10 mg/kg in any of the soil samples collected from UST and piping area. In addition, total silver was not detected at or above the method reporting limit of 2.0 mg/kg in any of the soil samples collected in the area around the two photo processing units. Lastly, pesticide compounds were not detected at or above their respective method reporting limits in all but two of the soil samples; however, the two samples that were above the reporting limit, did not exceed the residential soil Region 9 U.S. Environmental Protection Agency Preliminary Remediation Goal, which is generally considered to be conservative screening values for use during environmental site assessments. The Limited Subsurface Investigation concluded that widespread impacts to subsurface soils did not occur on site and no additional environmental assessment was recommended.

## 4.8.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the project would:

HAZ-1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

HAZ-2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

HAZ-3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

HAZ-4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would create a significant hazard to the public or the environment.

HAZ-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

HAZ-6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

HAZ-7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

## 4.8.4 Impacts Analysis

***Threshold HAZ-1. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

**Project- and Program-Level Elements**

The existing Medical Center currently uses, stores, disposes of, and if necessary, transports hazardous materials as necessary for the operation of the facility (i.e., inert compressed gases (e.g., liquid nitrogen), combustible materials (e.g., spray paint, gasoline, oil-based paints, etc.), oxidizers (e.g., chlorine bleach, hydrogen peroxide, nitric acid etc.), corrosive materials (e.g., sodium hydroxide, ammonia, acetic acid etc.), toxic materials (chemotherapy chemicals, mercuric chloride etc.), carcinogens (e.g., chloroform, ethylene oxide, etc.), and/or sensitizers (e.g., ammonium thiosulfate)). The existing Medical Center has specific plans and policies in place to ensure the safety of the environment and public, and to ensure the safe use, transport, and disposal of hazardous materials. In addition, the Medical Center is required to follow local, state, and federal regulations associated with storing and using hazardous materials.

Both the federal and state governments require all businesses that handle more than the specified amount of hazardous materials to submit a business plan to a regulating agency. Thus, in compliance with California Health and Safety Code, Article 1, Chapter 6.95, the existing Medical Center has a current Hazardous Materials Business Plan (HMBP) in place, which provides training for employees in the safe handling of hazardous materials, procedures for coordination with local emergency response teams, instructions on proper use of personal protective equipment, identifies emergency evacuation routes, and techniques for prevention, abatement, and mitigation. The HMBP also includes basic information about the location, types, quantities, and health risks of hazardous materials stored and used at the site, as well as information about employee training and emergency response/evacuation. As part of the proposed project, the existing HMBP is required to be updated, reviewed, and approved by the City's Fire Department and the Riverside County Department of Environmental Health Hazardous Materials Management Division. Prior to handling hazardous materials in excess of what is disclosed in the existing HMBP, an amended/updated HMBP shall be prepared and submitted to the Riverside County Department of Environmental Health Hazardous Materials Management Division and City of Moreno Valley Fire Department. The HMBP would contain information on the location, type, quantity, and health risks of hazardous materials stored and used on the site. Within the HMBP, the applicant would prepare a chemical inventory for all hazardous materials or waste stored in quantities greater than or equal to 500 pounds of a solid, 55 gallons of a liquid, 200 cubic feet of a compressed gas, highly toxic gases of any amount, and extremely hazardous substances stored in quantities greater than threshold amounts.

In addition to updating the HMBP, pursuant to the State of California Medical Waste Management Act of 2017, Kaiser Permanente is required to update its existing Medical Waste Management Plan (MWMP) for submittal to the Riverside County Department of Environmental Health Hazardous Materials Management Division. Prior to handling hazardous materials in excess of what is disclosed in the existing MWMP, an amended/updated MWMP shall be submitted, reviewed, and approved by the Riverside County Department of Environmental Health Hazardous Materials Management Division. The MWMP will describe the types and amounts of medical waste generated and how the waste would be disposed. Update to both the HMBP and the MWMP are required on an annual basis and must be approved prior to handling any additional hazardous materials in excess of what is disclosed in the existing HMBP and/or MWMP.

The project involves a three-phased expansion of an existing hospital, medical office buildings, central energy plant, hospital-related facilities, and associated infrastructure improvements. It is assumed that everyday hospital uses, as well as routine landscaping and building maintenance, would involve the transport, use, or disposal of hazardous materials on or off site (see list above of hazardous chemicals potentially used and stored on site). Caltrans' Office of Hazardous Materials Safety prescribes strict regulations for the safe transport of hazardous materials, as described in Title 40, 42, 45, and 49 of the Code of Federal Regulations, and implemented by Title 17, 19, and 27 of the CCR. Further, Kaiser is required to comply with all applicable federal, state, and local laws, including the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5), the Hazardous Waste Control Regulations (22 CCR 4.5), and the City's Municipal Code (Section 9.08.090 Hazardous Materials Management).

Due to the future increase in patient capacity, each phase of the proposed project would incrementally increase the amount of hazardous materials required to be stored and disposed of on site. The types of chemicals and hazardous materials would be similar to those currently used at the Medical Center for everyday hospital operation. However, since routine transport, use, and disposal of hazardous materials associated with the proposed project would be regulated by federal, state and local laws, and Kaiser Permanente would comply with all applicable laws and regulations, including without limitation through the updates and/or amendments to the MWMP and HMBP, impacts are considered to be **less than significant,** and no mitigation is required**.**

***Threshold HAZ-2. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

## Project- and Program-Level Elements

### *Construction and Grading Activities*

A variety of hazardous substances and wastes would be stored, used, and generated on the project site during construction activities. These would include fuels for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated, which would result in a significant impact. Accident prevention and containment are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are typically included in construction specifications. A hazardous materials spill kit would be maintained on site for small spills. Hazardous materials shall not be disposed of or released on the ground, in the underlying groundwater, or any surface water. Totally enclosed containment shall be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, would be removed to a waste facility permitted to treat, store, or dispose of such materials.

In addition, in order to reduce potential risks associated with construction, Kaiser has implemented a "Contractor Performance Safety Standards Manual," which demonstrates Kaiser's role in achieving construction safety, by utilizing contractors who demonstrate a solid commitment to safe work practices. Contractors can demonstrate this by providing evidence of their commitment to establish and implement sound safety and hazard-reduction programs that reflect a thorough understanding of best industry practices. Kaiser seeks to utilize contractors who have a familiarity with, and comprehension of, basic performance safety standards in the health care construction industry (Kaiser Permanente 2009).

Furthermore, according to the limited subsurface investigation that was prepared in May 2007 for the eastern portion of the project site (Appendix F-2 of this EIR), soil samples collected on site after several issues were identified as areas of concern in the Phase I (UST, photo processing units, and historical agricultural land), did not detect contamination at or above the method reporting limit or other conservative screening values. The Phase I ESA prepared for the western portion of the project site (Appendix F-3 to this EIR) did not identify any areas of concern that required subsequent testing, such as a limited subsurface investigation. Therefore, soil disturbance during construction would not result in the accidental release of hazardous materials into the environment.

As such, impacts from the accidental release of hazardous materials during construction activities would be **less than significant**, and no mitigation is required.

***Hospital Operations***

As previously stated, the existing Medical Center currently uses, stores, and as necessary, transports hazardous materials for the operation of the existing Medical Center. Operation of the expanded hospital and hospital-related facilities at the project site would also require the necessary use and storage of a variety of hazardous materials on site. Chemicals anticipated to be stored and used at the project site, many if not all of which are currently in use and stored on site, include inert compressed gases, combustible materials, oxidizers, corrosive materials, toxic materials, carcinogens, and sensitizers. Due to the future increase in patient capacity, each phase of the proposed project would incrementally increase the amount of hazardous materials required to be stored and disposed of on site. The types of chemicals and hazardous materials would be similar to those identified, and are currently being used and stored at the Medical Center for everyday hospital operation.

In order to reduce exposure pathways and/or potential environmental health impacts associated with accidental exposure to any hazardous materials, in addition to the HMBP and MWMP, Kaiser uses the following internal control measures:

- Following federal and state hazardous waste disposal regulations and procedures, including those for hazardous waste manifest documentation;
- Training workers to prevent, mitigate, and respond accordingly to environmental threats;
- Implementing medical surveillance programs to monitor the health of those who work with certain biohazardous materials; and
- Conducting facility inspections and preventative maintenance.

With implementation of the HMBP, MWMP, and adherence to local, state, and federal regulations, the risk of potential health and environmental hazards from accidental release of these materials would be reduced. In the event of a chemical spill or spill of hazardous materials during hospital operations, it is the responsibility of the department in which the spill occurred. Every department is equipped with a spill kit and employees are trained on how to use the kit. If a spill exceeds that which can safely be handled by Kaiser staff, employees are directed to contact Kaiser's Administrative Spill Response Team and if any spill is determined to be beyond the ability of Kaiser to handle, the Moreno Valley Fire Department would be called in to help with cleanup efforts (Kaiser Permanente 2017). If further action is required, the Riverside County Department of Environmental Health Hazardous Materials Management Division would be called into action, as directed by the HMBP (Kaiser Permanente 2019).

Federal, state, and local regulations control the transportation, use, storage, generation, and disposal of hazardous materials to minimize potential health and environmental hazards that could occur through accidental spills or leakage. The HMBP, which is required to be updated, as discussed above, includes basic information about the location, types, quantities, and health risks of hazardous materials stored, used, or disposed of at the site, as well as information about employee training and emergency response plans. Pursuant to the State of California Medical Waste Management Act of 2017, Kaiser Permanente is also required to amend the MWMP for submittal to the Riverside County Department of Environmental Health Hazardous Materials Management Division, as discussed above. The MWMP would describe the types and amounts of medical waste generated and how the waste will be disposed. Additionally, Kaiser Permanente is required to comply with the provisions of the City's Fire Code, the Riverside County Department of Environmental Health, and any additional element as required in the California Health and Safety Code, Article 1, Chapter 6.95 for the business emergency plan.

The types of hazardous materials previously mentioned would also be delivered to the site via area roadways such as Perris Boulevard to Iris Avenue. Alternatively, hazardous materials may be delivered to the site via Redland Boulevard to Cactus Avenue and then to Moreno Beach Drive, which turns into Iris Avenue. The transport of hazardous materials would be required to comply with all U.S. Department of Transportation, Caltrans, EPA, DTSC, California Highway Patrol, and California State Fire Marshall regulations. Adherence to all applicable laws and regulations, would ensure impacts associated with current and future deliveries of hazardous materials would not occur.

Due to future increase in patient capacity and the need to store and use additional chemicals or hazardous materials, each phase of the proposed project would incrementally increase the potential risk of accidental releases or spills that could create a hazard to people or the environment. The types of chemicals and hazardous materials would be similar to those currently used at the Medical Center for everyday hospital operation. However, with implementation of updates to the HMPB and MWMP, in addition to compliance with federal, state, and local regulations, impacts are considered to be **less than significant,** and no mitigation is required**.**

***Threshold HAZ-3. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

## Project- and Program-Level Elements

The project involves a three-phased expansion of the existing Medical Center on the project site. The closest school to the project site is Landmark Middle School located approximately 0.2 miles (approx. 1,000 feet) to the northeast. Thus, implementation of the project phases would include the handling of hazardous materials, substances, and/or waste within 0.25 miles of an existing school. As discussed above, the existing Medical Center complies with all applicable regulations that govern the handling of hazardous materials and the proposed project will continue to comply with applicable regulations.

In order to reduce potential risks associated with construction, Kaiser has implemented a "Contractor Performance Safety Standards Manual," which demonstrates Kaiser's role in achieving construction safety, by utilizing contractors who demonstrate a solid commitment to safe work practices. Contractors can demonstrate this by providing evidence of their commitment to establish and implement sound safety and hazard-reduction programs that reflect a thorough understanding of best industry practices. Kaiser seeks to utilize contractors who have a familiarity with, and comprehension of, basic performance safety standards in the health care construction industry (Kaiser Permanente 2009). This manual would ensure adherence to the construction specifications and applicable regulations regarding hazardous materials and hazardous waste, including disposal, and would ensure that construction of the project would not create a significant hazard to the public or the environment, including nearby schools during construction.

Due to future increase in patient capacity, each phase of the proposed project would incrementally increase the amount of hazardous materials required to be stored, used, and disposed of on site. The types of chemicals and hazardous materials would be similar to those currently used at the Medical Center for everyday hospital operation. However, since routine transport, use, and disposal of hazardous materials associated with the proposed project would be regulated by federal, state and local laws, and Kaiser would comply with all applicable laws and regulations, including without limitation through the updates and/or amendments to the MWMP and HMBP, impacts are considered to be **less than significant,** and no mitigation is required**.**

***Threshold HAZ-4.*** ***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would is create a significant hazard to the public or the environment?***

**Project- and Program-Level Elements**

The project involves a three-phased expansion of the existing Medical Center on the project site. Government Code, Section 65962.5, combines several regulatory lists of sites that may pose a hazard related to hazardous materials or substances. According to the DTSC EnviroStor database, there are no open, active, or inactive hazardous materials cleanup sites on the project site or surrounding the project site. There is one active cleanup site located 2.5 miles north of the project site on Nason Street south of Cottonwood Avenue. The active cleanup site is associated with a 9-acre parcel that was formerly used as a citrus orchard and the Moreno Valley Unified School District proposes to acquire in order to construct a new elementary school. Soil samples indicated elevated levels of organochlorine pesticides, arsenic, and total petroleum hydrocarbons. As of September 2018, DTSC requested additional investigations at the Nason Street site (EnviroStor 2019).

Because Government Code, Section 65962.5(a), and the DTSC EnviroStor database establish that there are no hazardous materials or waste sites located on the project site or in the immediate vicinity of the project site (Appendices F-1 through F-3 of this EIR), the project would not likely create a significant hazard to the public or the environment. **No impacts** would occur, and no mitigation is required.

***Threshold HAZ-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

**Project- and Program-Level Elements**

The project involves a three-phased expansion of the existing Medical Center on the project site. The project site is not located within 2 miles of a public airport or public use airport or within an airport safety zone area. The closest public use airport, is March Air Reserve Base Inland Port Airport, which is located approximately 3.40 miles west of the project site. Additionally, Riverside Municipal Airport is located approximately 20 miles west of the project site. Therefore, the project would not result in a safety hazard or excessive noise for people working or residing in the project area. **No impact** would occur, and no mitigation is required.

***Threshold HAZ-6. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

**Project- and Program-Level Elements**

The two major transportation corridors that would be heavily utilized during an emergency would be Highway 60, which runs east and west through the City, and I-215, which runs north and south, just west of the City limits. Perris Boulevard is also a major thoroughfare that runs north and south through the middle of the City and could be used as an evacuation route. The police department is the lead agency in evacuations and would be the ones to determine the safest, most appropriate, emergency evacuation route based on the time and place an incident occurs.

The project involves a three-phased expansion of the existing Medical Center on the project site. The project will comply with the City's Emergency Operations Plan (EOP) during both construction and operations of all phases. Any construction activities that may temporarily restrict vehicular traffic would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures in accordance with the City's EOP.

Operation of the project would not interfere with the City's EOP as all three driveways off Iris Avenue would be accessible for emergency vehicles. Kaiser Permanente would be required to design, construct, and maintain structures, driveways/roadways, and facilities to comply with applicable local, state, and/or federal requirements related to emergency access and evacuation plans, including the City's Municipal Code, Section 8.36.030; California Government Code, Section 8593.3; and OSHA, Section 1910.38. The proposed site plan, including the additional, proposed, access driveway, would be reviewed and approved by the fire department during plan check review.

Buildout of the proposed project would enhance access to emergency medical services and expand the hospitals ability to respond to public health emergencies, further implementing and improving the City's EOP. As such, adherence to standard regulations would ensure that potential impacts related to interference with an adopted emergency response plan or emergency evacuation plan would be **less than significant**, and no mitigation is required.

***Threshold HAZ-7. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

**Project- and Program-Level Elements**

The proposed project involves a three-phased expansion of the existing Medical Center. The parcels north, west, and east of the project site are vacant, undeveloped, historical agricultural land. Beyond the vacant land to the east and west are single-family residential developments. Single family residential is also located south of the project site beyond Iris Avenue. Moreno Valley Fire Department Morris Park Fire Station No. 99 is located approximately 3.2 miles north of the project site. Fire Station No. 99 would be the first responder to small fire-related incidents on the hospital campus. In the event that a large fire broke out on the hospital campus, multiple fire stations in neighboring jurisdictions would respond as well as the California Department of Forestry and Fire Protection. According to Figure 5-2, Moreno Valley High Fire Area Map, from the City's Hazard Mitigation Plan, the project site is not located within a high fire zone (City of Moreno Valley 2017). In addition, the project site is not located in a Fire Hazard Severity Zone according to the California Department of Forestry and Fire Protection (CAL FIRE 2009). Thus, the probability is low that the project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, impacts would be **less than significant**, and no mitigation is required.

## 4.8.5 Mitigation Measures

Impacts related to hazards and hazardous materials were found to either be less than significant or have no impact. Therefore, no mitigation measures are necessary.

## 4.8.6 Level of Significance After Mitigation

Since there would be no significant impacts requiring mitigation, residual impacts would be less than significant.

## 4.8.7 References Cited

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# 4.9 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology and water quality of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The analysis is based, in part, on the following reports, which pertain to Phases I, II, and III (combined) and are included in Appendices G-1 and G-2, respectively:

- Project Specific Water Quality Management Plan, Kaiser Permanente Moreno Valley, prepared by Kaiser Permanente (January 2019)
- Preliminary Technical Drainage Study, Kaiser Permanente Moreno Valley Medical Center, City of Moreno Valley, California, prepared by Michael Baker International (January 2019)

## 4.9.1 Relevant Plans, Policies, and Ordinances

**Federal**

***Clean Water Act***

The Clean Water Act (CWA) (33 USC 1251 et seq.) was designed to restore and maintain the chemical, physical, and biological integrity of waters of the United States. The CWA also directs states to establish water quality standards for all waters of the United States and to review and update such standards on a triennial basis. Other provisions of the CWA related to basin planning include Section 208, which authorizes the preparation of waste treatment management plans, and Section 319, which mandates specific actions for the control of pollution from nonpoint sources. In California, the U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs), including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program is a set of permits designed to implement the CWA that apply to various activities that generate pollutants with potential to impact water quality.

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. Section 304(a) requires the EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Section 303(c)(2)(b) of the CWA requires states to adopt numerical water quality standards for toxic pollutants for which EPA has published water quality criteria and which reasonably could be expected to interfere with designated uses of a water body.

***NPDES Permit Program–Phase I***

In November 1990, under Phase I of the urban runoff management strategy, the EPA published NPDES permit application requirements for municipal, industrial, and construction stormwater discharges. The application requirements for municipalities were directed at municipalities that own and operate municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more, or that contribute significant pollutants to waters of the United States, and require such agencies to obtain coverage under municipal stormwater NPDES permits.

Municipalities were required to develop and implement an urban runoff management program to address activities to reduce pollutants in urban runoff and stormwater discharges that were contributing a substantial pollutant load to their systems. Rather than establishing numeric effluent limits, the EPA established narrative effluent limits for urban runoff, including the requirement to implement appropriate best management practices (BMPs).

***NPDES Permit Program–Phase II***

The Phase II Final Rule, published in the Federal Register on December 8, 1999, requires NPDES permit coverage for stormwater discharges from:

- Certain regulated small MS4s
- Construction activity disturbing between 1 and 5 acres of land (i.e., small construction activities).

In addition to expanding the NPDES program, the Phase II Final Rule included minor revisions for certain industrial facilities. As with Phase I, the Phase II program requires the development and implementation of stormwater management plans to reduce pollutant discharges.

**State**

***Porter–Cologne Water Quality Control Act***

The Porter–Cologne Water Quality Control Act authorizes the SWRCB to adopt, review, and revise policies for all "waters of the state" (including both surface water and groundwater) and directs the RWQCB to develop regional basin plans (California Water Code, Section 13000 et seq.). Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative.

There are nine regional water quality control boards statewide. Regional boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology and hydrology for each watershed. Each Regional Board makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.

The project site is located within the RWQCB, Santa Ana Region, which has adopted and periodically amends the Water Quality Control Plan (Basin Plan). Basin Plans must conform to the policies set forth in the Porter–Cologne Act, as established by the SWRCB in its state water policy. The Basin Plan establishes water quality standards for all the groundwater and surface waters of each RWQCB region and includes an implementation plan describing actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. Further, the Basin Plan regulates waste discharges to minimize and control their effects on regional groundwater and surface water quality.

All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements (WDRs) from the RWQCBs. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of process and wash-down wastewater and privately or publicly treated domestic wastewater. WDRs for discharges to surface waters also serve as NPDES permits. These regulations are applicable to the project.

***NPDES Permits***

In California, the SWRCB and its RWQCBs administer the NPDES permit program. The NPDES permits cover all construction and subsequent drainage improvements that disturb 1 acre or more, industrial activities, and MS4s. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. The SWRCB also issued a statewide general small MS4 stormwater NPDES permit for public agencies that fall under that Phase II NPDES regulations. RWQCBs typically issue regional NPDES permits to Phase I MS4s within their jurisdiction.

The NPDES permit system was established in the CWA to regulate both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffused runoff of water from adjacent land uses) to surface waters of the United States. For point source discharges, each NPDES permit contains limits on allowable concentrations and mass emission of pollutants contained in the discharge. For nonpoint source discharges, the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program.

One of the primary objectives of the water quality regulations for MS4s is reducing pollutants in urban stormwater discharge, to the maximum extent practicable, through the use of structural and nonstructural BMPs. BMPs typically used to manage runoff water quality include (1) controlling roadway and parking lot contaminants, by installing filters with oil and grease absorbents at storm drain inlets, (2) cleaning parking lots on a regular basis, (3) incorporating peak-flow reduction and infiltration features (such as grass swales, infiltration trenches, and grass filter strips) into landscaping, and (4) implementing educational programs.

***Sustainable Groundwater Management Act***

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—Assembly Bill 1739, Senate Bill (SB) 1168, and SB 1319—collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably, and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial (i.e., medium to high priority) groundwater basins in California. The boundary for the San Jacinto Groundwater Basin was finalized on February 11, 2019. The draft prioritization for this basin is being determined and scheduled to be released this spring (California Department of Water Resources 2019).

## Local

***City of Moreno Valley NPDES Program***

Pursuant to Order No. R8-2010-0033, developers in the City of Moreno Valley (City) must comply with the Riverside County Water Quality Management Plan (Santa Ana RWQCB 2012). Along with numerous other cities in Riverside County, the City is a co-permittee in the Santa Ana Region. The Water Quality Management Plan is a guidance document that helps developers design projects in compliance with Santa Ana RWQCB requirements, as specified in the NPDES MS4 permit issued to the Riverside County Flood Control and Water Conservation District, County of Riverside, and other cities within the Santa Ana River Watershed, in the 2010 MS4 Permit (Order

No. R8-2010-0033, NPDES Permit No. CAS618033). Implementation of site-specific Water Quality Management Plans are enforceable under the City Water Quality Ordinance (Municipal Code Section 8.21.170).

*Riverside County Watershed Protection*

The Riverside County Watershed Protection District has developed the Riverside County Design Handbook for Low Impact Development Best Management Practices (Riverside County Flood Control Water Conservation District 2011) for use on development projects in Riverside County, in conjunction with the Riverside County Water Quality Management Plans for the Santa Ana, Santa Margarita, and Whitewater River Watersheds. These manuals provide design and maintenance guidance for a suite of BMPs that have been accepted for use within Riverside County. However, before selecting particular BMPs for use on a particular site, it is necessary to consult the water quality management plan applicable to the project, based on the watershed permit area it is located within, and to consult the applicable local jurisdiction. The Riverside County Design Handbook supplements the Riverside County Water Quality Management Plan.

## 4.9.2 Existing Conditions

**Regional Hydrology**

Based on the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana RWQCB) Basin Plan (Santa Ana RWQCB 2016), the project site is located within the San Jacinto Valley Hydrologic Unit, Perris Hydrologic Area, Perris Valley Hydrologic Subarea (802.11). The Santa Ana River drains a 2,620-square mile area located south of the east-west ridges of the San Gabriel and San Bernardino Mountains. The approximately 100-mile long river generally runs southwesterly from the San Bernardino Mountains, north of Seven Oaks Dam, toward the San Bernardino and Chino valleys, and flows into the Orange County coastal plain before its outlet at the Pacific Ocean in Huntington Beach. Runoff from the project area drains northwest toward an existing canal that conveys flows southwest to Reach 3 of the San Jacinto River, which in turn flows into Canyon Lake (Railroad Canyon Reservoir), and then to Lake Elsinore (Figure 4.9-1, Regional Drainage). Runoff from Lake Elsinore eventually flows into Reach 3 of the Upper Santa Ana River, just upstream from Prado Dam (Santa Ana RWQCB 2016, 2019; Appendix G-2).

**Water Quality**

The City, along with other jurisdictions, is a party to the Santa Ana NPDES Municipal Stormwater Permit. The Santa Ana RWQCB issued a separate stormwater permit for the San Jacinto portion of the watershed. As previously discussed, in compliance with Order No. R8-2010-0033, developers in the City must comply with the Riverside County Water Quality Management Plan guidance document (Riverside County Flood Control and Water Conservation District 2011) and the Water Quality Management Plan for the Santa Ana Region of Riverside County (Santa Ana RWQCB 2012). Along with numerous other cities in Riverside County, the City is a co-permittee in the Santa Ana Region of the RWQCB. The water quality management plans are guidance documents that help developers design projects in compliance with Santa Ana RWQCB requirements, as specified in the NPDES MS4 permit issued to the Riverside County Flood Control and Water Conservation District, County of Riverside, and other cities within the Santa Ana River Watershed, in the 2010 MS4 Permit. The water quality management plans describe a program for reducing the discharge of water pollutants to the maximum extent practical, by assigning responsibilities for implementing BMPs, monitoring of stormwater runoff, training, public education, and reporting activities (City of Moreno Valley 2006, 2019; Santa Ana RWQCB 2012).

The Santa Ana RWQCB has established regulatory water quality standards in its Basin Plan for surface water and groundwater within the region. The applicable water quality standards are composed of the designated beneficial uses for each water body and the water quality objectives to meet those designated beneficial uses. Where multiple designated beneficial uses exist, water quality standards must protect the most sensitive use. Beneficial uses of downstream San Jacinto River Reaches 1 and 3 include intermittent municipal/domestic supply, agricultural supply, groundwater recharge, contact/non-contact water recreation, warm freshwater habitat, and wildlife habitat (Santa Ana RWQCB 2016).

Water bodies that do not meet water quality standards are deemed "impaired" and under Section 303(d) of the CWA, are placed on a list of impaired waters for which a Total Maximum Daily Load (TMDL) must be developed for the impaired pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards. The SWRCB lists the San Jacinto River Watershed as impaired under the *2014–2016 California 303(d) List of Water Quality Limited Segments* (with 2019 revisions). Within this watershed, Canyon Lake (Railroad Canyon Reservoir) is impaired with nutrients and pathogens and Lake Elsinore is impaired with nutrients (SWRCB 2019).

**Groundwater Supply**

The Perris Groundwater Basin, located on the western side of Moreno Valley, and the Jacinto Groundwater Basin, located on the eastern side of the valley, are the two groundwater basins in the project area. Although pumped historically, groundwater no longer provides a significant percentage of the local water supply. The primary water purveyor in Moreno Valley is the Eastern Municipal Water District (EMWD), which a member of the Metropolitan Water District (MWD). The Box Springs Mutual Water Company also serves a small portion of the community. These water purveyors derive import water from the Colorado River and the Northern California State Water Project. Water is also derived from Diamond Valley Lake, in the Domenigoni Valley area south of Hemet, which is an 800,000 acre-foot capacity reservoir (City of Moreno Valley 2006).

Approximately 75% of EMWD's potable water demand is supplied by imported water from MWD and 25% is supplied by groundwater wells. The majority of the groundwater produced by EMWD is derived from its wells in the Hemet and San Jacinto area. Some of these wells have limited production as a result of the Fruitvale Judgment and Decree, which requires the Fruitvale Mutual Water Company to prepare an annual report describing the actual number of acre-feet of water pumped from the underlying Canyon Basin, and the actual number of acre-feet pumped from, and transported out of, the "Entire Basin." EMWD purchased the Fruitvale Mutual Water Company in 1972. EMWD also has wells in the Moreno Valley, Perris Valley, and Murrieta areas (EMWD 2019).

EMWD manages their groundwater resources through the Groundwater Reliability Plus program, which ensures groundwater sustainability for the communities served by the water district. EMWD's groundwater supply management has included enhancing water supplies through its recycled water program, desalination program, water use efficiency programs, and healthy sewers program. Groundwater Reliability Plus includes a water banking project and a future proposed purified water replenishment project, which combines advanced water purification and natural filtration (EMWD 2019).

### Flooding

Regional flood control planning and facilities in the City are under the jurisdiction of the Riverside County Flood Control and Water Conservation District. However, the City has the responsibility for design, construction, and maintenance of local drainage facilities. Road curb-and-gutter and roadside ditches supplement the flood control system. Portions of the City are subject to 100-year (FEMA Zone A) and 500-year (FEMA Zone X) flooding, which indicate a 1% and 0.2% chance, respectively, of flooding in any given year. Flooding could occur along defined watercourses, or as a result of ponding, sheet flow, and dam inundation. Flooding within defined watercourses occurs within drainage channels and immediately adjacent floodplains. Ponding occurs when water flow is obstructed due to human-made obstacles, such as highway and roadway embankments. Sheet flow occurs when capacities of defined watercourses are exceeded and water flows over broad areas. Dam inundation occurs as a result of instantaneous failure of a dam, with the reservoir at or near its full capacity. The northwest corners of both the western and eastern portions of the project site are located within FEMA Zone A, without base flood elevations provided (Figure 4.9-2, Flood Zones), along an existing drainage canal.

### Storm Drainage and Flood Control

The project site is relatively flat to gently sloping to the northwest, with localized moderate to steep, approximately 10-foot high, graded slopes around the western perimeter of the site (Figure 4.9-3, Existing Drainage). Infiltration testing indicates underlying soils consist of sandy silt, with a low infiltration rate of 0.05 inches per hour. The project site covers two parcels, which each contain stormwater runoff individually, with separate outflows in the northwest corners of the (west and east) parcels. An approximate 5-foot deep stormwater detention basin and associated overflow pipe is present in the northwest corner of the western parcel. Existing runoff from the northwest corner of the western parcel is 32 cubic feet per second (cfs) for the 10-year storm and 48 cfs for the 100-year storm. Similarly, existing runoff from the northwest corner of the eastern parcel is 16 cfs for the 10-year storm and 24 cfs for the 100-year storm (Appendix G-2).

Existing surface drainage features along the southern perimeter of the site prevents stormwater run-on from the adjacent Iris Avenue. Berms along the western and eastern site perimeter prevent stormwater run-off and run-on, respectively. No storm drains are present within the boundaries of the site; however, Iris Avenue to the south is a public paved road with curb, gutter, and storm drain infrastructure, which conveys off-site flows from the south. Stormwater at the site generally drains northwest toward Nason Street, to an existing canal that conveys flows southwest to the San Jacinto River, Canyon Lake (Railroad Canyon Reservoir), and then to Lake Elsinore (Appendix G-2).

## 4.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

HYD-1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

HYD-2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

HYD-3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would:

i. Result in substantial erosion or siltation on- or off-site;

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv. Impede or redirect flood flows.

HYD-4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

HYD-5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

## 4.9.4 Impacts Analysis

***Threshold HYD-1. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

**Construction Impacts – Phases I, II, and III**

The project site is located on gently sloping topography. Stormwater runoff flows to the northwest, toward a drainage canal. The site is occupied by existing hospital buildings and at-grade parking and driveways. The northern and western portions of the project site are partially unpaved. The project would involve the demolition and construction of buildings, multilevel aboveground parking structures, and ancillary walkways and driveways in three phases. Construction for each project phase would include a demolition phase, site preparation phase, grading phase, building construction phase, trenching for utilities, an architectural coating phase, and a paving phase. Approximately 6,000 cubic yards of fill would be imported to the site during Phase I. Phases II and III would balance cut and fill on site.

Project construction would involve the use of heavy machinery on site, including bulldozers, front loaders, track-hoes, trenchers, semi-trucks, and various other large equipment, which would be used for site preparation and construction activities. Excavations and grading for the project would result in disturbance of existing sediments, such that erosion could be exacerbated during precipitation events. In addition, construction and related activities could result in incidental, minor release of oils, grease, antifreeze, paint washout, cement washout, and other potential water quality pollutants. During a storm event, these pollutants could also become entrained in stormwater and be released into natural waterways, causing water quality degradation in receiving waters. This could have an adverse impact on water quality.

Consistent with Threshold GEO-2 in Section 4.6, Geology and Soils, because the project would involve construction within an area that is larger than 1 acre, the project applicant would be required to apply for and receive coverage under the current General Construction Permit for each project phase. Coverage under the General Construction Permit would require adherence to a variety of conditions designed to protect receiving water quality from degradation that could otherwise result from construction activities, as specified in a project-specific Stormwater Pollution Prevention Plan (SWPPP). Conditions of the SWPPP would include adherence to sediment and stormwater pollutant control BMPs, effluent monitoring and compliance, post-construction-period requirements, worker training, and various other measures designed to minimize potential for soil erosion and loss of topsoil.

Stormwater BMPs would include those recommended by the California Stormwater Quality Association, such as scheduling or limiting activities to certain times of the year, installing sediment barriers (e.g., silt fences and fiber rolls), maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management BMPs would include (but not be limited to) installing specific discharge controls during activities such as paving operations, vehicle and equipment washing, and fueling. BMPs that relate to the handling of hazardous materials, spill prevention and clean-up, and the handling of contaminated soil could include minimizing the storage of hazardous materials on site, providing training on spill prevention and clean up, and ensuring proper handling procedures for contaminated soils (California Stormwater Quality Association 2003).

In summary, project grading and construction for Phases I, II, and III would be completed in accordance with an NPDES-mandated SWPPP, which would include standard BMPs to reduce potential off-site water quality impacts related to erosion and incidental spills of petroleum products and hazardous substances from equipment. With implementation of the SWPPP and BMPs, project construction of Phases I, II, and III would result in **less-than-significant impacts** associated with stormwater quality. No mitigation is required.

**Operational Impacts – Phases I, II, and III**

Water quality standards affecting the project are stormwater-related, since the project is not an industrial facility that would be generating significant amounts of polluted wastewater effluent. Pollutants of concern from the hospital site are anticipated to be those typical of a commercial development, and include:

- Pesticides and herbicides, and an increase in nutrients from fertilizers used on landscaped areas;
- Litter/debris, including rubber, grease, solids, leaves, grass, and trash from visitor areas and parking lots/structures;
- Vehicular fluids, including antifreeze, motor oil, brake fluid, gasoline, and transmission fluid emanating from paved areas and parking structures on the site;
- Organic compounds from solvents; and
- Bacteria, possibly from animal waste.

In compliance with Santa Ana RWQCB Order No. R8-2010-0033, a site-specific Water Quality Management Plan has been prepared for Phases I, II, and III of the proposed project (Appendix G-1). The project Water Quality Management Plan has been prepared consistent with the Riverside County Water Quality Management Plan guidance document (Riverside County Flood Control and Water Conservation District 2011), the Water Quality Management Plan for the Santa Ana Region of Riverside County (Santa Ana RWQCB 2012), as well as Santa Ana RWQCB requirements, as specified in the NPDES MS4 permit issued to the Riverside County Flood Control and Water Conservation District, County of Riverside, and other cities within the Santa Ana River Watershed in the 2010 MS4 Permit. Implementation of the project-specific Water Quality Management Plan is enforceable under the City Water Quality Ordinance.

Based on the Riverside County water quality management plan guidance documents (Riverside County Flood Control and Water Conservation District 2011; Santa Ana RWQCB 2012), most runoff, and therefore most of the potential for conveyance of pollutants, is produced by frequent storms of small or moderate intensity and duration. Accordingly, stormwater BMPs are designed to treat smaller storms and the first flush of larger storms. NPDES Permit Provision XII.D.4 identifies two sets of criteria for sizing of stormwater BMPs, including volume-based and flow-based criteria. The volume-based criteria is based on continuous simulation of runoff from a hypothetical one-acre area entering a basin designed to draw down in 24 hours. The simulation is iterated to find the unit basin size that treats about 80% of the total runoff during the simulation period. Consistently, the largest storm event for which all runoff is captured by this unit basin storage size is approximately the 85th percentile, 24-hour storm event. This is considered the design capture volume or design storm (Santa Ana RWQCB 2012; Riverside County Flood Control and Water Conservation District 2011).

As previously discussed, infiltration testing indicates underlying soils consist of sandy silt, with a slow infiltration rate of 0.05 inches per hour. Based on this infiltration rate, infiltration BMPs would not be feasible at the project site. As a result, the entire design capture volume must be accommodated by project BMPs (Appendix G-2). Because the project would create 10,000 square feet or more of impervious surfaces (collectively, over the entire project site), the project site is considered a Priority Development Project. For sites in which it is technically infeasible to infiltrate stormwater runoff, the applicant must implement conventional treatment control BMPs to treat the portion of the design storm that was not treated by low impact development BMPs (e.g., bioswales, permeable paving). Conventional treatment control BMPs must be collectively sized, using either:

1) Volume-based treatment control BMPs, which mitigate (infiltrate, filter, or treat) the remaining portion of the design storm that was not treated with low impact development BMPs; or

2) Flow-based treatment control BMPs, which must be designed to mitigate either:
   a) The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or
   b) The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), multiplied by a factor of two.

In addition, all treatment control BMPs for Priority Development Projects must be designed to remove pollutants from stormwater runoff, as specified in the Riverside County water quality management plan guidance documents (Santa Ana RWQCB 2012; Riverside County Flood Control and Water Conservation District 2011).

The project-specific water quality management plan (Appendix G-1) has been designed to accommodate stormwater runoff from all three project phases. This plan proposes to divide the project site into six separate drainage areas. Each drainage area would flow into either a sand filter basin, an underground storage vault, or an underground storage pipe system (Figure 4.9-4, Proposed Drainage). The sand filter basins are a type of treatment control BMP, where the entire feature is constructed as a stormwater filter, using a sand bed above an underdrain system. Stormwater enters the sand filter basin at its forebay, where trash and sediment accumulate, or through overland sheet flow. Overland sheet flow into the sand filter basin is biofiltered through the vegetated side slopes or other pretreatment. Flows pass into the sand filter surcharge zone and are gradually filtered through the underlying sand bed. The underdrain would gradually dewater the sand bed and discharge the filtered runoff to a nearby channel, swale, or storm drain. An overflow would be provided to drain the volume in excess of the design capture volume, or to help drain the system if clogging were to occur.

The primary advantage of the sand filter basin is its effectiveness in removing pollutants where infiltration into the underlying soil is not practical, and where site conditions preclude the use of a bioretention facility. The primary disadvantage is a potential for clogging if silts and clays are allowed to flow into the basin. In addition, the performance of sand filter basins relies heavily on it being regularly and properly maintained. While this BMP is not considered a low impact development BMP, when designed in accordance with the water quality management guidance documents, a sand filter is considered to be a highly effective treatment control BMP (Riverside County Flood Control and Water Conservation District 2011).

The proposed underground storage vault and underground storage pipe system would include a biofiltration system designed to primarily remove oil and grease. These treatment control BMP features, which are designed to accommodate flow from Phases I, II, and III, are designed to have a high removal efficiency of oil/grease and trash/debris from stormwater runoff (Appendix G-2).

Based on the Riverside County Water Quality Management Plan guidance document, the preliminary project-specific water quality management plan describes and illustrates how the drainage for the entire site will comply with the water quality management plan requirements, but does not specify when BMPs must be implemented in phased projects. The obligation to install stormwater BMPs for the entire project is met if BMPs are constructed with the requisite capacity to serve the entire project (Santa Ana RWQCB 2012), but all stormwater treatment BMPs may not be required to be constructed during Phase I. Existing stormwater flows off site via two concrete spillways, from the northwest corners of the western and eastern project parcels (Figure 4.9-3).

Each of the three phases would include an increase in impervious surfaces. Phase I would include an increase in impervious surfaces as a result of new Diagnostic and Treatment Building expansion and new Central Utility Plant construction (Figure 3-1, Phase I Site Plan). Similarly, Phases II and III would include an increase in impervious surfaces as a result of new medical buildings, new parking structures, and primary hospital building expansion (Figure 3-4, Phase II Site Plan, and Figure 3-5, Phase III Site Plan). However, the preliminary project-specific water quality management plan does not require that BMPs be implemented in each phase to address the corresponding increase in impervious surfaces. Accordingly, mitigation is required to ensure that appropriate stormwater BMPs are implemented in each phase in order to treat stormwater generated from the increase in impervious surfaces in each phase. Impacts are considered less than significant with implementation of MM-HYD-1 and MM-HYD-2.

As discussed above, sand filter basins require maintenance to avoid clogging from silts and clays. As such, impacts are considered less than significant with implementation of MM-HYD-3, which requires inspection and maintenance activities that shall be implemented following basin construction.

In addition to incorporating these low impact development BMPs to ensure water quality treatment of runoff, the applicant may be required to provide additional low impact development principles or BMPs to avoid creating a hydrologic condition of concern (HCOC), or to mitigate any HCOC that may be created (Santa Ana RWQCB 2012). However, the proposed project would be exempt from additional hydromodification because the project is located in a HCOC exempt area (Figure 4.9-5, Hydrologic Condition of Concern – Exempt Areas). An exemption applies if all downstream conveyance channels to an adequate sump (e.g., Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River), which will receive runoff from the project, are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps. The project site generally drains northwest toward Nason Street, to an existing canal that conveys on-site flows southwest to the San Jacinto River, Canyon Lake (Railroad Canyon Reservoir), and Lake Elsinore. Canyon Lake and Lake Elsinore are engineered and regularly maintained. No sensitive stream habitats would be adversely affected by runoff from the project (Appendix G-1).

In summary, although the project proposes stormwater treatment BMPs for the entire project site, as indicated in the Water Quality Management Plan (Appendix G-1), if stormwater treatment BMPs are not constructed in sequence with phased construction, residual concentrations of oil and grease and other contaminants could be transported off site in stormwater, potentially impacting downstream beneficial uses of water bodies. Mitigation measures **MM-HYD-1** and **MM-HYD-2** will ensure that BMPs correspond to phases in order to address potential impacts of each phase. In addition, the proposed sand filter basins have the potential clog from silts and clays. Mitigation Measure **MM-HYD-3** would ensure that these basins are adequately maintained to function properly. Impacts are considered **less than significant with implementation of MM-HYD-1, MM-HYD-2, and MM-HYD-3**.

***Threshold HYD-2.*** ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

**Phases I, II, and III**

As previously discussed, approximately 75% of EMWD's potable water demand is supplied by imported water from MWD and 25% is supplied by groundwater wells. EMWD manages their groundwater resources through the Groundwater Reliability Plus program, which ensures groundwater sustainability for the communities served by the water district. EMWD's groundwater supply management has included enhancing water supplies through its recycled water program, desalination program, water use efficiency programs, and healthy sewers program. Groundwater Reliability Plus includes a water banking project and a future proposed purified water replenishment project, which combines advanced water purification and natural filtration. As a result, project development would not substantially decrease groundwater supplies such that the project would impede sustainable groundwater management of the basin.

In addition, the project site is underlain by relatively impermeable, silty soils that are not conducive to groundwater recharge. Most of the site is currently developed and paved. Paving over the remaining undeveloped areas would not interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. Therefore, impacts would be **less than significant** and no mitigation measure is required.

*Threshold HYD-3.* ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?***

**Phases I, II, and III**

The project site is relatively flat to gently sloping to the northwest, with localized moderate to steep, approximately 10-foot high, graded slopes around the western perimeter of the site (Figure 4.9-3). Infiltration testing indicates underlying soils consist of sandy silt, with a low infiltration rate of 0.05 inches per hour. The project site covers two parcels, which each contain stormwater runoff individually, with separate outflows in the northwest corners of the (west and east) parcels. An approximate 5-foot deep stormwater detention basin and associated overflow pipe is present in the northwest corner of the western parcel. No storm drains are present within the boundaries of the site and the project site does not contain a drainage channel, stream, or river.

The proposed project would involve construction of buildings, multilevel aboveground parking structures, and ancillary walkways and driveways. As a result, most of the project would be covered with impervious surfaces post-construction, which in turn could potentially result in increased off-site runoff. Based on the project-specific water quality management plan (Appendix G-1), the project site has been divided into six separate drainage areas. Each drainage area would flow into either a sand filter basin, an underground storage vault, or an underground storage pipe system (Figure 4.9-4). As discussed in Threshold HYD-2, these BMP features, which are designed to accommodate stormwater flow from Phases I, II, and III, would retain low impact development BMP design capture volumes, based on the Riverside County water quality management plan guidance documents (Santa Ana RWQCB 2012; Riverside County Flood Control and Water Conservation District 2011).

These low impact development BMP features would not only improve water quality, but also reduce off-site stormwater flow rates. As previously discussed, infiltration testing indicates underlying soils consist of sandy silt, with an infiltration rate of 0.05 inches per hour. Based on this infiltration rate, infiltration BMPs would not be feasible at the project site. In addition, no downstream regional and/or sub-regional low impact development BMPs exist or are available for use by the project. As a result, the entire design capture volume must be accommodated by project BMPs (Appendix G-1). In cases where excess volume cannot be infiltrated or captured and used, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year, 24-hour peak flow, unless the project is located in a HCOC exempt area (Santa Ana RWQCB 2012).

As illustrated in Table 4.9-1, although the stormwater runoff rates from the northwest overflow drain would decrease in the western parcel subsequent to project construction, stormwater runoff rates would increase in the eastern parcel. In addition, post-construction runoff from the northwest corners of the western and eastern parcels, combined, would increase for the 10-year and 100-year storm event (Appendix G-1). Although 2-year, 24-hour peak flows have not been calculated for this project, these increased runoff rates would be greater than 110% of the pre-development 10-year and 100-year peak flows.

**Table 4.9-1**
**Existing and Proposed Drainage**

| | Existing 10-Year Runoff Rate | Post-Construction 10-Year Runoff Rate | Change in Runoff Rate | Existing 100-Year Runoff Rate | Post-Construction 100-Year Runoff Rate | Change in Runoff Rate |
|---|---|---|---|---|---|---|
| **West Parcel** | 32.58 cfs | 19.21 cfs | -13.37 cfs | 48.25 cfs | 28.18 cfs | -20.07 cfs |
| | | | | | | |
| | **Existing 10-Year Runoff Rate** | **Post-Construction 10-Year Runoff Rate** | **Change in Runoff Rate** | **Existing 100-Year Runoff Rate** | **Post-Construction 100-Year Runoff Rate** | **Change in Runoff Rate** |
| **East Parcel** | 16.22 cfs | 36.56 cfs | +20.34 cfs | 23.77 cfs | 54.73 cfs | +30.96 cfs |
| | | | | | | |
| | **Existing 10-Year Runoff Rate** | **Post-Construction 10-Year Runoff Rate** | **Change in Runoff Rate** | **Existing 100-Year Runoff Rate** | **Post-Construction 100-Year Runoff Rate** | **Change in Runoff Rate** |
| **West and East Parcel Combined** | 48.80 cfs | 55.77 cfs | +6.97 cfs | 72.02 cfs | 82.91 cfs | +10.89 cfs |

cfs = cubic feet per second.

However, as previously described for Threshold HYD-1, the proposed project would be exempt from additional hydromodification because the project is located in a HCOC exempt area (Figure 4.9-5). An exemption applies if all downstream conveyance channels to an adequate sump (e.g., Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River), which will receive runoff from the project, are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

The project site generally drains northwest toward Nason Street, to an existing canal that conveys on-site flows southwest to the San Jacinto River, Canyon Lake (Railroad Canyon Reservoir), and

Lake Elsinore. Canyon Lake and Lake Elsinore are engineered and regularly maintained. No sensitive stream habitats would be adversely affected by runoff from the project (Appendix G-1). In addition, with respect to increased stormwater runoff rates, there are no anticipated negative downstream or upstream impacts (Appendix G-1). As a result, increased stormwater runoff rates would not likely result in substantial downstream erosion or flooding as a result of exceedance of existing drainage system capacities.

In addition, a portion of both Phase II parking structures would be located within FEMA Special Flood Hazard Zone A (Figure 3-4, Phase II Site Plan; Figure 4.9-2, Flood Zones). As a result, project construction would impede and redirect flood flows in the northwest portion of each parking structure, which in turn could result in a minor increase in downstream flood flows (i.e., rate and volume). In general, construction and regrading of the floodplain can obstruct or divert water to other areas. Construction in the floodplain reduces the ability of the floodplain to store excess water, sending more water downstream and causing floods to rise to higher levels. This also increases floodwater velocity (FEMA 2019). However, as previously described, with respect to increased stormwater runoff rates, there are no anticipated negative downstream or upstream impacts because the project is located in a HCOC exempt area, which applies to all downstream conveyance channels to an adequate sump (e.g., Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River (Appendix G-1). As a result, construction of portions of the parking structures within the flood zone would not likely result in substantial downstream flooding.

In summary, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. Although project construction would partially impede or redirect flood flows, no substantial downstream flooding would occur. Impacts are considered **less than significant** and no mitigation is required.

***Threshold HYD-4. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?***

**Phases I, II, and III**

As previously discussed, the project site is not located in a flood hazard zone or seiche zone. In addition, the project site is not located in proximity to the Pacific Ocean and therefore would not be subject to flooding as a result of a tsunami. As a result**, no impacts** would occur and no mitigation is required.

***Threshold HYD-5. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

As previously discussed, the project would comply with applicable water quality regulatory requirements, including implementation of a SWPPP, stormwater BMPs, and low impact development design, which would minimize potential off-site surface water quality impacts and contribute to a reduction in water quality impacts within the overall San Jacinto River watershed. In addition, with compliance with these regulatory requirements and **MM-HYD-1, MM-HYD-2, and MM-HYD-3**, the project would reduce potential water quality impairment of surface waters such that existing and potential beneficial uses of key surface water drainages throughout the jurisdiction of the Santa Ana RWQCB Basin Plan would not be adversely impacted. As a result, the project would not conflict with or obstruct the Santa Ana RWQCB Basin Plan.

With respect to groundwater management, EMWD manages their groundwater resources through the Groundwater Reliability Plus program, which ensures groundwater sustainability for the communities served by the water district. EMWD's groundwater supply management has included enhancing water supplies through its recycled water program, desalination program, water use efficiency programs, and healthy sewers program. Groundwater Reliability Plus includes a water banking project and a future proposed purified water replenishment project, which combines advanced water purification and natural filtration. As a result, the project would not conflict with or obstruct this sustainable groundwater management plan. Impacts are considered **less than significant** and no mitigation measures are required.

## 4.9.5 Mitigation Measures

The following mitigation measures would reduce impacts related to hydrology and water quality to a level below significance.

**MM-HYD-1** Treatment control Best Management Practice (BMP) features proposed for the northeastern project area, including an underground storage vault and an underground storage pipe system (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase I of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.

**MM-HYD-2** Treatment control BMP features proposed for the southern project area, including multiple sand-filled detention basins (Figure 4.9-4, Proposed Drainage), shall be constructed during Phase II of the project. These treatment control BMPs shall be constructed in accordance with the project Water Quality Management Plan (Appendix G-1) and approved by the City of Moreno Valley.

**MM-HYD-3** Consistent with the Design Handbook for Low Impact Development Best Management Practices (Riverside County Flood Control Water Conservation District 2011), Section 3.7 - Sand Filter Basins, Table 1- Recommended Inspection and Maintenance Activities for Sand Filter Basins, the following inspection and maintenance activities shall be implemented following basin construction:

1) Semi-monthly, including just before the annual storm season and following rainfall events, the applicant shall:
   a) Complete routine maintenance and inspection.
   b) Remove debris and litter from the entire basin to minimize filter clogging and to improve aesthetics.
   c) Check for obvious problems, especially filter clogging and signs of long-term ponding. Repair as needed. Address odor, insects, and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding of water.
   d) Check for erosion and sediment laden areas in the basin. Repair as needed. Clean forebay if needed.
   e) Revegetate side slopes where needed.
2) Annually, if possible, schedule inspections within 72 hours after a significant rainfall, including:
   a) Inspection of hydraulic and structural facilities. Examine the overflow outlet for clogging, the embankment and spillway integrity, and damage to any structural element.
   b) Check side slopes and embankments for erosion, slumping, and overgrowth.
   c) Inspect the sand media at the filter drain to verify it is allowing acceptable infiltration. Annually scarify the top 3 inches by raking the filter drain's sand surface.
   d) Check the filter drain underdrains for damage or clogging. Repair as needed.
   e) Repair basin inlets, outlets, forebays, and energy dissipaters whenever damage is discovered.
   f) No water should be present 72 hours after an event. No long-term standing water should be present at all. No algae formation should be visible. Correct problems as needed.

## 4.9.6 Level of Significance After Mitigation

Implementation of **MM-HYD-1, MM-HYD-2**, and **MM-HYD-3** would reduce potentially significant impacts associated with water quality and hydrology to below a level of significance.

## 4.9.7 References Cited

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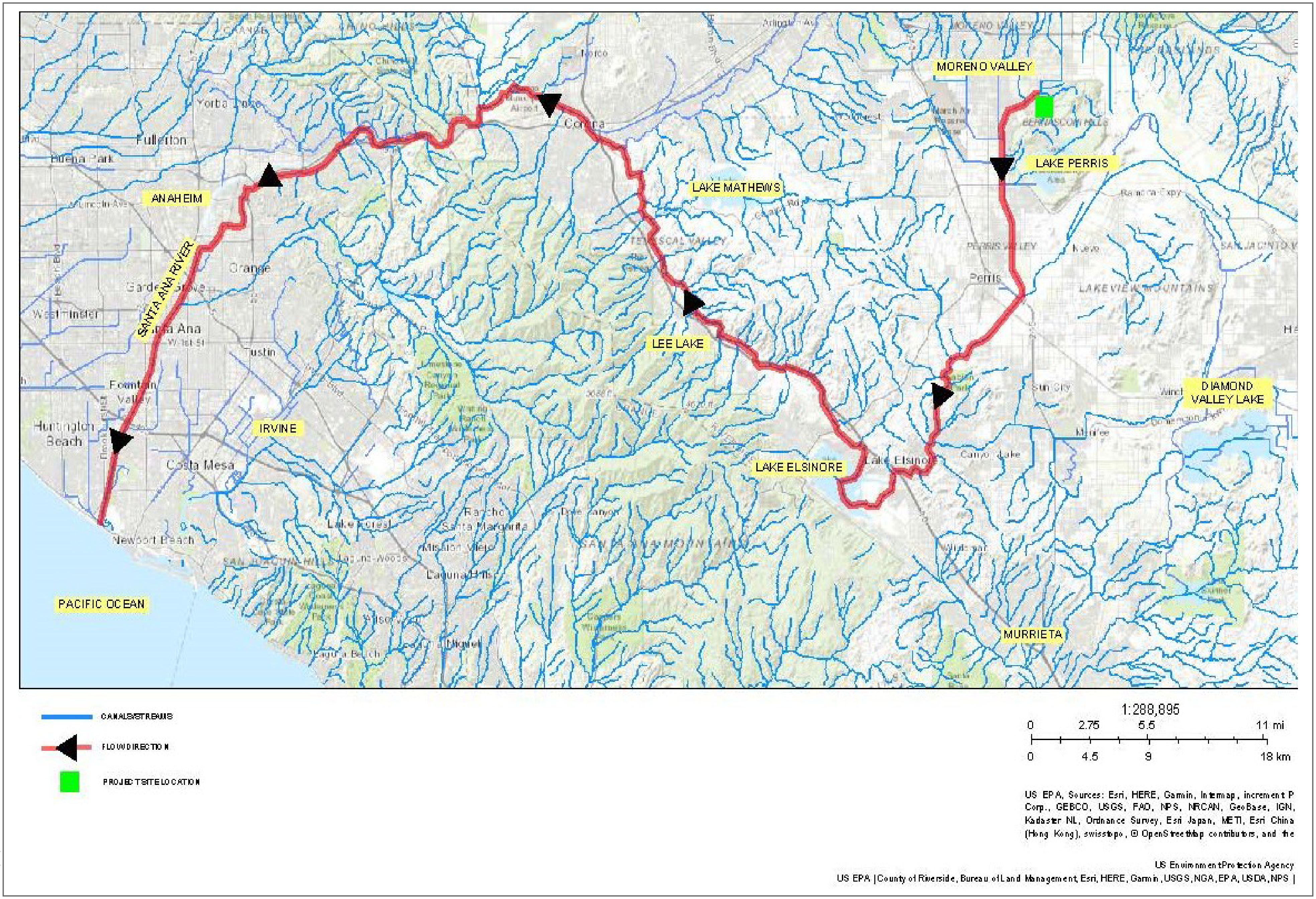


SOURCE: Kaiser 2019

DUDEK

**FIGURE 4.9-1**

Regional Drainage

Kaiser Permanente Moreno Valley Medical Center Project EIR

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Figure 4.9-2 Flood Zones

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Figure 4.9-3 Existing Drainage

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Figure 4.9-4 Proposed Drainage

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Figure 4.9-5 Hydrologic Condition of Concern – Exempt Areas

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# 4.10 LAND USE AND PLANNING

This section identifies relevant land use regulatory requirements, describes the existing land use of the project site, and evaluates potential impacts related to whether the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) would (1) physically divide an established community; or (2) conflict with the zoning code, general plan, or specific plan; or conflict with a habitat conservation plan.

## 4.10.1 Relevant Plans, Policies, and Ordinances

### Federal

There are no federal land use and planning regulations applicable to the proposed project.

### State

#### *California Planning and Zoning Law*

The California Planning and Zoning Law (Government Code Sections 65000–66499.58) provides the legal framework for California cities' and counties' local planning and land use. Under state planning law, each city and county must adopt a comprehensive, long-term general plan. State law gives cities and counties some freedom in creating a general plan, but there are fundamental requirements that must be met. These requirements include the inclusion of the eight mandatory elements described in the Government Code, which are land use, circulation, housing, conservation, open space, noise, safety, and environmental justice, the latter of which may either take the form of a standalone element or be incorporated throughout the plan. Each of the elements must contain text and descriptions setting forth objectives, principles, standards, policies, and plan proposals; diagrams and maps that incorporate data and analysis; and mitigation measures. The process of adopting or amending a general plan requires public participation. The City of Moreno Valley adopted the City of Moreno Valley General Plan in 2006 that includes goals and policies applicable to the project site.

#### *Senate Bill 375*

The adoption of California's Sustainable Communities and Climate Protection Act SB 375 (Steinberg, Chapter 728, Statutes of 2008) on September 30, 2008, aligns with the goals of regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocations. Senate Bill (SB) 375 requires Metropolitan Planning Organizations (MPOs) such as the Southern California Association of Governments (SCAG) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) within their regional transportation plan to demonstrate achievement of GHG reduction targets. In compliance with SB 375, SCAG has adopted an SCS that covers all of the City as well as other cities and counties.

**Regional**

***Southern California Association of Governments***

Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization for six Southern California counties, including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. As an association of local governments and agencies, SCAG addresses regional issues. SCAG is responsible for researching and creating plans for transportation, growth management, hazardous waste management, and air quality.

***SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy***

SCAG is responsible for developing long-range regional transportation plans, including sustainable communities' strategy and growth forecast components, regional transportation improvement programs, and a portion of the South Coast Air Quality Management Plans. SCAG provides the framework for coordinating local and regional decisions regarding projected growth and development. The 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) aims to plan, build, and connect communities within Southern California by providing expanded, and environmentally sustainable, transit options, including bus and rail service (SCAG 2016). SCAG, serving as a Regional Transportation Planning Agency, represents both the City of Moreno Valley and Riverside County.

The RTP/SCS includes the following goals:

- Align plan investments and policies with improving regional economic development and competitiveness.
- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.
- Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
- Actively encourage and create incentives for energy efficiency, where possible.
- Encourage land use and growth patterns that facilitate transit and active transportation.
- Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

### *SCAG Regional Comprehensive Plan*

SCAG's 2008 Regional Comprehensive Plan addresses regional issues such as housing, traffic/transportation, water, and air quality. It serves as an advisory document to local agencies for preparing local plans and addressing local issues of regional importance (SCAG 2008).

### *SCAQMD Air Quality Management Plan*

The City is located within the South Coast Air Basin, which falls under the South Coast Air Quality Management District's (SCAMD) jurisdiction. SCAQMD's Air Quality Management Plan was implemented to ensure that air quality goals would be met while continuing to foster and grow the regional economy. The plan aims to eliminate reliance on unspecified future technologies by providing specific control measures with quantifiable emissions reductions and associated costs, and to develop a strategy with fair-share emission reductions at the federal, state, and local levels (SCAQMD 2016).

### *Western Riverside Council of Governments*

The Western Riverside Council of Governments (WRCOG) is a voluntary, collective body comprising 24 member agencies, including the City of Moreno Valley and the County of Riverside. WRCOG serves to unify Western Riverside County in matters pertaining to regional issues, including issues within transportation, the environment, energy, economy, and health (WRCOG 2019). WRCOG administers several programs/plans, including Resilient Inland Empire, Transportation Uniform Mitigation Fee (TUMF) program, and the Active Transportation Plan, all of which aim to support regional efforts to improve transportation infrastructure so as to remediate risks associated with climate change (WRCOG 2019).

## Local

### *City of Moreno Valley General Plan*

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The state also mandates that the plan be updated periodically to ensure relevance and utility. The City General Plan was adopted by the City Council on July 11, 2006 (City of Moreno Valley 2006). The General Plan identifies the City's land use, circulation, environmental, economic and social goals and policies as they relate to land use and development.

As shown in Figure 4.10-1, the project site consists of two parcels, which are designated for Commercial and Residential/Office land uses, respectively, under the General Plan.

As expressed in the General Plan, the City's ultimate goals are to achieve a community which:

- Exhibits an orderly and balanced land use pattern that accommodates a range of residential, cultural, recreational, business, and employment opportunities.
- Is clean, attractive, and free of blight and deteriorated conditions.
- Provides public services and public facilities that are needed and desired by the community, including, but not limited to, a library(s) and library services.
- Enjoys a healthy economic climate that benefits both residents and businesses.
- Provides recreational amenities, recreation services and open space, including, but not limited to, parks, multi-use trails, community centers and open space.
- Enjoys a circulation system that fosters traffic safety and the efficient movement of motor vehicles, bicycles and pedestrians.
- Emphasizes public health and safety, including, but not limited to, police, fire, emergency and animal services and protection from floods and other hazards.
- Recognizes the need to conserve natural resources while accommodating growth and development.

The environmental goals relevant to the project are contained within the following General Plan elements: Community Development, Parks and Recreation, Circulation, Safety and Conservation.

***City of Moreno Valley Municipal Code***

Title 9 of the City Municipal Code contains the Development Code for the City, and includes regulations for site planning and development.

As shown in Figure 4.10-2, the project site consists of two parcels which are zoned OC – Office Commercial district and CC – Community Commercial district, respectively. Both zones permit the development of inpatient and urgent care clinics and permit the development of hospitals, providing that the project is located more than 300 feet from residential zones or uses. However, the project site is located within a Medical Use Overlay (MUO) district of the General Plan, which specifically allows the development of Medical Centers.

Community Development Element

The Community Development Element contains goals and policies that guide land use, regional planning, community design, utilities, and public services within the City. The Community Development Element of the Moreno Valley General Plan describes present and planned land uses and their relationship to the City's buildout goals, and includes a land use plan intended to achieve the following benefits:

- Provides broad land use categories to allow flexibility in terms of land uses.
- Distributes commercial areas city-wide to encourage walking and bicycling.
- Promotes jobs/housing balance so more people are able to live close to work.
- Encourages development density and intensity adjacent to bus routes.
- Locates residential land uses away from high noise levels;
- Delineates hillside areas for special protection.
- Allows for diversity in terms of neighborhood character, from rural to urban.
- Promotes the maintenance and redevelopment of blighted areas.
- Allows for a range of housing opportunities, from apartments to executive homes.
- Provides a balance between the amount of commercial and office land and the demand for such uses.

The Community Development Element goals, objectives and policies applicable to the project are analyzed in Table 4.10-1.

Parks and Recreation Element

The Parks and Recreation Element contains goals and policies that guide the maintenance and development of parks and recreational facilities within the City. The Parks and Recreation Element goals, objectives and policies applicable to the project are analyzed in Table 4.10-1.

Circulation Element

The Circulation Element contains goals and policies focused on serving the transportation needs of the community and is designed to support alternative modes of transportation including bikeways and pedestrian facilities. The Circulation Element goals, objectives and policies applicable to the project are analyzed in Table 4.10-1.

Safety Element

The Safety Element of the General Plan identifies three public safety services and seven environmental safety services provided by the City. The Safety Element contains protection and prevention services, goals and policies that protect the City from natural and human-made hazards including seismic hazards, flood potential, hazardous materials incidents, fire hazards, transportation hazards, and crime. The public services identified in the Safety Element and applicable to the project include:

- Police protection and crime prevention
- Fire and emergency services

The Safety Element goals, objectives and policies applicable to the project are analyzed in Table 4.10-1.

Conservation Element

The Conservation Element identifies the long-term conservation and sustainability goals of the City. In order to meet these goals, while continuing to foster new development, the Conservation Element of the General Plan outlines policies that should be implemented in order to conserve the City's biological, cultural, historical, soil, water, energy, agricultural, and scenic resources. The Conservation Element goals, objectives and policies applicable to the project are analyzed in Table 4.10-1.

## 4.10.2 Existing Conditions

### On-Site Land Uses

Kaiser Foundation Hospitals, also known as Kaiser Permanente, purchased the existing Moreno Valley Medical Center, formerly known as the Moreno Valley Community Hospital, in 2007 and has continuously operated the Medical Center as a Kaiser Permanente facility since the purchase. Prior to the construction of the Moreno Valley Medical Center, the project site was utilized for agricultural purposes from at least 1938 until approximately 1989. The existing hospital building was constructed in 1989 (Secor 2007).

### Surrounding Land Uses

The general vicinity surrounding the project site is developed with a mix of residential uses and undeveloped land. Single-family residential development occurs to the south, east, and west of the project site. Iris Avenue forms the southern site boundary, and undeveloped disturbed lots surround the project site on the northern, eastern, and western boundaries. Undeveloped open space also occurs to the northwest. Located north and east of the project site, on the eastern side of Oliver Street, is Landmark Middle School. There are four parks within the general vicinity of the project site, Celebration Park and Fairway Park, both of which are located approximately one mile northeast of the project site, Vista Lomas Park located approximately 0.8 mile west of the project site, and the Lake Perris State Recreation Area located approximately one-half mile south of the project site.

## 4.10.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to land use and planning would occur if the project would:

LU-1. Physically divide an established community.

LU-2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

## 4.10.4 Impacts Analysis

***Threshold LU-1. Would the project physically divide an established community?***

**Project- and Program-Level Elements**

The redevelopment and expansion of the existing medical office buildings, hospital, and hospital-related facilities would not divide an established community. The general vicinity surrounding the project site is developed with a mix of residential uses and undeveloped land with single-family homes to the south, east, and west of the existing hospital. Iris Avenue forms the southern site boundary, and undeveloped disturbed lots surround the Medical Center on the northern, eastern, and western boundaries.

The project would not physically divide an established community; rather, the project would instead continue to provide health care and emergency medical services to the surrounding residential communities within the boundaries of the same project site. While development would occur on the project site, none of the proposed features of the Medical Center expansion would introduce physical barriers to the City or the community. Additionally, the proposed project would be consistent with the MUO applicable to the project site as outlined in the City's Municipal Code (Title 9, Planning and Zoning, Section 9.07.091) and in the General Plan. As such, implementation of the project would not physically divide an established community. **No impacts would occur**, and no mitigation is required.

***Threshold LU-2.*** ***Would the project conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?***

**Project- and Program-Level Elements**

The project site is located in the City of Moreno Valley and as such is subject to the City's General Plan and zoning ordinance. The project site consists of two parcels, which the General Plan designates for Commercial and Residential/Office land uses, respectively. The project site's two parcels are zoned OC – Office Commercial district and CC – Community Commercial district, respectively. These zoning designations permit the development of inpatient and urgent care clinics and permit the development of hospitals, providing that the project is located more than 300 feet from residential zones or uses. While the proposed project is within 120 feet of the nearest residential development, located south across Iris Avenue but because the project site is also located within the General Plan's Medical Use Overlay (MUO) district, which specifically allows the development of Medical Centers, a Conditional Use Permit would not be required.

The following tables represent the project's consistency with relevant goals and policies from applicable planning documents. Table 4.10-1 includes an analysis of the project's consistency with the City of Moreno Valley General Plan. Table 4.10-2 includes an analysis of the project's consistency with SCAG's 2016 RTP/SCS. Analysis of the project's consistency with applicable SCAQMD plans and policies is included within Section 4.2, Air Quality.

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| *Community Development Element* | | | |
| Goal 2.1 | A pattern of land uses, which organizes future growth, minimizes conflicts between land uses, and which promotes the rational utilization of presently underdeveloped and undeveloped parcels. | The project entails the redevelopment and expansion of an existing Kaiser Permanente Medical Center within the boundaries of the existing site. When completed, the Medical Center would continue to provide medical services to existing, planned and future residential communities within the general vicinity and within the City of Moreno Valley (City) at large. The Medical Center is located within the MUO District, and would concentrate additional medical uses on underdeveloped portions of the existing site. | The project would be consistent with this goal. |
| Goal 2.2 | An organized, well-designed, high quality, and functional balance of urban and rural land uses that will meet the needs of a diverse population, and promote the optimum degree of health, safety, well-being, and beauty for all areas of the community, while maintaining a sound economic base. | The project entails the redevelopment and expansion of an existing Kaiser Permanente Medical Center which, when completed, would continue to meet the medical needs of the surrounding residents and the City at large and provide opportunities for jobs and economic stability. The project includes high-quality design features such as pedestrian pathways, an extensive landscaping plan and outdoor community seating amenities which would create a pleasant environment for employees, patients and visitors of the Kaiser Permanente Medical Center. Kaiser Permanente would also pursue LEED Gold certification or the equivalent for the hospital and medical office buildings. | The project would be consistent with this goal. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Goal 2.3 | Achieves an overall design statement that will establish a visually unique image throughout the City. | The project's building and design is intended to complement, enhance, and integrate the existing Medical Center and project site with surrounding residential and undeveloped land uses. The medical buildings' exterior color palette concept would predominantly be comprised of neutral colors, offset by windows, metal cladding, and extensive landscaping to provide an overall design statement that would be visually compatible with the Residential/Office and Commercial land use designation as well as with the surrounding land uses. | The project would be consistent with this goal. |
| Goal 2.5 | Maintenance of systems for water supply and distribution; wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution which are capable of meeting the present and future needs of all residential, commercial, and industrial customers within the City of Moreno Valley. | In-place infrastructure systems already supply water and provide wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution to the project site and existing Medical Center. These infrastructure systems would be utilized, and improved upon, to serve the project at buildout, as discussed in detail in Section 4.16, Utilities and Service Systems.<br>Additionally, Kaiser Permanente will pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. The project's energy-efficient design features could include measures such as the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication | The project would be consistent with this goal. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| | | elements across the project to minimize waste, and consideration of local materials for both landscape and construction. Additionally, the project would adhere to the Eastern Municipal Water District's Mandatory Water-Efficiency Landscaping Requirements, which would ensure water conservation where practicable. | |
| Objective 2.1 | Balance the provision of urban and rural lands within Moreno Valley by providing adequate land for present and future urban and economic development needs, while retaining the significant natural features and the rural character and lifestyle of the northeastern portion of the community. | The project is consistent with the City's land use designations and zoning. The project entails the redevelopment and expansion of an existing Medical Center, and would not require the development of any rural parcels. As such, the project would not impact the rural character and lifestyle of the northeastern portion of the City. | The project would be consistent with this objective. |
| Objective 2.4 | Provide commercial areas within the City that are conveniently located, efficient, attractive, and have safe and easy pedestrian and vehicular circulation in order to serve the retail and service commercial needs of Moreno Valley residents and businesses. | The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located for a large proportion of Moreno Valley residents and easily accessed from Iris Avenue. The project's site plans include design features such as numerous walkways, bikeways, and an internal traffic circle that would ensure efficient, and safe, pedestrian, bicycle and vehicular circulation. | The project would be consistent with this objective. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.4.1 | The primary purpose of areas designated Commercial is to provide property for business purposes, including, but not limited to, retail stores, restaurants, banks, hotels, professional offices, personal services and repair services. The zoning regulations shall identify the particular uses permitted on each parcel of land, which could include compatible non-commercial uses. Commercial development intensity should not exceed a Floor Area Ratio of 1.00 and the average floor area ratio should be significantly less. | The project site is designated Commercial and Residential/Office in the City General Plan, and zoned Office Commercial (OC) and Community Commercial (CC). These zoning designations permit the development of inpatient and urgent care clinics while, the OC and CC zones permit the development of hospitals, providing that the project is located more than 300 feet from residential zones or uses. However, the MUO district designated by the General Plan and applied to the project site allows the development of Medical Centers. The Floor Area Ratio (FAR) of the completed Medical Center at full buildout of all phases would be approximately 0.86 and would be consistent with the maximum FAR of 1.0 allowed by the General Plan's Residential/Office and Commercial land use designation, established in Policy 2.4.1. | The project would be consistent with this policy. |
| Policy 2.4.4 | An overlay district limiting land uses to those that are supportive and compatible with medical uses shall be established around the Riverside County Regional Medical Center and the Moreno Valley Community Hospital. The zoning regulations shall identify the particular uses and type of development permitted on each parcel. | The Moreno Valley Community Hospital was acquired by Kaiser Permanente in 2007 and has been operating as an existing Kaiser Permanente facility since the 2007 acquisition. The existing and planned Medical Center land uses are consistent with the MUO district applicable to the project site and outlined in the General Plan. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.4.8 | Orient commercial development toward pedestrian use. Buildings should be designed and sited so as to present a human-scale environment, including convenient and comfortable pedestrian access, seating areas, courtyards, landscaping and convenient pedestrian access to the public sidewalk. | The project's site plans include design features that foster convenient and comfortable pedestrian access to the medical facilities, parking structures, the public sidewalk, and public transit. Additionally, the project includes extensive landscaping plans as well as outside community tables and seating areas. | The project would be consistent with this policy. |
| Policy 2.4.10 | Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response. | The project would include an internal roadway system that would provide direct and efficient access to all structures. Additionally, all buildings would be clearly marked and labeled to provide efficient and enhanced emergency response. | The project would be consistent with this policy. |
| Policy 2.7.2 | The primary purpose of areas designated Floodplain is to designate floodplain areas where permanent structures for human occupancy are prohibited to protect of the public health and safety. Development intensity should not exceed a Floor Area Ratio of 0.05. | The project site is not within an area designated Floodplain by the General Plan and is therefore at low risk of annual flooding. The majority of the project site is located in Zone X of the Federal Emergency Management Agency's (FEMA) flood hazard area, while the northwestern corner of the project site is within Zone A. Zone X and Zone A are areas identified as having a 0.2% and 1% chance of annual flood, respectively. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 2.10 | Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design. | The project includes high-quality design features such as pedestrian pathways, an extensive landscape plan and outdoor community seating amenities, which would create a pleasant environment for employees, patients and visitors of the Kaiser Permanente Medical Center. As per standard development practice, the project plans would be submitted to the City for review and approval in the form of Plot Plan approvals for Phase I and a Master Plot Plan approval for Phases I through III. | The project would be consistent with this objective. |
| Policy 2.10.1 | Encourage a design theme for each new development that is compatible with surrounding existing and planned developments. | See Goal 2.3 consistency analysis. | The project would be consistent with this policy. |
| Policy 2.10.2 | Screen trash storage and loading areas, ground and roof mounted mechanical equipment, and outdoor storage areas from public view as appropriate. | As with existing conditions, with the redeveloped and expanded Medical Center, all trash storage, loading areas, and ground and roof mounted equipment would be screened from public view. | The project would be consistent with this policy. |
| Policy 2.10.3 | Require exterior elevations of buildings to have architectural treatments that enhance their appearance.<br>a. A design theme, with compatible materials and styles should be evident within a development project;<br>b. Secondary accent materials, colors and lighting should be used to highlight building features; | The project plans would be submitted to the City for approval through Plot Plan and Master Plot Plan approvals to ensure that the design theme, secondary accent materials, variations in roofline and setbacks, and architectural treatments highlight the building features, break up the building mass, and are aesthetically pleasing. Materials and building design would generally complement the existing character of the Medical Center. Conceptual renderings for the project are included within Section 4.1, | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| | c. Variations in roofline and setbacks (projections and recesses) should be used to break up the building mass.<br>d. Industrial buildings shall include architectural treatments on visible facades that are aesthetically pleasing. | Aesthetics. Additionally, see Goal 2.3 consistency analysis. | |
| Policy 2.10.4 | Landscaping and open spaces should be provided as an integral part of project design to enhance building design, public views, and interior spaces; provide buffers and transitions as needed; and facilitate energy and resource conservation. | The project includes a landscaping plan that would provide a pleasant, walkable outdoor environment for employees, patients, and visitors of the Kaiser Permanente Medical Center. Additionally, the project would adhere to the Eastern Municipal Water District's Mandatory Water-Efficiency Landscaping Requirements, which would ensure water conservation where practicable. Landscaping plans would be submitted to the City for review and approval as part of the Plot Plan and Master Plot Plan approval process. | The project would be consistent with this policy. |
| Policy 2.10.6 | Buildings should be designed with a plan for adequate signage. Signs should be highly compatible with the building and site design relative to size, color, material, and placement. | As with the existing Medical Center, the proposed redeveloped and expanded Medical Center would include directional and identification signage. | The project would be consistent with this policy. |
| Policy 2.10.7 | On-site lighting should not cause nuisance levels of light or glare on adjacent properties. | The project would include only necessary lighting around building entryways and exits as well as along pathways and on parking lots/structures. Adjacent properties would not be subject to extraneous or nuisance levels of light of glare from the project. | The project would be consistent with this policy. |

# Table 4.10-1
# Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.10.8 | Lighting should improve the visual identification of structures. Within commercial areas, lighting should also help create a festive atmosphere by outlining buildings and encouraging nighttime use of areas by pedestrians. | The project would include only necessary lighting around building entryways and exits as well as along pathways and on parking lots/structures. However, lighting would be designed in such a way so as to enhance the design quality of the medical buildings, community areas, and pedestrian facilities. | The project would be consistent with this policy. |
| Policy 2.10.9 | Fences and walls should incorporate landscape elements and changes in materials or texture to deter graffiti and add visual interest. | As shown in Figure 3-6, Phase I Landscape Plan, and Figure 3-7, Master Landscape Plan, the landscaping plans would include screening trees along the northern perimeter wall as well as extensive landscaping on the eastern and southern project boundaries fronting Iris Avenue, all of which would add visual interest to the Medical Center. | The project would be consistent with this policy. |
| Policy 2.10.10 | Minimize the use and visibility of reverse frontage walls along streets and freeways by such treatments as landscaping, berming, and "side-on" cul-de-sacs. | The project plans would not include reverse frontage walls along Iris Avenue, but would incorporate extensive landscaping on the eastern and southern project boundaries fronting the street, all of which would be implemented during Phase I of the project in order to add visual interest to the Medical Center. The project plans would be submitted to the City for review and approval as part of Plot Plan approvals for Phase I and a Master Plot Plan approval for Phases I through III. | The project would be consistent with this policy. |
| Policy 2.10.11 | Screen and buffer non-residential projects from adjacent residential property and other sensitive land uses when necessary to mitigate noise, glare and other adverse effects on adjacent uses. | See Policy 2.10.10 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.10.12 | Screen parking areas from streets to the extent consistent with surveillance needs (e.g. mounding, landscaping, low profile walls, and/or grade separations). | During Phase I and II of the project, the landscaping plans would include trees placed on the perimeter as well as throughout the surface parking lots, as shown in Figure 3-6. By Phase III of the project, three multilevel, covered parking structures would replace most of the surface parking lots with the exception of three small ancillary surface lots, which will remain as such for use by the ER and Medical Office Building. The parking structures would be partially screened from the streets by planted trees and to the extent consistent with surveillance needs, as shown in Figure 3-7. | The project would be consistent with this policy. |
| Policy 2.10.13 | Provide landscaping in automobile parking areas to reduce solar heat and glare. | During Phase I and II of the project, the landscaping plans would include trees placed on the perimeter as well as throughout the surface parking lots, as shown in Figure 3-6. By Phase III of the project, three multilevel, covered parking structures would replace the surface lots, with the exception of three small ancillary surface lots, which will remain as such for use by the ER and Medical Office Building. The parking structures would reduce the direct effects of solar heat and glare and would be partially screened from the streets by planted trees, as shown in Figure 3-7. | The project would be consistent with this policy. |
| Policy 2.10.14 | Preserve or relocate existing mature trees and vegetation where practical. Mature trees shall be replaced when they cannot be preserved or relocated. | The project would include a landscaping plan, which would include tree planting around, and throughout, the project site. As described in Section 4.3, Biological Resources, no mature trees would be removed to accommodate the project. | The project would be consistent with this policy. |

# Table 4.10-1
# Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 2.11 | Maintain a water system that is capable of meeting the daily and peak demands of Moreno Valley residents and businesses, including the provision of adequate fire flows. | The Water Supply Assessment prepared by the Eastern Municipal Water District (EMWD) for the project shows that the EMWD has the ability to meet the water supply demands of the project at all phases and at buildout. Kaiser Permanente would meet the EMWD's conditions of approval. See Section 4.16. | The project would be consistent with this objective. |
| Policy 2.11.1 | Permit new development only where and when adequate water services can be provided. | See Objective 2.11 consistency analysis. | The project would be consistent with this policy. |
| Objective 2.12 | Maintain a wastewater collection, treatment, and disposal system that is capable of meeting the daily and peak demands of Moreno Valley residents and businesses. | The City's wastewater collection, treatment, and disposal system complies with the applicable building codes and is capable of meeting the daily and peak demands of City residents and business with the project at all phases and at buildout, as discussed in Section 4.16. The project will comply with the recommendations and improvements established in the Sewer Study Report, as detailed in Section 4.16. Additionally, the project would pursue LEED Gold certified or equivalent for the hospital and medical office buildings on the project site. | The project would be consistent with this objective. |
| Policy 2.12.1 | Prior to the approval of any new development application ensure that adequate septic or sewer service capacity exists or will be available in a timely manner. | As discussed in Section 4.16, adequate sewer service capacity exists to accommodate the project at all phases and at buildout. See Objective 2.12 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 2.13 | Coordinate development activity with the provision of public infrastructure and services to eliminate possible gaps in service provision. | Sufficient public infrastructure and services currently exist to serve the project at all phases and at buildout without anticipated gaps in service. Project plans would be submitted to the City's public service departments for approval and the project would be required to incorporate any additional requirements they identify into the final project design. Additionally, the project would comply with any applicable requirements for the payment of development impact fees, which would be used exclusively for any future public services or public facilities improvements necessary to adequately accommodate new development in the city. Detailed analyses can be found in Section 4.13, Public Services and Recreation, and Section 4.16 of this environmental impact report (EIR). | The project would be consistent with this objective. |
| Policy 2.13.1 | Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities. | Sufficient public services and facilities exist to serve the project at all phases as discussed in Section 4.16. See Objective 2.13 consistency analysis. | The project would be consistent with this policy. |
| Policy 2.13.2 | Unless otherwise approved by the City, public water, sewer, drainage and other backbone facilities needed for a project phase shall be constructed prior to or concurrent with initial development within that phase. | The project applicant shall comply with any City requirements to construct public water, sewer, drainage and other backbone facilities required for each phase of the project. Detailed analyses regarding the infrastructure required to serve the project is included in Section 4.16. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.13.3 | It shall be the ultimate responsibility of the sponsor of a development project to assure that all necessary infrastructure improvements (including system wide improvements) needed to support project development are available at the time that they are needed. | The project applicant shall ensure that any necessary and City approved infrastructure improvements would be available at the time that they are needed. Detailed analyses regarding the infrastructure required to serve the project is included in Section 4.16. | The project would be consistent with this policy. |
| Policy 2.13.4 | Encourage installation of advanced technology infrastructure, including, but not limited to, infrastructure for high speed internet access and solar energy. | The project applicant would pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. Examples of energy-efficient design measures that could be included in project design are, the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. | The project would be consistent with this policy. |
| Objective 2.14 | Establish and implement comprehensive solutions to the financing of public facilities that adequately distribute costs based on the level of benefit received and the timing of development. | See Objective 2.13 consistency analysis. | The project would be consistent with this objective. |
| Policy 2.14.1 | Conduct periodic review of public facilities impact mitigation fees in accordance with state statutes to ensure that the charges are consistent with the costs of improvements. Utilize the service and mitigation standards contained in the Moreno Valley General Plan as the basis for determining improvement costs. | See Objective 2.13 consistency analysis. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.14.3 | Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies. | The project would comply with the requirements pertaining to review of public services and facilities, as discussed in detail in Sections 4.13; 4.14, Transportation; and 4.16 of this EIR. | The project would be consistent with this policy. |
| Objective 2.16 | Maintain local library facilities and reserves in accordance with the following minimum standards: 0.5 square feet of library space and 1.2 volumes per capita. | The project is anticipated to have minimal impact on the demand for library facilities as discussed in Section 4.13. See also Objective 2.13 consistency analysis. | The project would be consistent with this objective. |
| Policy 2.16.2 | Provide for the expansion of library facilities as needed to keep pace with the growing population of Moreno Valley. | See Objective 2.16 consistency analysis. | The project would be consistent with this policy. |
| Policy 2.18.1 | Ensure that a full range of human service programs are available to meet the lifetime development needs of residents of all ages, including the special needs of seniors, families, children, disabled persons, and youth groups. | The project would entail the enhancement and expansion of an existing fully-equipped Medical Center, thereby furthering Kaiser Permanente's ability to provide health care services to residents of all ages. | The project would be consistent with this policy. |
| Policy 2.18.3 | Work closely with local schools, private companies, churches, non-profit agencies, government social service agencies, and community groups to facilitate the provision of community services. | The project would entail the enhancement and expansion of an existing fully-equipped Medical Center, thereby furthering the provision of advanced medical care and medical services to the community of Moreno Valley at large. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 2.18.5 | Promote volunteer involvement in all public programs and within the community as a whole. | All phase of the project would continue to promote volunteer involvement within the community. The existing Kaiser Permanente Medical Center provides numerous public volunteer opportunities, including general volunteers, summer teen program volunteers, pet therapy volunteers, and care ambassadors. The proposed enhancement and expansion of the existing Medical Center would further the Kaiser Permanente Medical Center's ability to foster public volunteer programs. | The project would be consistent with this policy. |
| | | *Parks and Recreation* | |
| Policy 4.2.8 | Encourage the development of recreational facilities within private developments, with appropriate mechanisms to ensure that such facilities are properly maintained and that they remain available to residents in perpetuity. | The project includes high-quality design features such as pedestrian and bicycle pathways, an extensive landscape plan and outdoor community seating amenities which would create a pleasant environment for employees, patients and visitors of the Kaiser Permanente Medical Center. | The project would be consistent with this policy. |
| Policy 4.2.9 | In conjunction with the school districts, civic organizations, and other private, civic-minded entities, encourage and participate in the provision of organized recreational activities for Moreno Valley residents of all ages. | The project site would be accessible for bicycles and pedestrians. The project would be designed to encourage pedestrian activity to and from the campus, as well as internally between campus buildings. The project would include installation of sidewalks and incorporation of pedestrian walking paths and seating amenities within landscape buffers. | The project would be consistent with this policy. |
| Policy 4.2.17 | Require new development to contribute to the park needs of the City. | The project would comply with any applicable requirements to pay park fees. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 4.3.4 | In conjunction with all development review, the City shall consider multiuse trail access and traditional travel routes through the property. | See Policy 4.2.9 consistency analysis. | The project would be consistent with this policy. |
| Policy 4.3.5 | In conjunction with the review and approval of non-residential developments, the City should consider the use of multiuse trail amenities such as hitching posts, benches, rest areas, and drinking facilities. | See Policy 4.2.8 consistency analysis. | The project would be consistent with this policy. |
| *Circulation Element* | | | |
| Goal 5.1 | Develop a safe, efficient, environmentally and financially sound, integrated vehicular circulation system consistent with the City General Plan Circulation Element Map, Figure 9-1, which provides access to development and supports mobility requirements of the system's users. | The project would result in significant unavoidable impacts to traffic Level of Service (LOS) at several intersections and roadway segments near the project site. Implementation of mitigation measures would reduce impacts; however, some impacts would remain significant and unavoidable. However, the project would provide new and expanded medical services to the local and regional community and would be subject to approval under overriding considerations by the City. | The project would be inconsistent with this goal. |
| Goal 5.2 | Maintain safe and adequate pedestrian, bicycle, and public transportation systems to provide alternatives to single occupant vehicular travel and to support planned land uses. | A Class II bikeway on Iris Avenue bounds the southern perimeter of the project site. This bicycle route connects with other Class I, II, and III bikeways in the City and when utilized in conjunction with planned on-site bicycle amenities would encourage bicycling. Additionally, Riverside Transit Agency (RTA) provides bus service to the project site via the Route 20 service, which stops on Iris Avenue, adjacent to the project site, thereby providing an additional alternative to single-occupant vehicle travel. | The project would be consistent with this goal. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.1.1 | Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles. | All phases of the proposed project include access and circulation designed to accommodate vehicles, including emergency vehicles and trash truck. The project would retain the two existing secondary access points that abut the east and west property lines and which serve as employee and service vehicle access. Primary access to the Medical Center would continue to be provided via two driveways on Iris Avenue, one that runs along the eastern-most perimeter of the proposed medical center and one that runs through the center of the proposed medical center. Both driveways would contain one-way ingress and one-way egress; however, the main driveway in the center of the project site would contain a one-way ingress lane and a one-way egress lane, separated by a traffic island. Additionally, this driveway would include an internally located traffic circle to enhance circulation, ensure expedient access for ambulances and avoid backlog on Iris Avenue. On-site bikeways and pedestrian facilities would be clearly delineated and sufficiently lighted to ensure efficient and safe circulation. | The project would be consistent with this policy. |
| Policy 5.1.2 | Plan the circulation system to reduce conflicts between vehicular, pedestrian and bicycle traffic. | As discussed in Section 4.14, Transportation, the project is designed to reduce conflicts between vehicular, pedestrian, and bicycle traffic. | The project would be consistent with this policy. |

# Table 4.10-1
# Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.1.3 | Require adequate off-street parking for all developments. | All phases of the project would provide adequate off-street parking. During Phase I, an additional 45 parking spaces would be provided, and during Phase II approximately 1,800 parking spaces would be added. At buildout, the project would include three multilevel, covered parking structures as well as surface parking lots, which would provide a total of 2,550 parking spaces. | The project would be consistent with this policy. |
| Policy 5.1.4 | Driveway placement shall be designed for safety and to enhance circulation wherever possible. | See Policy 5.1.1 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.1.5 | Incorporate American Disability Act (ADA) and Title 24 requirements in roadway improvements as appropriate. | The project would comply with any ADA and/or Title 24 requirements applicable to the project. | The project would be consistent with this policy. |
| Policy 5.1.6 | Design new developments to provide opportunity for access and circulation to future adjacent developments. | The project would retain the two existing secondary access points that abut the east and west property lines and which serve as employee and service vehicle access. These secondary access points abut undeveloped land, and could be available for access and circulation to future adjacent development if necessary and appropriate. Additionally, see Policy 5.1.1 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 5.3 | Maintain Level of Service (LOS) "C" on roadway links, wherever possible, and LOS "D" in the vicinity of SR 60 and high employment centers. | The proposed project would have a significant unavoidable impact to the LOS at several intersections (see Section 4.14) near the project site and would implement mitigation measures to reduce these impacts. However, mitigation would not reduce these impacts to a less-than-significant level. Given this, the proposed project would be subject to City approval and, given the significant unavoidable impacts to traffic, would require approval via overriding considerations. | The project would be consistent with this policy. The project would have an impact on several intersections, but would include feasible mitigation to reduce the severity of these impacts. Although it is not possible to reduce all impacts with feasible mitigation, and significant and unavoidable impacts would remain, the project is consistent with the objective of reducing LOS impacts wherever possible. |
| Policy 5.3.4 | For planning purposes, utilize LOS standards shown on Table 5 –1 to determine recommended roadway widths. | The proposed project would have a significant unavoidable impact to the LOS at several intersections (see Section 4.14) near the project site and would implement mitigation measures, including expanding roadway widths, to reduce these impacts. Any transportation infrastructure improvements and expansions would be undertaken in coordination with local and regional transportation authorities and would take LOS standards outlined in the General Plan into consideration. | The project would be consistent with this policy. Feasible mitigation measures are provided to reduce the severity of impacts, including mitigation to widen roadways where possible. Given right of way constraints roadway widening would not achieve the applicable LOS standards at all intersections, and significant and unavoidable impacts would remain. However, the project would implement this policy where feasible. |
| Policy 5.3.5 | Ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts. For this purpose, require new developments to participate in Transportation Uniform Mitigation Fee Program (TUMF), the Development Impact Fee Program (DIF) and any other applicable transportation fee programs and benefit assessment districts. | The project would comply with any applicable fair share contribution requirement for local or regional transportation improvements and shall comply with any other applicable transportation fee programs. See Section 4.14 of this EIR. | The project would be consistent with this policy through payment of fees. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.3.6 | Where new developments would increase traffic flows beyond the LOS C (or LOS D, where applicable), require appropriate and feasible mitigation measures as a condition of approval. Such measures may include extra right-of-way and improvements to accommodate left-turn and right-turn lanes at intersections, or other improvements. | The proposed project would have a significant unavoidable impact to several intersections (see Section 4.14) near the project site and would implement mitigation measures to reduce these impacts. However, mitigation would not reduce these impacts to a less-than-significant level. Given this, the proposed project would be subject to City approval and, given the significant unavoidable impacts to traffic, would require approval via overriding considerations. | The project would be consistent with this policy. Feasible mitigation measures are provided to reduce the severity of impacts; but due to right of way constraints and other limitations, significant and unavoidable impacts would remain. However, by including feasible mitigation the project would be consistent with this policy. |
| Policy 5.3.7 | Provide consideration to projects that have overriding regional or local benefits that would be desirable even though the LOS standards cannot be met. These projects would be required to analyze traffic impacts and mitigate such impacts to the extent that it is deemed feasible. | The proposed project would have a significant unavoidable impact to several intersections and roadway segments (see Section 4.14) near the project site. However, the local and regional benefits of the project, namely, providing the community with expanded medical care, would be desirable despite these identified impacts. The proposed project would be subject to City approval and, given the significant unavoidable impacts to traffic, would require approval via overriding considerations. | The project would be consistent with this policy. |
| Objective 5.4 | Maximize efficiency of the regional circulation system through close coordination with state and regional agencies and implementation of regional transportation policies. | The proposed project would coordinate with the applicable state and regional transportation agencies in order to implement mitigation measures designed to minimize impacts to traffic associated with the project, and would be subject to a Traffic Uniform Mitigation Fee (TUMF) as established by the Western Riverside Council of Governments (WRCOG), and as such, would comply with regional transportation policies. | The project would be consistent with this objective. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.4.1 | Coordinate with Caltrans and the Riverside County Transportation Commission (RCTC) to identify and protect ultimate rights-of-way, including those for freeways, regional arterial projects, transit, bikeways and interchange expansion. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.4.2 | Coordinate with Caltrans and RCTC regarding the integration of Intelligent Transportation Systems (ITS) consistent with the principles and recommendations of the Inland Empire Regional ITS Architecture Project. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.4.3 | Work with property owners, in cooperation with RCTC, to reserve rights-of-way for potential Community and Environmental Transportation Acceptability Process (CETAP) corridors through site design, dedication, and land acquisition, as appropriate. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.4.5 | Work with RCTC, WRCOG, and the TUMF Central Zone Committee to facilitate the expeditious construction of TUMF Network projects, especially projects that directly benefit Moreno Valley. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.4.6 | Cooperatively participate with SCAG, RCTC, and WRCOG in the planning for a transportation system that anticipates regional needs for the safe and efficient movement of goods and people. | The proposed project would be consistent with the overarching goals of the SCAG RTP/SCS, and as such, would be consistent with regional transportation planning framework (see Table 4.10-2 below). Also, see Objective 5.4 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 5.5 | Maximize efficiency of the local circulation system by using appropriate policies and standards to design, locate and size roadways. | The proposed project would have a significant unavoidable impact to several intersections (see Section 4.14) near the project site and would implement appropriate mitigation measures to reduce these impacts (such as roadway improvements and design efficiencies). However, mitigation would not reduce these impacts to a less-than-significant level. Given this, the proposed project would be subject to City approval and, given the significant unavoidable impacts to traffic, would require approval via overriding considerations. | The project would be inconsistent with this objective. |
| Policy 5.5.1 | Space Collectors between higher classification roadways within development areas at appropriate one-quarter mile intervals. | The proposed project would coordinate with the applicable state and regional transportation agencies in order to implement design measures, including space collectors, to minimize impacts to traffic associated with the project. | The project would be consistent with this policy. |
| Policy 5.5.2 | Provide dedicated left-turn lanes at all major intersections on minor arterials and higher classification roadways. | The proposed project would provide dedicated left-turn lanes at impacted intersection, as outlined in the mitigation measures in Section 4.14. | The project would be consistent with this policy. |
| Policy 5.5.3 | Prohibit points of access from conflicting with other existing or planned access points. Require points of access to roadways to be separated sufficiently to maintain capacity, efficiency, and safety of the traffic flow. | The proposed project would not implement any roadway infrastructure or features that would conflict with existing or planned points of access. Any roadway infrastructure included as part of the project, including points of access, would be designed to maintain capacity, efficiency, and safety of the traffic flow. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.5.4 | Wherever possible, minimize the frequency of access points along streets by the consolidation of access points between adjacent properties on all circulation element streets, excluding collectors. | Under existing conditions, there is vacant, disturbed land and designated open space to the north, west and east of the project site. If these vacant parcels were developed in the future, the applicants would consider the consolidation of access points for ingress/egress efficiency. | The project would be consistent with this policy. |
| Policy 5.5.5 | Design streets and intersections in accordance with the Moreno Valley Municipal Code. | Any street and intersection improvements associated with the project would conform to the City's Municipal Code and be subject to review and approval by the City. | The project would be consistent with this policy. |
| Policy 5.5.6 | Consider the overall safety, efficiency and capacity of street designs as more important than the location of on-street parking. | There is no on-street parking on Iris Avenue. The project would meet all parking requirements on site and does not propose to introduce any on-street parking. | The project would be consistent with this policy. |
| Policy 5.5.8 | Whenever possible, require private and public land developments to provide on-site and off-site improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development project shall be undertaken to identify project impacts to the circulation system. The City may require developers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development. | The project's potential traffic impacts are fully evaluated in the Traffic Impact Analysis (Appendix I) and in Section 4.14 of this EIR. See Policy 5.3.5 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.7.2 | Provide sidewalks on arterials in designated low density areas that provide access to schools and bus stops. | Any modifications or improvements to public and private sidewalks associated with the project would be done in conformance with the City's standards. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 5.8 | Encourage development of an efficient public transportation system for the entire community. | The proposed project would encourage the utilization of the RTA Route 20 bus stop on Iris Avenue by providing adequate bicycle and pedestrian amenities on site, thereby encouraging employees, guests etc. of the Medical Center to use public transit. Additionally, Kaiser Permanente would implement a Transportation Demand Management (TDM) plan, which would implement additional incentives for employees to utilize public transit (e.g. by providing preferential carpool parking etc.). | The project would be consistent with this objective. |
| Policy 5.8.1 | Support the development of high-speed transit linkages, or express routes, that would benefit the citizens and employers of Moreno Valley. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.8.3 | Encourage public transportation opportunities that address the particular needs of transit dependent individuals in the City such as senior citizens, the disabled and low -income residents. | See Objective 5.8 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.8.4 | Ensure that all new developments make adequate provision for bus stops and turnout areas for both public transit and school bus service. | The project would include a pedestrian pathway from the Medical Center buildings to the public sidewalk where the Riverside Transit Agency bus stop is located. | The project would be consistent with this policy. |
| Policy 5.8.5 | Continue on-going coordination with transit authorities toward the expansion of transit facilities into newly developed areas. | See Objective 5.4 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 5.9 | Support and encourage development of safe, efficient and aesthetic pedestrian facilities. | The project would include several pedestrian-oriented design features such as protected walkways throughout the campus grounds, various outdoor seating areas, campus-wide landscaping, and access pathways to the parking structures and to the public sidewalk on Iris Avenue. | The project would be consistent with this objective. |
| Policy 5.9.1 | Encourage walking as an alternative to single occupancy vehicle travel, and help ensure the safety of the pedestrian as follows:<br>a. All new developments shall provide sidewalks in conformance with the City's streets cross-section standards, and applicable policies for designated urban and rural areas.<br>b. The City shall actively pursue funding for the infill of sidewalks in developed areas. The highest priority shall be to provide sidewalks on designated school routes. | The project would include several pedestrian-oriented design features such as protected walkways throughout the campus grounds, various outdoor seating areas, campus-wide landscaping, and access pathways to the public sidewalk on Iris Avenue. Additionally, any sidewalks that are built or improved during project buildout, would be done so in conformance with the City's standards. | The project would be consistent with this policy. |
| Policy 5.9.2 | Walkways shall be designed to minimize conflicts between vehicles and pedestrians. | The project would include protected walkways, adequate signage, and pedestrian crossings to minimize conflicts between vehicles and pedestrians. | The project would be consistent with this policy. |
| Policy 5.9.3 | Where appropriate, provide amenities such as, but not limited to, enhanced paving, seating, and landscaping to enhance the pedestrian experience. | See Objective 2.10 consistency analysis. | The project would be consistent with this policy. |
| Policy 5.9.4 | Require the provision of convenient and safe pedestrian access to buildings from the public sidewalk. | The project would include convenient and safe pedestrian access to buildings from the public sidewalk on Iris Avenue. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 5.10 | Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution. | There is a Class II bikeway on Iris Avenue that bounds the eastern and southern perimeters of the project site. This bicycle route connects with other Class I, II, and III bikeways in the City and, when utilized in conjunction with planned on-site bicycle amenities, would encourage bicycling as an alternative to single occupant vehicle travel. | The project would be consistent with this objective. |
| Policy 5.10.1 | Bikeways shall link residential neighborhood areas with parks, employment centers, civic and commercial areas, and schools. | See consistency analysis for Objective 5.10. | The project would be consistent with this policy. |
| Policy 5.10.3 | Support bicycle safety programs, and active enforcement of laws relating to the safe operation of bicycles on City streets. | On-site bicycle paths, included as part of the project, would be clearly delineated and sufficiently lighted so as to provide safe operating conditions for bicyclists. | The project would be consistent with this policy. |
| Objective 5.11 | Eliminate obstructions that impede safe movement of vehicles, bicyclists, and pedestrians. | The project contains design features such as one-way ingress/egress lanes, a traffic circle, and clearly delineated bikeways and pedestrian pathways, which would be implemented during Phase I, to ensure the safe movement of vehicles, bicycles, and pedestrians. | The project would be consistent with this objective. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 5.11.1 | Landscaping adjacent to City streets, sidewalks and bikeways shall be designed, installed and maintained so as not to physically or visually impede public use of these facilities.<br>a. The removal or relocation of mature trees, street trees and landscaping may be necessary to construct safe pedestrian, bicycle and street facilities.<br>b. New landscaping, especially street trees shall be planted in such a manner to avoid overhang into streets, obstruction of traffic control devices or sight distances, or creation of other safety hazards | The project's proposed landscaping would not impede public use of City streets, sidewalks and bikeways, and the project landscaping plan would be reviewed by the City. See consistency analyses for Policies 2.10.9, 2.10.10, and 2.10.14. | The project would be consistent with this policy. |
| Policy 5.11.2 | Driveways shall be designed to avoid conflicts with pedestrian and bicycle travel. | The project includes design features such as separate, dedicated bicycle paths and pedestrian infrastructure throughout the project site, which would be demarcated and sufficiently lit to avoid conflicts with traffic. | The project would be consistent with this policy. |
| *Safety Element* | | | |
| Goal 6.1 | To achieve acceptable levels of protection from natural and man-made hazards to life, health, and property. | Project design and implementation would comply with the applicable state and local laws pertaining to the provision of protection from natural and human-made hazards to life, health, and property. | The project would be consistent with this goal. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Goal 6.2 | To have emergency services which are adequate to meet minor emergency and major catastrophic situations. | As explained in Section 4.13, the slight increase in on-site and citywide population could result in increased calls for emergency services. However, any increase in calls would be minimal and would not result in the need for new public service facilities. The proposed project would also comply with applicable development impact fee requirements. Additionally, as discussed in Section 4.12, Population and Housing, any anticipated population growth associated with the proposed project is accounted for in growth projection plans locally and regionally. | The project would be consistent with this goal. |
| Objective 6.1 | Minimize the potential for loss of life and protect residents, workers, and visitors to the City from physical injury and property damage due to seismic ground shaking and secondary effects. | The project would minimize the impacts of seismic ground shaking by complying with the Alfred E. Alquist Hospital Facilities Seismic Safety Act, Alquist-Priolo Special Study Zones Act, the California Building Code standards, the most recent Uniform Building Code's seismic design standards and design standards as discussed in Section 4.6, Geology and Soils, of this EIR. Additionally, Phase I of the project would include the site development recommendations outlined in the geotechnical report prepared for Phase I of the project and included in this document as MM-GEO-1. Subsequent geotechnical reports which would be prepared for Phases II and III and these phases would comply with any applicable recommendations contained therein. | The project would be consistent with this objective. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.1.1 | Reduce fault rupture and liquefaction hazards through the identification and recognition of potentially hazardous conditions and areas as they relate to the San Jacinto fault zone and the high and very high liquefaction hazard zones. During the review of future development projects, the City shall require geologic studies and mitigation for fault rupture hazards in accordance with the Alquist-Priolo Special Study Zones Act. Additionally, future geotechnical studies shall contain calculations for seismic settlement on all alluvial sites identified as having high or very high liquefaction potential. Should the calculations show a potential for liquefaction, appropriate mitigation shall be identified and implemented. | The project would comply with the Alquist-Priolo Special Study Zones Act. In addition, Phase I of the project would comply with the site development recommendations outlined in the geotechnical report prepared for the project and included in this document as MM-GEO-1. The geotechnical study prepared for the Phase I identified the entire project site as an area with a "very low" potential for liquefaction. Phases II and III would comply with any applicable recommendations identified in subsequent geotechnical reports, which would be prepared for those phases. | The project would be consistent with this policy. |
| Policy 6.1.2 | Require all new developments, existing critical and essential facilities and structures to comply with the most recent Uniform Building Code seismic design standards. | See Objective 6.1 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 6.2 | Minimize the potential for loss of life and protect residents, workers, and visitors to the City from physical injury and property damage, and to minimize nuisances due to flooding. | Portions of the City are subject to 100-year (FEMA Zone A) and 500-year (FEMA Zone X flooding, which indicate a 1% and 0.2% chance, respectively, of flooding in any given year. The closest flood zones include a 100-year flood zone, located immediately northwest of the western project parcel, and a 500-year flood zone, located immediately northwest of the eastern project parcel, along an existing drainage canal. The project site is not within an area designated Floodplain by the General Plan and is at low risk of annual flooding. Therefore, the project would not impede or redirect flood flows. Additionally, the project site is within a Hydrologic Condition of Concern exempt area because all downstream conveyance channels to an adequate sump, which receives runoff from the project, and is engineered and regularly maintained to ensure design flow capacity. See Section 4.9, Hydrology and Water Quality, for additional details. | The project would be consistent with this objective. |
| Policy 6.2.1 | Permit only that development in 100-year floodplain that represents an acceptable use of the land in relation to the hazards involved and the costs of providing flood control facilities. Locate critical facilities, such as hospitals, fire stations, police stations, public administration buildings, and schools outside of flood hazard areas. | See Objective 6.2 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.2.2 | Storm drains and catch basins owned and operated by the City shall be inspected, cleaned and maintained pursuant to an approved clean out schedule. | The project would not involve or require any modifications to City storm drains or catch basins and would not interfere with their maintenance. The project's on-site drainage system would be maintained and upgraded as necessary. See Section 4.9. | The project would be consistent with this policy. |
| Policy 6.2.3 | Maximize pervious areas in order to reduce increases in downstream runoff resulting from new development. | The project would include pervious areas where practicable. Additionally, the project site is located within a Hydrologic Condition of Concern exempt area, and all downstream conveyance channels to an adequate sump (see Section 4.9 for details). | The project would be consistent with this policy. |
| Policy 6.2.4 | Design, construct and maintain street and storm drain flood control systems to accommodate 10 year and 100 year storm flows respectively. | During construction of each phase of the project, a Stormwater Pollution Prevention Plan (SWPPP) and associated Best Management Practices would be implemented, through compliance with the National Pollutant Discharge Elimination System program. The SWPPP, which would include standard construction methods which may include temporary detention basins to control on-site and off-site erosion, would be required by the City during plan review and approval of project improvement plans for each phase. Additionally, the proposed project would be designed in compliance with Section 402(p) of the Clean Water Act which mandates that municipal separate stormwater sewer system discharges to surface waters be regulated by a National Pollution Discharge and Elimination System (NPDES) permit. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.2.5 | The storm drain system shall conform to Riverside County Flood Control and Water Conservation District master drainage plans and the requirements of the Federal Emergency Management Agency. | The City's storm drain system would conform to the Riverside County Flood Control and Water Conservation District master drainage plans and to the requirements of the Federal Emergency Management Agency and the project would not impair the City's ability to continue to comply. | The project would be consistent with this policy. |
| Objective 6.3 | Provide noise compatible land use relationships by establishing noise standards utilized for design and siting purposes. | The project would be a noise compatible land use, as explained in Section 4.11, Noise. | The project would be consistent with this objective. |
| Policy 6.3.1 | The following uses shall require mitigation to reduce noise exposure where current or future exterior noise levels exceed 20 CNEL above the desired interior noise level:<br>a. Single and multiple family residential buildings shall achieve an interior noise level of 45 CNEL or less. Such buildings shall include sound-insulating windows, walls, roofs and ventilation systems. Sound barriers shall also be installed (e.g. masonry walls or walls with berms) between single-family residences and major roadways.<br>b. New libraries, hospitals and extended medical care facilities, places of worship and office uses shall be insulated to achieve interior noise levels of 50 CNEL or less.<br>c. New schools shall be insulated to achieve interior noise levels of 45 CNEL or less. | The project would be a noise compatible land use, as explained in Section 4.11. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.3.6 | Building shall be limited in areas of sensitive receptors | The project would include project design features which would minimize noise in areas of sensitive receptors to a less-than-significant level. | The project would be consistent with this policy. |
| Objective 6.4 | Review noise issues during the planning process and require noise attenuation measures to minimize acoustic impacts to existing and future surrounding land uses. | The project would include project design features which would minimize acoustic impacts to existing and future surrounding land uses. As such, the project would not produce significant noise. | The project would be consistent with this objective. |
| Policy 6.4.1 | Site, landscape and architectural design features shall be encouraged to mitigate noise impacts for new developments, with a preference for noise barriers that avoid freeway sound barrier walls. | See Objective 6.4 consistency analysis. | The project would be consistent with this policy. |
| Objective 6.5 | Minimize noise impacts from significant noise generators such as, but not limited to, motor vehicles, trains, aircraft, commercial, industrial, construction, and other activities. | See Objective 6.4 consistency analysis. | The project would be consistent with this objective. |
| Policy 6.5.1 | New commercial and industrial activities (including the placement of mechanical equipment) shall be evaluated and designed to mitigate noise impacts on adjacent uses. | See Objective 6.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 6.5.2 | Construction activities shall be operated in a manner that limits noise impacts on surrounding uses. | See Objective 6.4 consistency analysis. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 6.6 | Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation. | The project site is surrounded by residential land uses to the west, east and south and is both in close proximity to public transit and easily accessible via Iris Avenue. The project site is currently utilized as a Medical Center, and upon build-out of the proposed project, the site would be utilized as a more enhanced and larger-scale Medical Center. | The project would be consistent with this objective. |
| Policy 6.6.1 | Provide sites for new neighborhood commercial facilities within close proximity to the residential areas they serve. | See Objective 6.6 consistency analysis. | The project would be consistent with this policy. |
| Objective 6.7 | Reduce mobile and stationary source air pollutant emissions. | The project design features and mitigation measures located in Section 4.2, Air Quality, of this EIR would reduce mobile and stationary source air pollutant emissions to a less than significant level. | The project would be consistent with this objective. |
| Policy 6.7.1 | Cooperate with regional efforts to establish and implement regional air quality strategies and tactics. | The project would comply with air quality regulations established by the California Air Resources Board (CARB) and the South Coast Air Quality Management District (SCAQMD). The project would also be consistent with SCAG's 2016 RTP/SCS. Additionally, the project design features and mitigation measures located in Section 4.2 of this EIR would reduce mobile and stationary source air pollutant emissions to a less than significant level. | The project would be consistent with this policy. |
| Policy 6.7.5 | Require grading activities to comply with South Coast Air Quality Management District's Rule 403 regarding the control of fugitive dust. | The project would comply with SCAQMD's regulations pertaining to the control of fugitive dust, including Rule 403. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.7.6 | Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code. | The project would comply with Title 24 of the California Administrative Code. Additionally, Kaiser Permanente will pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. Examples of potential energy-efficient design features include the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. | The project would be consistent with this policy. |
| Objective 6.8 | As feasible given budget constraints, strive to maintain a police force with a ratio of one sworn officer for each 1,000 residents. | See Goal 6.2 consistency analysis. | The project would be consistent with this objective. |
| Policy 6.8.1 | Explore the most effective and economical means of providing responsive and adequate law enforcement protection in the future. | See Goal 6.2 consistency analysis. | The project would be consistent with this policy. |
| Objective 6.9 | Reduce the risk and fear of crime through physical planning strategies that maximize surveillance opportunities and minimize opportunities for crime found in the present and future built environment, and by creating and maintaining a high level of community awareness and support of crime prevention. | The Kaiser Security Department is staffed 24 hours a day, 7 days a week, and provides security services to the existing hospital medical and office building. The Security Department team consists of four full-time employees, and upon project implementation, the team would increase to five employees. As such, the proposed hospital would be adequately staffed with a security team in support of crime prevention. | |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.9.1 | Promote the establishment of neighborhood and business watch programs to encourage community participation in the patrol of neighborhood areas, and increased awareness of any suspicious activity. | The Kaiser Security Department is staffed 24 hours a day, 7 days a week, and provides security services to the existing hospital medical and office building. The Security Department team consists of four full-time employees, and upon project implementation, the team would increase to five employees. As such, the proposed hospital would be adequately staffed with a security team in support of crime prevention and providing increased awareness of potential suspicious activities. | |
| Policy 6.9.2 | Require well-lighted entrances, walkways and parking lots, street lighting in all commercial, industrial areas and multiple-family residential areas to facilitate nighttime surveillance and discourage crime. | The project would include well-lighted entrances, walkways and parking lots, street lighting in all commercial, industrial areas and multiple-family residential areas to facilitate nighttime surveillance and discourage crime. As per standard planning procedure, the plans would be submitted to the city for approval. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 6.10 | Protect life and property from the potential short-term and long-term deleterious effects of the necessary transportation, use, storage treatment and disposal and hazardous materials and waste within the City of Moreno Valley. | Pursuant to the State of California Medical Waste Management Act of 1990, Kaiser will prepare a medical waste management plan for submittal to the Riverside County Department of Environmental Health (SC-HAZ-1). Kaiser Permanente is required to comply with the provisions of the City's Fire Code, the Riverside County Department of Environmental Health, and any additional element as required in the California Health and Safety Code, Article 1, Chapter 6.95 for the business emergency plan. Both the federal and state governments require all businesses that handle more than the specified amount of hazardous materials to submit a business plan to a regulating agency. The hazardous materials business plan will be reviewed and approved by the City's Fire Department and the Riverside County Department of Environmental Health Hazardous Materials Management Division (SC-HAZ-1). | The project would be consistent with this objective. |
| Policy 6.10.1 | Require all land use applications and approvals to be consistent with the siting criteria and other applicable provisions of the adopted Hazardous Waste Management Plan, which is also incorporated into and as part of the General Plan. | See Objective 6.10 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.10.2 | Manage the generation, collection, storage, processing, treatment, transport and disposal of hazardous waste in accordance with provisions of the City of Moreno Valley's adopted Hazardous Waste Management Plan, which is also incorporated into and as part of the General Plan. | See Objective 6.10 consistency analysis. | The project would be consistent with this policy. |
| Objective 6.11 | Maintain an integrated emergency management program that is properly staffed, trained, and equipped for receiving emergency calls, providing initial response, providing for key support to major incidents. | The project would be designed to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. Additionally, the project would comply with applicable requirements for development impact fees that would contribute to the maintenance of public service standards. | The project would be consistent with this objective. |
| Policy 6.11.1 | Respond to any disaster situation in the City to provide necessary initial response and providing for key support to major incidents. | The project would enhance and expand the existing Medical Center's ability to provide key emergency and medical services. | The project would be consistent with this policy. |
| Policy 6.11.2 | Provide emergency first aid treatment when necessary. | The project entails the enhancement and expansion of an existing full-service Medical Center, including an emergency center equipped to provide emergency first aid. | The project would be consistent with this policy. |
| Policy 6.11.3 | Support the maintenance of a trauma center within the City. | The project entails the enhancement and expansion of an existing full-service Medical Center, including emergency trauma center. | The project would be consistent with this policy. |
| Objective 6.16 | Ensure that uses within urbanized areas are planned and designed consistent with accepted safety. | The project wold comply with applicable provisions of both the City's Building and Fire Codes and would be consistent with the requirements of acceptable fire safety, including requirements for smoke detectors, emergency water supply and automatic fire sprinkler systems. | The project would be consistent with this objective. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 6.16.1 | Ensure that ordinances, resolutions and policies relating to urban development are consistent with the requirements of acceptable fire safety, including requirements for smoke detectors, emergency water supply and automatic fire sprinkler systems. | See Objective 6.16 consistency analysis. | The project would be consistent with this policy. |
| Policy 6.16.2 | Encourage the systematic mitigation of existing fire hazards related to land urban development or patterns of urban development as they are identified and as resources permit. | See Objective 6.16 consistency analysis. | The project would be consistent with this policy. |
| Policy 6.16.3 | Ensure that adequate emergency ingress and egress is provided for each development. | The project proposes to enhance and expand an existing full-service Medical Center, including an emergency center. Dedicated emergency ingress and egress would be included in the project plans for each phase. | The project would be consistent with this policy. |
| Objective 6.17 | Provide non-emergency public services provided that such demands do not interfere with fire protection and other emergency services. | See Objective 6.11.1 through 6.11.3 consistency analysis. | The project would be consistent with this objective. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| *Conservation Element* | | | |
| Objective 7.1 | Minimize erosion problems resulting from development activities. | Short -term erosion effects during the construction of each phase of the project would be prevented through required implementation of a SWPPP through compliance with the National Pollutant Discharge Elimination System program and the incorporation of best management practices intended to reduce soil erosion. The SWPPP includes standard construction methods which may include temporary detention basins to control on-site and off-site erosion. The SWPPP is required by the City during plan review and approval of project improvement plans; therefore, with implementation of an approved SWPPP for each project phase, impacts resulting from erosion during construction operations would remain below a level of significance for each phase. | The project would be consistent with this objective. |
| Policy 7.1.1 | Require that grading plans include appropriate and feasible measures to minimize erosion, sedimentation, wind erosion and fugitive dust. | See Objective 7.1 consistency analysis. | The project would be consistent with this policy. |
| Objective 7.2 | Maintain surface water quality and the supply and quality of groundwater. | The project would comply with the permit(s) issued by the Regional Water Quality Control Board for the protection of water quality pursuant to the National Pollutant Discharge Elimination System, as detailed in Section 4.9. | The project would be consistent with this objective. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 7.2.2 | The City shall comply with the provisions of its permit(s) issued by the Regional Water Quality Control Board for the protection of water quality pursuant to the National Pollutant Discharge Elimination System. | See Objective 7.2 consistency analysis. | The project would be consistent with this policy. |
| Objective 7.3 | Minimize the consumption of water through a combination of water conservation and reuse. | The project would pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. The project's energy-efficient design features could include measures such as the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. See Policy 7.3.1 consistency analysis. | The project would be consistent with this objective. |
| Policy 7.3.1 | Require water conserving landscape and irrigation systems through development review. Minimize the use of lawn within private developments, and within parkway areas. The use of mulch and native and drought tolerant landscaping shall be encouraged. | The project would adhere to the Eastern Municipal Water District's Mandatory Water-Efficiency Landscaping Requirements, which would ensure water conservation where practicable. Also, see Objective 7.3 consistency analysis. | The project would be consistent with this policy. |
| Policy 7.3.2 | Encourage the use of reclaimed wastewater, stored rainwater, or other legally acceptable non-potable water supply for irrigation. | See Policy 7.3.1 consistency analysis. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 7.4 | Maintain, protect, and preserve biologically significant habitats where practical, including the San Jacinto Wildlife Area, riparian areas, habitats of rare and endangered species, and other areas of natural significance. | As stated in Section 4.3, the proposed project would have a less than significant impact on biologically sensitive or significant habitats and would have no impact on Special-Status Plants and Wildlife. | The project would be consistent with this objective. |
| Policy 7.4.1 | Require all development, including roads, proposed adjacent to riparian and other biologically sensitive habitats to provide adequate buffers to mitigate impacts to such areas. | See Objective 7.4 consistency analysis. | The project would be consistent with this policy. |
| Policy 7.4.2 | Limit the removal of natural vegetation in hillside areas when retaining natural habitat does not pose threats to public safety. | The project site is not located in a designated hillside area. Furthermore, the proposed project includes the redevelopment and expansion of an existing Medical Center, and would not include the removal of natural habitat or, resultantly, pose a threat to public safety. | The project would be consistent with this policy. |
| Policy 7.4.3 | Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels. | The project site is developed under existing conditions, and includes in-place drainage features originally constructed as part of the existing Kaiser Permanente Medical Center. Impacts to these drainages and other natural courses would be reduced to a less-than-significant level with implementation of the mitigation measures outlined in Section 4.3. | The project would be consistent with this policy. |
| Policy 7.4.5 | The City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multi-species Habitat Conservation Plan. | As outlined in Section 4.3, the project would not conflict with the Western Riverside County Multi-species Habitat Conservation Plan. | The project would be consistent with this policy. |

## Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Objective 7.5 | Encourage efficient use of energy resources. | The project would pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. Examples of energy-efficient design elements that could be implemented as part of the project include; the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. The project would also adhere to the Eastern Municipal Water District's Mandatory Water-Efficiency Landscaping Requirements, which would ensure water conservation where practicable. Also, see Objective 7.3 consistency analysis. | The project would be consistent with this objective. |
| Policy 7.5.1 | Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand. | See Objective 7.5 consistency analysis. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 7.5.2 | Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles. | The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located for a large proportion of Moreno Valley residents as well as easily accessible from public transportation, public walkways and bikeways on Iris Avenue. Additionally, the project's site plans include design features such as campus-wide walkways and bikeways that would encourage energy efficient modes of transportation and decrease single occupancy vehicle trips. | The project would be consistent with this policy. |
| Policy 7.5.3 | Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access. | The project site is surrounded by residential uses to the west, east, and south and is bounded by a major arterial, Iris Avenue, on the southern perimeter. The project would be situated within an area of high transit potential and easily accessible via Iris Avenue. | The project would be consistent with this policy. |
| Policy 7.5.5 | Encourage the use of solar power and other renewable energy systems. | See Objective 7.5 consistency analysis. | The project would be consistent with this policy. |
| Objective 7.6 | Identify and preserve Moreno Valley's unique historical and archaeological resources for future generations. | The project would not impact to Moreno Valley's unique historical and archaeological resources, as detailed in Section 4.4, Cultural Resources, of this EIR. | The project would be consistent with this objective. |
| Policy 7.6.1 | Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value. | See Objective 7.6 consistency analysis. | The project would be consistent with this policy. |

# Table 4.10-1
## Project's Consistency with Applicable City of Moreno Valley General Plan

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 7.6.2 | Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities. | Mitigation measures MM-CUL-1 and MM-CUL-2, included within Section 4.4 of this EIR would appropriately address the inadvertent discovery of any cultural resources during excavation and construction. | The project would be consistent with this policy. |
| Objective 7.7 | Where practical, preserve significant visual features significant views and vistas. | The project site is not within the immediate vicinity of any significant visual features, significant views, or vistas. As discussed in Section 4.1, distant views of mountains in the greater Riverside County are available from public right-of-ways surrounding the project site. While project implementation would modify views in the immediate vicinity of the site, distant views would generally remain intact. Additionally, the project site is not within the immediate vicinity of any designated scenic roadways or corridors. | The project would be consistent with this objective. |
| Policy 7.7.2 | Require new electrical and communication lines to be placed underground. | Electricity to the project site is and would continue to be provided by Southern California Edison. Phase I of the project would require improvements to electrical facilities, as discussed in Section 4.16. In accordance with the City's Municipal Code (9.14.130), any new lines implemented during Phase I would be placed underground. | The project would be consistent with this policy. |
| Policy 7.7.3 | Implement reasonable controls on the size, number and design of signs to minimize degradation of visual quality. | The project would include a uniform sign program to provide access and facilitate emergency response to the project site. The sign program would be reviewed and approved by the City. | The project would be consistent with this policy. |

**Table 4.10-1**
**Project's Consistency with Applicable City of Moreno Valley General Plan**

| Applicable Goal/ Recommendation Number | Goal/Recommendation | Project Analysis | Project Consistency/Inconsistency |
|---|---|---|---|
| Policy 7.7.6 | Minimize the visibility of wireless communication facilities by the public. Encourage "stealth" designs and encourage new antennas to be located on existing poles, buildings and other structures. | Project design would aim to minimize the visibility of wireless communication facilities and would, where possible, integrate new facilities with existing ones. | The project would be consistent with this policy. |
| Objective 7.8 | Maintain an adequate system of solid waste collection and disposal to meet existing and future needs. | As described in Section 4.16, the project would have a less-than-significant impact on waste collection services. | The project would be consistent with this objective. |
| Policy 7.8.1 | Encourage recycling projects by individuals, non-profit organizations, or corporations and local businesses, as well as programs sponsored through government agencies. | The project would comply with state and local laws that pertain to recycling. | The project would be consistent with this policy. |

## Table 4.10-2
## Project's Consistency with Applicable SCAG 2016 RTP/SCS Goals

| Applicable Goal | Project Analysis | Project Consistency/ Inconsistency |
|---|---|---|
| Align plan investments and policies with improving regional economic development and competitiveness. | The project would improve regional economic development and competitiveness through the provision of approximately 4,006 new jobs at the expanded Kaiser Permanente Medical Center. | The project would be consistent with this goal. |
| Maximize mobility and accessibility for all people and goods in the region. | The project would be consistent with the General Plan's land use and zoning designations. The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located residents in the region and easily accessible from public transportation, public walkways and bikeways on Iris Avenue. Additionally, the project's site plans include design features such as campus-wide walkways, bikeways, and an internal traffic circle that would ensure efficient and safe pedestrian, bicycle and vehicular circulation. | The project would be consistent with this goal. |
| Ensure travel safety and reliability for all people and goods in the region. | The project would be consistent with the General Plan's land use and zoning designations. The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located for residents in the region and easily accessible from public transportation, public walkways and bikeways on Iris Avenue. Additionally, the project's site plans include design features such as campus-wide walkways, bikeways, and an internal traffic circle that would ensure efficient and safe pedestrian, bicycle and vehicular circulation. | The project would be consistent with this goal. |
| Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking). | There is a Class II bikeway on Iris Avenue that bounds the southern perimeter of the project site. This bicycle 0route connects with other Class I, II, and III bikeways in the City and when utilized in conjunction with planned on-site bicycle amenities would encourage bicycling as an alternative to single occupant vehicle travel. Additionally, project design features include campus-wide pedestrian walkways with safe and efficient access to the public sidewalk on Iris Avenue as well as to the parking lots/structures. | The project would be consistent with this goal. |
| Actively encourage and create incentives for energy efficiency, where possible. | Kaiser Permanente shall pursue LEED Gold certification or equivalent for the hospital and medical office buildings to embrace technology and the environment. Project design could include energy-efficient measures such as the incorporation of reduced energy demand systems (solar, thermal insulation), utilization of rainwater, recycling of waste, utilization of systems with energy recovery options, prefabrication elements across the project to minimize waste, and consideration of local materials for both landscape and construction. Additionally, the project would adhere to the Eastern Municipal Water District's Mandatory Water-Efficiency Landscaping Requirements, which would ensure water conservation where practicable. | The project would be consistent with this goal. |

**Table 4.10-2**
**Project's Consistency with Applicable SCAG 2016 RTP/SCS Goals**

| Applicable Goal | Project Analysis | Project Consistency/ Inconsistency |
|---|---|---|
| Encourage land use and growth patterns that facilitate transit and active transportation. | The project would be consistent with the General Plan's land use and zoning designations. The project is bordered by a major arterial, Iris Avenue, to the south and is surrounded by single-family homes to the south, west, and east. The existing and expanded Medical Center would be conveniently located for residents in the region and would be easily accessible from the RTA Route 20 bus stop, public walkways and bikeways on Iris Avenue. Additionally, the project's site plans include design features such as campus-wide walkways, bikeways, and an internal traffic circle that would ensure efficient and safe pedestrian, bicycle and vehicular circulation. | The project would be consistent with this goal. |
| Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies. | The project would coordinate with local and regional agencies (including SCAG and WRCOG) to ensure the security of the regional transportation system. | The project would be consistent with this goal. |

**Source:** City of Moreno Valley 2006.

Based on the analysis included in Table 4.10-1 and Table 4.10-2, while the project would result in significant and unavoidable transportation impacts due to regional intersection and roadway segment congestion,  the proposed project would be consistent with the applicable goals and polices outlined in the City's General Plan and the SCAG 2016 RTP/SCS by including feasible mitigation to reduce impacts. As such, the project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be **less than significant**.

## 4.10.5 Mitigation Measures

Impacts associated with land use and planning would be less than significant; as such, no mitigation measures are required.

## 4.10.6 Level of Significance After Mitigation

With implementation of the mitigation measures described above, all impacts associated with land use and planning can be reduced to less than significant levels.

## 4.10.7 References Cited


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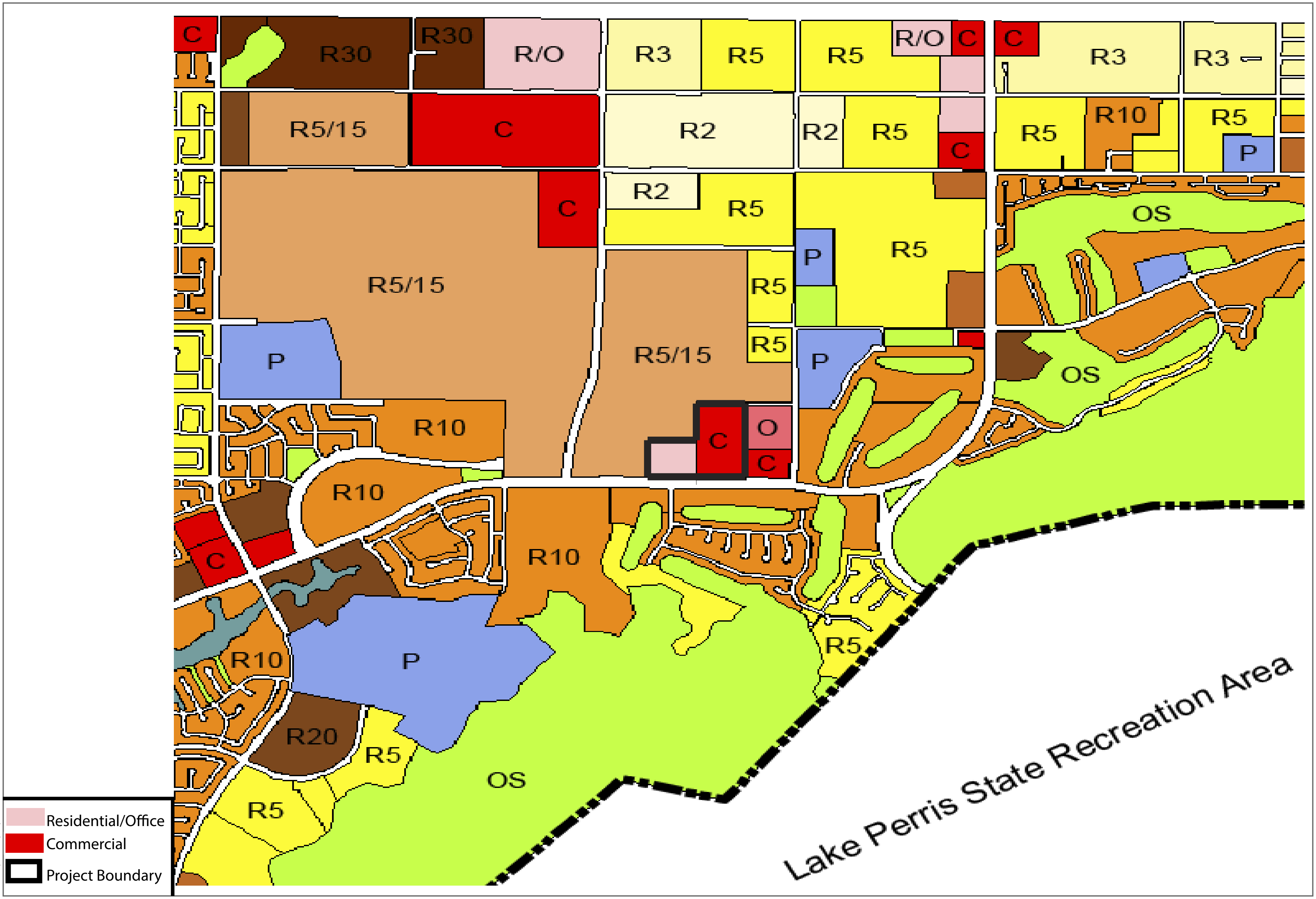


SOURCE: City of Moreno Valley 2017

DUDEK

**FIGURE 4.10-1**

City of Moreno Valley General Plan Land Use Designations

Kaiser Permanente Moreno Valley Medical Center Project EIR

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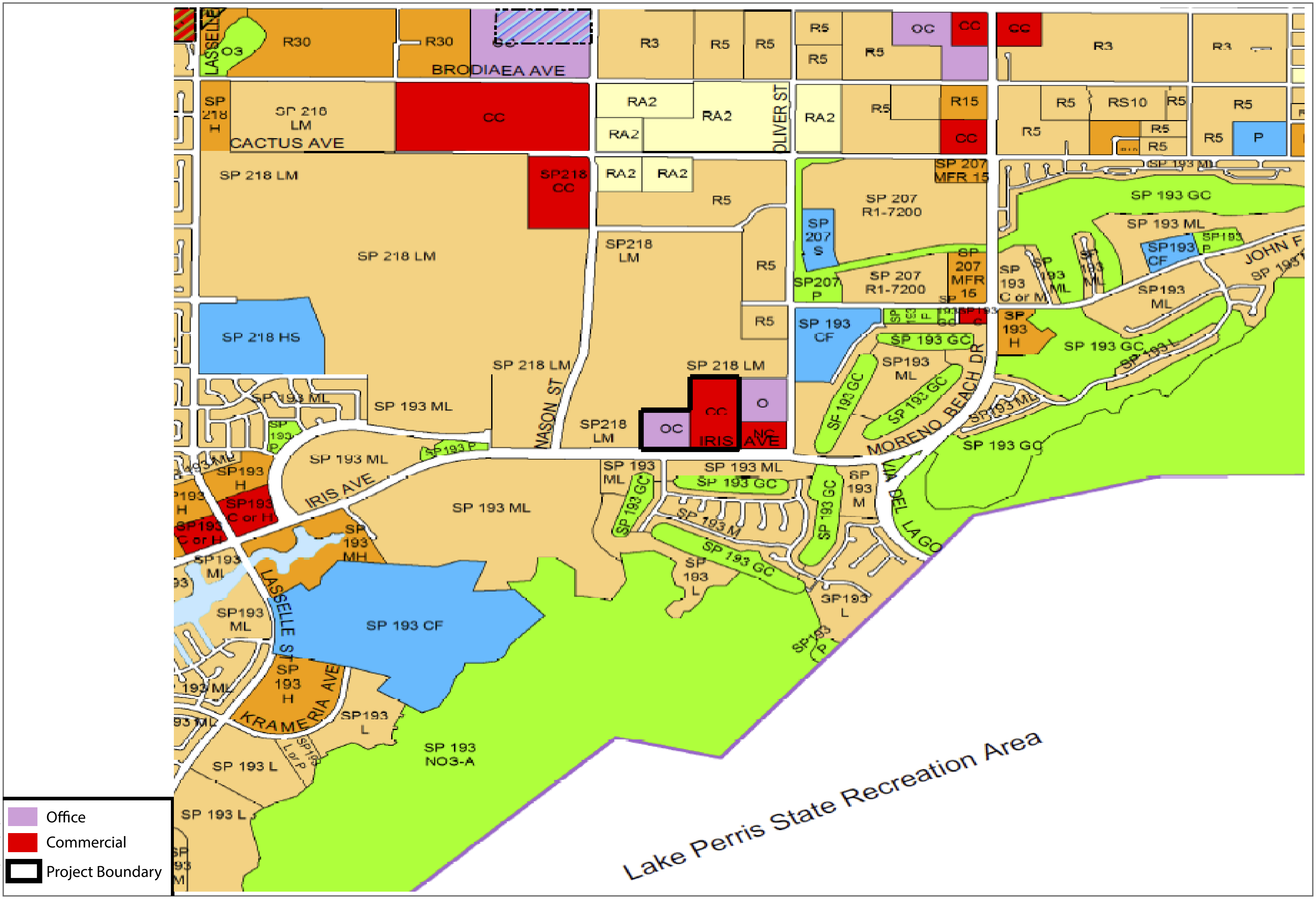


SOURCE: City of Moreno Valley 2015

DUDEK

**FIGURE 4.10-2**

City of Moreno Valley General Plan Zoning

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# 4.11 NOISE

This section describes the existing noise setting of the project site and evaluates potential impacts related to (1) generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and (2) generation of excessive groundborne vibration or groundborne noise levels. This section also evaluates whether the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) would be located within an airport land use plan or within 2 miles of a public airport or private airstrip that would expose people residing or working in the project area to excessive noise levels. This section then identifies mitigation measures related to implementation of the project.

## 4.11.1 Relevant Plans, Policies, and Ordinances

**Federal**

There are no federal noise regulations applicable to the project. However, various federal agencies have established rules and guidelines addressing noise and vibration. For example, the Occupational Safety and Health Administration (OSHA) regulates worker noise exposure in a variety of settings. For noise in the community, and where federal or local regulations may be lacking, the U.S. Environmental Protection Agency (EPA) provides guidance based on its “Levels Document” (EPA 1974), which in summary recommends a public-protecting guideline of 55 dBA day-night sound level ($L_{dn}$) understood to be assessed at the exterior of any existing NSLU where the existing outdoor ambient sound level is not already in excess of this value. NSLUs include but are not limited to residences.

In its *Transit Noise and Vibration Impact Assessment* guidance manual (FTA 2006), the Federal Transit Administration (FTA) offers guidance on the estimation of construction noise levels from a construction project site. It also provides suggested thresholds that include no more than 80 dBA $L_{eq}$ (over an eight-hour period) as received at a residential land use. In the absence of such a quantified limit provided by the City of Moreno Valley (City), this analysis adopts 80 dBA $L_{eq8h}$ for quantitative construction noise impact assessment.

With respect to vibration, the same above-mentioned manual from the FTA provides guidance for the assessment of vibration impacts on people (i.e., potential annoyance), building damage risk, and disruption of vibration-sensitive processes. Vibration impact criteria suggested by the FTA vary both with the frequency of vibration event occurrence and the sensitivity of the building or process that may be exposed to groundborne vibration. By way of example, a modern commercial building constructed from reinforced concrete or steel would have a vibration impact threshold of 0.5 inches per second (ips) peak particle velocity (PPV), while a non-engineered timber or masonry structure more akin to a typical single-family or multifamily residence may have a more stringent

0.2 ips PPV vibration impact criteria against which project-attributed vibration due to construction could be assessed for the nearest such receptors in the surrounding community.

## State

### *Government Code Section 65302(g)*

California Government Code Section 65302(g) requires the preparation of a Noise Element in a general plan, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment.

### *California General Plan Guidelines*

The California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of specific land use types within areas of specific noise exposure. Table 4.11-1 presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. OPR guidelines are advisory in nature. Local jurisdictions, including the City, have the responsibility to set specific noise standards based on local conditions.

**Table 4.11-1**
**Land Use Compatibility for Community Noise Environments**

| | Community Noise Exposure (CNEL) | | | |
|---|---|---|---|---|
| | *Normally Acceptable*[1] | *Conditionally Acceptable*[2] | *Normally Unacceptable*[3] | *Clearly Unacceptable*[4] |
| Residential-low density, single-family, duplex, mobile homes | 50–60 | 55–70 | 70–75 | 75–85 |
| Residential – multiple-family | 50–65 | 60–70 | 70–75 | 70–85 |
| Transit lodging – motel, hotels | 50–65 | 60–70 | 70–80 | 80–85 |
| Schools, libraries, churches, hospitals, nursing homes | 50–70 | 60–70 | 70–80 | 80–85 |
| Auditoriums, concert halls, amphitheatres | NA | 50–70 | NA | 65–85 |
| Sports arenas, outdoor spectators sports | NA | 50–75 | NA | 70–85 |
| Playgrounds, neighborhood parks | 50–70 | NA | 67.5–77.5 | 72.5–85 |
| Golf courses, riding stables, water recreation, cemeteries | 50–70 | NA | 70–80 | 80–85 |
| Office buildings, business commercial and professional | 50–70 | 67.5–77.5 | 75–85 | NA |
| Industrial, manufacturing, utilities, agriculture | 50–75 | 70–80 | 75–85 | NA |

**Source:** OPR 2003.
**Notes:** CNEL = community noise equivalent level; NA = not applicable.
1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
3 Normally Unacceptable: New construction or development should be discouraged. If new construction of development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
4 Clearly Unacceptable: New construction or development should generally not be undertaken.

## Local

### *City of Moreno Valley Noise Ordinance*

The Noise Ordinance included in Chapter 11.80 of the Moreno Valley Municipal Code provides performance standards and noise control guidelines for operational activities and for construction activities, as described below.

### *Operational Noise Standards*

Moreno Valley Municipal Code Section 11.80.030.C, Nonimpulsive Sound Decibel Limits, provides the following restriction:

> No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section

> 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

For industrial and commercial land uses, based on the commercial land use standard of Moreno Valley Municipal Code Table 11.80.030-2, the operational noise level limits are 65 dBA $L_{eq}$ during the daytime hours (8:00 a.m. to 10:00 p.m.) and 60 dBA $L_{eq}$ during the nighttime hours (10:01 p.m. to 7:59 a.m.).

***Construction Noise Standards***

The City Municipal Code has established restrictions on the time of day that construction activities can occur. Moreno Valley Municipal Code Section 11.80.030.D.7, Construction and Demolition, states:

> No person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.

A noise disturbance is defined by the Moreno Valley Municipal Code as any sound which: a) disturbs a reasonable person of normal sensitivities; b) exceeds the sound level limits set forth in Municipal Code Table 11.80.030-2; or c) is plainly audible as defined in Municipal Code Section 11.80.030. Where no specific distance is set forth for the determination of audibility, references to noise disturbance are deemed to mean plainly audible at a distance of 200 feet from the real property line of the source of the sound on private property or from the source of the sound on roads or other publicly owned property.

## 4.11.2 Existing Conditions

The City is subject to typical urban and suburban noises, such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. Noise around the project site is the cumulative effect of noise from transportation activities and stationary sources. "Transportation noise" typically refers to noise from automobile use, trucking, airport operations, and rail operations. "Stationary noise" typically refers to noise from sources such as heating, ventilation, and air-conditioning (HVAC) systems, compressors, landscape maintenance equipment, or machinery associated with local industrial or commercial activities.

The project site is primarily subject to traffic noise associated with Iris Avenue to the south and, secondarily, traffic on Oliver Street, which is approximately 600 feet east of the project site.

Sound may be described in terms of level or amplitude (measured in decibels [dB]), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech interference, sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and local agencies have established criteria to protect public health and safety, to prevent disruption of certain human activities, and to minimize annoyance.

Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise. These descriptors include the equivalent noise level over a given period ($L_{eq}$), the day–night average noise level ($L_{dn}$), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA.

$L_{eq}$ is a sound energy level averaged over a specified time period (usually 1 hour). $L_{eq}$ is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour $L_{eq}$ measurement would represent the average amount of energy contained in all the noise that occurred in that 1 hour. $L_{eq}$ is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors. $L_{max}$ is the greatest sound level measured during a designated time interval or event.

Unlike the $L_{eq}$ metric, $L_{dn}$ and CNEL metrics always represent 24-hour periods, usually on an annualized basis. $L_{dn}$ and CNEL also differ from $L_{eq}$ because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). “Time weighted” refers to the fact that $L_{dn}$ and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. $L_{dn}$ differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. $L_{dn}$ and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 to 1 dB.

Table 4.11-2 represents some typical noise levels found in the existing environment. Noise-sensitive uses near the project site include residential uses, an elementary school, child care centers, and a park.

**Table 4.11-2**
**Typical Sound Levels in the Environment and Industry**

| Common Outdoor Activities | Noise Level (dB) | Common Indoor Activities |
|---|---|---|
| — | 110 | Rock band |
| Jet flyover at 300 meters (1,000 feet) | 100 | — |
| Gas lawn mower at 1 meter (3 feet) | 90 | — |
| Diesel truck at 15 meters (50 feet), at 80 kph (50 mph) | 80 | Food blender at 1 meter (3 feet)<br>Garbage disposal at 1 meter (3 feet) |
| Noisy urban area, daytime<br>gas lawn mower at 30 meters (100 feet) | 70 | Vacuum cleaner at 3 meters (10 feet) |
| Commercial area<br>Heavy traffic at 90 meters (300 feet) | 60 | Normal speech at 1 meter (3 feet) |
| Quiet urban daytime | 50 | Large business office<br>Dishwasher, next room |
| Quiet urban nighttime | 40 | Theater, large conference room (background) |
| Quiet suburban nighttime | 30 | Library |
| Quiet rural night time | 20 | Bedroom at night, concert hall (background) |
| — | 10 | Broadcast/recording studio |
| Lowest threshold of human hearing | 0 | Lowest threshold of human hearing |

**Source:** Caltrans 2013a.
**Notes:** kph = kilometers per hour; mph = miles per hour

Currently, the project site generates noise due to contribution of traffic on existing roadways as well as on-site operation of building HVAC systems and other electro-mechanical equipment. Table 4.11-3 provides the existing daily traffic volumes along the roadway segments that are primarily subject to traffic noise impacts and that have noise-sensitive land uses.

**Table 4.11-3**
**Existing Average Daily Traffic**

| Key Roadway Segment | Existing Traffic Conditions |
|---|---|
| | *Average Daily Volume* |
| 1. Nason St. between Cactus Avenue and Iris Avenue | 11,793 |
| 2. Oliver St. between Cactus Avenue and John F Kennedy Drive | 4,173 |
| 3. Oliver St. between John F Kennedy Drive and Iris Avenue | 2,559 |
| 4. Moreno Beach Dr. between Cactus Avenue and John F Kennedy Drive | 13,620 |
| 5. Moreno Beach Dr. between John F Kennedy Drive and Via Del Lago | 14,627 |
| 6. Cactus Ave. between Lasselle Street and Nason Street | 14,346 |
| 7. John F Kennedy Dr. between Oliver Street and Moreno Beach Drive | 2,623 |
| 8. Iris Ave. between Coachlight Court - Avenida De Circo and Grande Vista Drive | 25,049 |

**Table 4.11-3**
**Existing Average Daily Traffic**

| Key Roadway Segment | Existing Traffic Conditions |
|---|---|
| | *Average Daily Volume* |
| 9. Iris Ave. between Grande Vista Drive and Nason Street – Hillrose Lane | 23,395 |
| 10. Iris Ave. between Nason Street – Hillrose Lane and Driveway 1 | 19,471 |
| 11. Iris Ave. between Driveway 1 and Driveway 2 | 18,623 |
| 12. Iris Ave. between Driveway 2 and Driveway 3 | 16,081 |
| 13. Iris Ave. between Driveway 3 and Oliver Street | 15,484 |
| 14. Iris Ave. between Oliver Street and Via Del Lago | 13,496 |

### *Ambient Noise Measurements*

Noise measurements were conducted on and near the project site in March 2019 to determine the existing noise levels. Table 4.11-4 provides the location, date, and time the noise measurements were taken.

The noise measurements were made using a Soft dB Piccolo Sound Level Meter (Serial Number 140317004) equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute (ANSI) standard for a Type 2 precision sound level meter. The sound level meter was calibrated before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Seven noise measurement locations that represented nearby potential sensitive receptors or sensitive land uses were selected adjacent to or near the project site; these locations are depicted as Short-Term 1–6 (ST1–ST7) on Figure 4.11-1, Noise Measurement and Modeling Locations. Location ST1 was on the south side of Iris Avenue at the northwest corner of residential property 27128 Aria Court, Moreno Valley, California 92555. ST2 was at the northeast corner of Oliver Street and Shellie Way. ST3 was taken on the south side of Iris Avenue at northern property of 27296 Aria Street, Moreno Valley, California 92555. ST4 was taken on hospital driveway at eastern end of main hospital building. ST5 was located at northeast corner of Oliver Street and Filaree Avenue. ST6 was located at western edge of employee parking lot on north side of the main hospital building. ST7 was taken 25’ east of the MRI trailer west of the main hospital building. The measured average noise levels and measurement locations are provided in Table 4.11-4. The primary noise source at ST1, ST, ST3, and ST5 was from traffic along the adjacent roads. The primary noise source at ST4, was from rustling leaves and occasional traffic on driveways. The primary noise source ST6 and ST7 was from HVAC and other Medical Center operations (e.g., elevator power systems).

**Table 4.11-4**
**Measured Outdoor Ambient Noise Levels**

| Receptors | Location/Address | Date | Time | $L_{eq}$ (dBA) | $L_{max}$ (dBA) |
|---|---|---|---|---|---|
| ST1 | 27128 Aria Court, Moreno Valley, California 92555 | March 13, 2019 | 11:06 a.m.–11:21 a.m. | 69.2 | 82.2 |
| ST2 | Northeast corner of Oliver Street and Shellie Way | March 13, 2019 | 12:02 p.m.–12:18 p.m. | 70.6 | 81.7 |
| ST3 | 27296 Aria Street, Moreno Valley, California 92555 | March 13, 2019 | 11:34 a.m.–11:49 a.m. | 69 | 81.4 |
| ST4 | Hospital driveway at eastern end of main hospital building | March 13, 2019 | 12:46 p.m.–1:01 p.m. | 70.4 | 87 |
| ST5 | Northeast corner of Oliver Street and Filaree Avenue | March 13, 2019 | 12:23 p.m.–12:39 p.m. | 71.1 | 85.7 |
| ST6 | Western edge of employee parking lot on north side of the main hospital building | March 13, 2019 | 1:07 p.m.–1:22 p.m. | 65.7 | 82.8 |
| ST7 | 25' east of the MRI trailer west of the main hospital building | March 13, 2019 | 1:30 p.m.–1:31 p.m. | 70.7 | 74.2 |

**Notes:** $L_{eq}$ = equivalent continuous sound level (time-averaged sound level); $L_{max}$ = maximum sound level during the measurement interval.

## 4.11.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and will be used to determine the significance of potential noise impacts. Impacts to noise would be significant if the proposed project would result in:

NOI-1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

NOI-2. Generation of excessive groundborne vibration or groundborne noise levels.

NOI-3. Expose people residing or working in the project area to excessive noise levels (for a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport).

## 4.11.4 Impacts Analysis

***Threshold NOI-1. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

**Project- and Program-Level Elements**

On-site noise-generating activities associated with all phases of the project would include short-term construction as well as long-term operational noise associated with hospital operations, such as noise from emergency vehicles (e.g., ambulance sirens), proposed parking structures and surface parking, and other on-site noise sources (such as emergency standby generators and HVAC equipment). All phases of the project would also generate off-site traffic noise along various roads in the area. In addition, although CEQA does not require analysis of potential impacts on the proposed project, it is noted for informational purposes that the existing and proposed uses on site would be subject to traffic noise from Iris Avenue and Oliver Street.

***Short-Term Construction Noise***

Development activities for project construction would generally involve the following sequence for all phases of the project: (1) site grading, (2) trenching, (3) building construction, (4) architectural coating, and (5) paving. The following are typical types of construction equipment that would be expected:

- Concrete/industrial saws
- Excavators
- Dozers
- Tractors/loaders/backhoes
- Forklifts
- Welders
- Cement and mortar mixers
- Paving equipment
- Trenching equipment
- Off-highway water trucks
- Materials delivery trucks
- Pneumatic tools
- Graders
- Cranes
- Generator sets
- Air compressors
- Pavers
- Scrapers
- Rollers
- Concrete trucks
- Asphalt trucks

As demonstrated by this list, construction equipment anticipated for all phases of project development would include only standard equipment that would be employed for any routine construction project of this scale; construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment) would not be necessary for development of any phase of the project.

Construction noise is difficult to quantify because of the many variables involved, including the specific equipment types, size of equipment used, percentage of time, condition of each piece of equipment, and number of pieces of equipment that will actually operate on the site. The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is depicted in Table 4.11-5. The noise values represent maximum noise generation, or full-power operation of the equipment. As an example, a loader and two dozers, all operating at full power and relatively close together, would generate a maximum sound level of approximately 90 dBA at 50 feet from their operations. In addition, typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. The average noise level during construction activities is generally lower (typical levels of approximately 88 dBA $L_{eq}$ at a distance of 50 feet), since maximum noise generation may only occur up to 50% of the time.

**Table 4.11-5**
**Construction Equipment Noise Emission Levels**

| Equipment | Typical Sound Level (dBA) 50 Feet from Source |
|---|---|
| Air compressor | 81 |
| Backhoe | 80 |
| Compactor | 82 |
| Concrete mixer | 85 |
| Concrete pump | 82 |
| Concrete vibrator | 76 |
| Crane, mobile | 83 |
| Dozer | 85 |
| Generator | 81 |
| Grader | 85 |
| Impact wrench | 85 |
| Jackhammer | 88 |
| Loader | 85 |
| Paver | 89 |
| Pneumatic tool | 85 |
| Pump | 76 |
| Roller | 74 |
| Saw | 76 |
| Truck | 88 |

**Source:** FTA 2006.

The nearest off-site sensitive receptors to the project would be the residential area to the south which would experience noise during construction work happening near the southern project boundary. Noise levels generated by construction equipment (or by any point source) decrease at a rate of approximately 6 dBA per doubling of distance from the source (Caltrans 2009). Therefore, if a particular construction activity generated average noise levels of 88 dBA at 50 feet, the $L_{eq}$ would be 82 dBA at 100 feet, 76 dBA at 200 feet, 70 dBA at 400 feet, and so on. Intervening structures that block the line of sight, such as buildings, would further decrease the resultant noise level by a minimum of 5 dBA. The effects of molecular air absorption and anomalous excess attenuation would reduce the noise level from construction activities at more distant locations at the rates of 0.7 dBA and 1.0 dBA per 1,000 feet, respectively.

The closest point of construction activities to the nearest noise-sensitive receivers would be approximately 175 feet when construction is occurring on the southern boundary of the project site. The furthest would be approximately 1,600 feet. The nearest noise-sensitive receivers are located approximately 530 feet away from the acoustic center of construction activity (the idealized point from which the energy sum of all construction activity noise near and far would be centered). Usage of such an acoustic center-point to represent a singular origin for construction noise emission from most or all expected equipment on site is consistent with the FTA “general assessment” guidance for estimating such noise when the exact locations of equipment or activities may not yet be fully defined. Further, most construction equipment (particularly vehicles and self-propelled equipment) working a site tend to move to different locations within a defined zone, which changes the source-to-receptor distance at any moment within a longer assessment duration. A construction noise level of 88 dBA $L_{eq}$ at 50 feet would attenuate to approximately 68 dBA $L_{eq}$ at 530 feet from the source. This noise level is lower than the typical ambient daytime noise levels measured in the area. During short periods of time, construction activities would take place as close as 175 feet of the nearest residential properties; during these periods, noise levels could be as high as 75 dBA $L_{eq}$.

The noise levels from the construction equipment to nearby sensitive receptors would be nominal given the distance between the construction activity area and high existing ambient noise level occurring along nearby roadways. The estimated construction noise levels at nearby noise-sensitive land uses are summarized in Table 4.11-6. For purposes of “worst-case” conservatism, Table 4.11-6 shows the predicted construction noise levels for each phase at both the closest-possible distance (175 feet between the construction area boundary and the nearest receptor) and the acoustic center-point distance (530 feet). The former considers the possibility that a cluster of equipment may be proximate—albeit temporarily—to the nearest noise-sensitive receptor.

**Table 4.11-6**
**Construction Noise Modeling Summary Results**

| Construction Phase | $L_{eq}$ (dBA) | |
|---|---|---|
| *Phase I* | *Nearest Receiver 175'* | *Acoustical Center 530'* |
| Demolition | 73 | 64 |
| Site Preparation | 75 | 66 |
| Grading | 75 | 66 |
| Building Construction | 71 | 63 |
| Paving | 72 | 63 |
| Trenching (on-site utilities) | 71 | 62 |
| Architectural Coating | 66 | 56 |
| *Phase II* | *Nearest Receiver 175'* | *Acoustical Center 530'* |
| Demolition | 71 | 61 |
| Site Preparation | 73 | 64 |
| Grading | 75 | 66 |
| Building Construction | 73 | 66 |
| Paving | 72 | 63 |
| Trenching (on-site utilities) | 71 | 62 |
| Architectural Coating | 66 | 56 |
| *Phase III* | *Nearest Receiver 175'* | *Acoustical Center 530'* |
| Demolition | 74 | 67 |
| Site Preparation | 73 | 64 |
| Grading | 75 | 66 |
| Building Construction | 74 | 65 |
| Paving | 72 | 63 |
| Trenching (on-site utilities) | 72 | 62 |
| Architectural Coating | 66 | 56 |

The City regulates construction noise by restricting the allowable hours of construction. As required by Section 11.80.030.D.7 of the City's Municipal Code, no person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound therefrom creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. Construction activity on the project site would be required to and would comply with the City's limits on hours of construction, and would thus not take place outside the hours as noted above. Construction work would be intermittent and temporary and would require minimal ground disturbance.

Table 4.11-6 shows that the predicted construction noise for any listed phase does not exceed the FTA's general assessment guidance metric of 80 dBA $L_{eq8h}$. Nevertheless, to help ensure construction activity noise is adequately controlled and/or abated and results in actual noise exposures at nearby noise-sensitive receivers that are consistent with predicted levels presented in Table 4.11-6, Kaiser Permanente shall incorporate two construction noise mitigation measures (MM-NOI-1 and MM-NOI-2) as outlined in Section 4.11.5, Mitigation Measures. Furthermore, construction activities would be short-term, and would cease upon construction completion. Therefore, short-term construction noise from on-site sources would be **less than significant with mitigation**.

Although these construction activities would entail workers commuting to and from the jobsite, and involve regular deliveries of materials and equipment, such additional roadway vehicle trips would not be expected to increase local traffic volumes by an amount that would be considered impactful. For perspective, a doubling of roadway traffic volumes, assuming vehicle speeds and types are relatively unchanged, would be required to cause a just-perceptible 3 dB noise increase. Therefore, short-term construction noise due to increases in local roadway traffic would be **less than significant**.

***Operational Noise Impact***

Long-term operational noise associated with hospital operations includes noise from emergency vehicles (e.g., ambulance sirens), proposed parking structures and surface parking, and other on-site noise generators (such as emergency standby generators and HVAC equipment). Long-term operational noises also include project-generated traffic and overall traffic noise at the site.

<u>Emergency Vehicle Noise</u>

Emergency vehicle visits to the hospital would create a source of noise. The frequency of emergency vehicle visits, and therefore the use of sirens, is not dictated by the number of hospital beds, but rather by the emergency room capacity. Currently, there is no way to predict medical emergencies that require visits of emergency vehicles and the associated noise at the site. During field noise measurements for another hospital project (Riverside Community Hospital) on July 2, 2013, noise from an ambulance using the siren was measured. The loudest noise level measured at a distance of approximately 130 feet from the measurement location was 89.5 dBA $L_{max}$. Noise from emergency vehicle sirens would be relatively brief and periodic in nature and would cease once the emergency vehicles either enter or exit the area. Further, Section 11.80.030.E.1 of the City Municipal Code exempts "sounds resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of an emergency." Therefore, impacts from increased emergency vehicle use would be **less than significant**, and no mitigation is required**.**

<u>Proposed Parking Structures and Surface Parking Noise</u>

Traffic associated with the proposed parking structures (currently planned as part of Phases II and III) and surface parking noise would not be of sufficient volume to exceed community noise standards based on a time-averaged scale such as CNEL or $L_{eq}$ (Mestre Greve Associates 2011). However, the instantaneous maximum sound levels generated by a car door slamming, an engine starting up, or cars passing by could be annoying at times to the nearest noise-sensitive land uses (residences located south of Iris Avenue). Other noise generated by parking activities is an instantaneous rather than a steady noise level. Therefore, $L_{max}$ is the most appropriate noise metric applicable to parking activities. Table 4.11-7 provides estimates of the maximum noise levels associated with common parking lot activities. The noise levels are presented at a distance of 50 feet from the source and represent the maximum noise level generated. A range is given to reflect the variability of noise generated by various automobile types and driving styles.

**Table 4.11-7**
**Typical Noise Levels Resulting from Parking Lot Activities**

| Event | Maximum Noise Level at 50 Feet (dBA $L_{max}$) |
|---|---|
| Door slamming | 60–70 |
| Engine starting up[a] | 60–70 |
| Car passing by[b] | 55–70 |

**Source:** Mestre Greve Associates 2011.
a Higher values from poor muffler systems.
b Typical values were in the low 60s.

Surface parking lots are proposed as part of Phases I, and II of the project, and parking structures are proposed as part of Phases II and III. At a distance of 175 feet (the nearest distance from a parking area to residences), the noise levels from parking lot activities would be reduced by approximately 10 dBA from those shown above. Thus, noise levels would range from approximately 45 dBA $L_{max}$ to 60 dBA $L_{max}$. These noise levels, while audible, would generally be very brief and are not louder than measured ambient noise levels in the project area, as shown in Table 4.11-4. Potential noise impacts from parking structures or surface parking are considered to be **less than significant**.

On-Site Noise Generators

Anticipated new on-site stationary operating mechanical equipment that are typical major producers of outdoor noise include cooling towers, emergency generators, rooftop air handling units (AHU), and rooftop exhaust fans. Although final project design details are still under development, the rooftop AHU would likely be located on the top of proposed new patient bed towers and medical office buildings and surrounded by rooftop parapet walls; thus, noise-sensitive receivers in the community would unlikely have a direct view of them. Specific details (sizes, manufacturers, and models) of these and other equipment have not been finalized; however, Table 4.11-8 provides a summary of the anticipated major stationary producers of outdoor noise for each identified phase of the proposed project.

**Table 4.11-8**
**Anticipated Stationary Operating Sources of Outdoor Noise by Project Phase**

| Project Feature | Operating during Phase(s) | Description of Sound Source | Estimated Noise Level (dBA $L_{eq}$)[A] | Height above Grade (feet) |
|---|---|---|---|---|
| Central Utilities Plant (CUP) | Existing Conditions (EC), Phase 1 (Ph1), Phase 2 (Ph2) | Aggregate of mechanical equipment, measured at a distance of 85 feet to the west of the building | 88 | 10 |
| Magnetic Resonance Imaging (MRI) Trailer | EC, Ph1, Ph2 | Pair of air conditioning units installed on the eastern side of the trailer, measured at a distance of 25 feet | 87 | 10 |
| Energy Center – Cooling Tower Yard | Ph1, Ph2, Phase 3 (Ph3) | Three (3) outdoor induced-draft cooling towers serving chillers within building | 96 | 12 |
| Energy Center – Emergency Generator Yard | Ph1, Ph2, Ph3 | Muffled exhausts[B] and air intakes from one (1) 1-megawatt (MW) reciprocating engine generator set (genset), and one (1) 2-MW genset | 105 | 20 |
| New North Patient Bed Tower | Ph2, Ph3 | Combination of rooftop AHU[C] and exhaust ventilation fan(s)[D] | 91-92 | 5 feet above top of roof |
| New East Patient Bed Tower | Ph2, Ph3 | Combination of rooftop AHU[C] and exhaust ventilation fan(s)[D] | 91-92 | 5 feet above top of roof |
| New South Patient Bed Tower | Ph3 | Combination of rooftop AHU[C] and exhaust ventilation fan(s)[D] | 91-92 | 5 feet above top of roof |
| New West Patient Bed Tower | Ph3 | Combination of rooftop AHU[C] and exhaust ventilation fan(s)[D] | 91-92 | 5 feet above top of roof |

[A] Sound pressure level (SPL) distance-adjusted to a reference distance of one meter (approximately 3 feet). Indicated SPL are from field-collected data or estimated via algorithms and reference data provided in *Engineering Noise Control* (Bies and Hansen 1996).

[B] Analysis assumes at least 17 dBA of reduction provided by exhaust gas muffler or alternate treatment.

[C] Analysis assumes at least 90,000 cubic feet per minute (CFM) of intake airflow at 2.5 inches water gauge (iwg) provided by plenum-type centrifugal "return" fans. Chilled and hot water piped to unit from CUP or Energy Center. Noise from "supply" fans assumed to be adequately attenuated within AHU cabinet. Minimum outdoor air intake and ventilation quantities based on medical function of interior spaces and indoor air quality standards per ASHRAE Standards 62-1989 or 62.1-2012.

[D] Analysis assumes at least 90,000 cubic feet per minute (CFM) of exhaust airflow at 2.5 inches water gauge (iwg) provided by tubeaxial-type fans.

The existing Central Utilities Plant and proposed Energy Center also contain within their building shells a variety of additional equipment that include pumps, chillers, boilers, and hot water heaters, among others. Because these equipment are indoors and enclosed by their respective host buildings, their interior-to-exterior noise emission should be reduced by the net sound transmission loss of the exterior assemblies and sound-attenuated penetrations (e.g., acoustical louvers on building air intakes) so as to render them less than significant contributors to the future outdoor ambient sound environment.

As the existing hospital currently operates 24-hours per day, and the proposed added facilities will also operate 24 hours a day to serve the needs of its patients and the surrounding community, aggregate noise level from the major stationary operating equipment sources shown in Table 4.11-8 was predicted, by phase, at the nearest and/or representative noise-sensitive receptors, as shown in Table 4.11-9. At night, the maximum allowed sound emission from non-impulsive stationary sources like mechanical equipment is 60 dBA.

**Table 4.11-9**
**Predicted Noise Emission from On-Site Operating Stationary Equipment**

| Identification Tag | Location Description | Existing Conditions (EC) dBA $L_{eq}$ | Phase 1 (Ph1) dBA $L_{eq}$ | Phase 2 (Ph2) dBA $L_{eq}$ | Phase 3 (Ph3) dBA $L_{eq}$ |
|---|---|---|---|---|---|
| ST1 | Baseline field survey position: approximately 50 feet north of Arla Court *cul de sac* | 36.5 | 40.8 (37.2)* | 40.8 (33.7)* | 40.2 (34.5)* |
| ST3 | Baseline field survey position: approximately 200 feet south of southern project property line | 43.3 | 45.6 (43.6)* | 47.1 (45.8)* | 46.4 (44.8)* |
| PLA | Approx. 400 feet north of the existing Medical Office Building northern façade, and approx. 350 feet northwest of the CUP | 47.2 | 57.5 (47.4)* | 51.2 (50.2)* | 50.9 (49.8)* |
| PLB | Approx. 200 feet west of the property's northern boundary | 41.9 | 56.8 (42.5)* | 49.0 (47.5)* | 48.3 (46.4)* |
| PLC | Approx. 200 feet north of the property's northern boundary | 25.8 | 57.5 (35.2)* | 57.5 (38.2)* | 57.8 (45.9)* |
| PLD | Approx. 200 feet north of the property's northern boundary | 25.8 | 60.0 (37.3)* | **60.2** (46.0)* | **60.3** (48.6)* |
| PLE | Approx. 200 feet north of the property's northeast corner | 25.4 | **61.6** (53.3)* | **61.7** (53.9)* | **61.7** (53.9)* |
| PLF | Approx. 200 feet east of the property's northeast corner | 26.6 | **63.6** (55.1)* | **63.6** (55.1)* | **63.6** (55.1)* |
| PLG | Approx. 200 feet east of the property's eastern boundary | 28.3 | **66.5** (57.0)* | **66.6** (57.4)* | **66.6** (57.4)* |
| PLH | Approx. 200 feet east of the property's eastern boundary | 29.4 | 57.5 (47.3)* | 57.5 (47.5)* | 57.5 (47.5)* |

* predicted level in parentheses is when NEC emergency generators are offline. **Bold** values indicate nighttime noise limit exceedance.

Table 4.11-9 shows that for each of the three studied proposed project phases, predicted potential aggregate noise emissions from the major stationary operating equipment would be compliant with the City's nighttime requirement at a distance of 200 feet from the project's property line, except when the emergency generators associated with the Energy Center are operating under non-emergency conditions. Such "non-emergency" conditions typically include regular testing of the generators to help ensure they will operate as expected during actual emergencies. During actual emergencies, noise from generator operation and other equipment would be exempt per the Section 11.80.030.E.2 of the City's noise ordinance. Hence, to keep emergency generator noise levels compliant for these isolated non-emergency operation cases, this analysis recommends implementation of mitigation measure MM-NOI-3. Further, given that final design details relating to major onsite stationary noise-producing equipment shown in Table 4.11-8, and on which the predicted results summarized in Table 4.11-9 are based, are still in development, this analysis also recommends implementation of MM-NOI-4. With the inclusion of MM-NOI-3 and MM-NOI-4, on-site noise related to all phases of the project would meet the City's noise standards and would be **less than significant with mitigation.**

### *Off-Site Traffic Noise*

The project would generate traffic along adjacent roads including Iris Avenue and Oliver Street. The City does not have a specific noise criterion for evaluating off-site noise impacts to residences or noise-sensitive areas from project-related traffic. For the purposes of this noise study, such impacts are considered significant when they cause an increase of 5 dB from existing noise levels. An increase or decrease in noise level of at least 5 dB is required before any noticeable change in community response would be expected. Therefore, a clearly perceptible increase (+5 dB) in noise exposure of sensitive receptors could be considered significant.

The existing plus project traffic noise is shown for each phase in Tables 4.11-10 through 4.11-14 below. As shown, existing plus project traffic would generate a noise level increase of 2 dB CNEL or less (rounded to whole numbers) along the studied roads in the vicinity of the site in each of the three project phases, including at full buildout. The noise level increases associated with the additional traffic volume are shown in Tables 4.11-10 through 4.11-14. Because the additional traffic volume along the adjacent roads would not increase the existing noise level in the project vicinity by 5dB, impacts from traffic noise level increase is considered **less than significant**; no mitigation measures are required**.**

**Table 4.11-10**
**Project-Related Traffic Noise: Existing + Project**

| Modeled Receptor | Key Roadway Segment | Existing Noise Level (dBA CNEL) | Existing + Project Noise Level | Noise Level Increase |
|---|---|---|---|---|
| | | | *(dBA CNEL)* | *(dB)* |
| ST1 - Residences southwest of Site | Iris Avenue | 68.3 | 69.8 | 1.5 |
| ST2 – Residences east of site | Oliver Street | 64.8 | 65.6 | 0.8 |
| ST3 - Residences south of site | Iris Avenue | 67.1 | 68 | 0.9 |
| ST4 - On-site | Oliver Street | 48.5 | 49.6 | 1.1 |
| ST5 - Residences northeast of site | Oliver Street | 61.6 | 62.7 | 1.1 |
| ST6 - On-site | Iris Avenue | 51.3 | 52.4 | 1.1 |
| M1 - On-site | Iris Avenue | 52.8 | 53.8 | 1 |
| M2 - On-site | Iris Avenue | 63.1 | 64.4 | 1.3 |
| M3 - On-site | Iris Avenue | 62.5 | 63.6 | 1.1 |

**Table 4.11-11**
**Project-Related Traffic Noise: Phase I**

| Modeled Receptor | Key Roadway Segment | Phase I - No Project (dBA CNEL) | Phase I - with Project (dBA CNEL) | Noise Level Increase (dB) |
|---|---|---|---|---|
| ST1 - Residences southwest of Site | Iris Avenue | 69.1 | 69.2 | 0.1 |
| ST2 – Residences east of site | Oliver Street | 65.3 | 64.8 | N/A |
| ST3 - Residences south of site | Iris Avenue | 67.9 | 68 | 0.1 |
| ST4 - On-site | Oliver Street | 49.3 | 49.4 | 0.1 |
| ST5 - Residences northeast of site | Oliver Street | 62.1 | 62.3 | 0.2 |
| ST6 - On-site | Iris Avenue | 52.1 | 52.2 | 0.1 |
| M1 - On-site | Iris Avenue | 53.6 | 53.7 | 0.1 |
| M2 - On-site | Iris Avenue | 64 | 64 | 0 |
| M3 - On-site | Iris Avenue | 63.4 | 63.4 | 0 |

**Table 4.11-12**
**Project-Related Traffic Noise: Phase II**

| Modeled Receptor | Key Roadway Segment | Phase II - No Project (dBA CNEL) | Phase II - with Project (dBA CNEL) | Noise Level Increase (dB) |
|---|---|---|---|---|
| ST1 - Residences southwest of Site | Iris Avenue | 70.3 | 70.8 | 0.5 |
| ST2 – Residences east of site | Oliver Street | 65.6 | 66.1 | 0.5 |
| ST3 - Residences south of site | Iris Avenue | 69.1 | 69.5 | 0.4 |
| ST4 - On-site | Oliver Street | 50.5 | 50.9 | 0.4 |
| ST5 - Residences northeast of site | Oliver Street | 63.1 | 63.5 | 0.4 |
| ST6 - On-site | Iris Avenue | 53.3 | 53.7 | 0.4 |
| M1 - On-site | Iris Avenue | 54.9 | 55.2 | 0.3 |
| M2 - On-site | Iris Avenue | 65.2 | 65.6 | 0.4 |
| M3 - On-site | Iris Avenue | 64.6 | 65 | 0.4 |

**Table 4.11-13**
**Project-Related Traffic Noise: Phase III**

| Modeled Receptor | Key Roadway Segment | Phase III - No Project (dBA CNEL) | Phase III - with Project (dBA CNEL) | Noise Level Increase (dB) |
|---|---|---|---|---|
| ST1 - Residences southwest of Site | Iris Avenue | 70.9 | 71.8 | 0.9 |
| ST2 – Residences east of site | Oliver Street | 66.1 | 66.7 | 0.6 |
| ST3 - Residences south of site | Iris Avenue | 69.8 | 70.3 | 0.5 |
| ST4 - On-site | Oliver Street | 51.1 | 51.7 | 0.6 |
| ST5 - Residences northeast of site | Oliver Street | 63.5 | 64.1 | 0.6 |
| ST6 - On-site | Iris Avenue | 53.9 | 54.6 | 0.7 |

**Table 4.11-13**
**Project-Related Traffic Noise: Phase III**

| Modeled Receptor | Key Roadway Segment | Phase III - No Project (dBA CNEL) | Phase III - with Project (dBA CNEL) | Noise Level Increase (dB) |
|---|---|---|---|---|
| M1 - On-site | Iris Avenue | 55.5 | 56.1 | 0.6 |
| M2 - On-site | Iris Avenue | 65.8 | 65.5 | N/A |
| M3 - On-site | Iris Avenue | 65.2 | 65.8 | 0.6 |

**Table 4.11-14**
**Project-Related Traffic Noise: Year 2040**

| Modeled Receptor | Key Roadway Segment | Year 2040 - No Project (dBA CNEL) | Year 2040 - with Project (dBA CNEL) | Noise Level Increase (dB) |
|---|---|---|---|---|
| ST1 - Residences southwest of Site | Iris Avenue | 71.1 | 71.9 | 0.8 |
| ST2 – Residences east of site | Oliver Street | 66.2 | 66.8 | 0.6 |
| ST3 - Residences south of site | Iris Avenue | 70 | 70.5 | 0.5 |
| ST4 - On-site | Oliver Street | 51.3 | 51.9 | 0.6 |
| ST5 - Residences northeast of site | Oliver Street | 63.6 | 64.2 | 0.6 |
| ST6 - On-site | Iris Avenue | 54.2 | 54.8 | 0.6 |
| M1 - On-site | Iris Avenue | 55.7 | 56.3 | 0.6 |
| M2 - On-site | Iris Avenue | 66 | 66.7 | 0.7 |
| M3 - On-site | Iris Avenue | 65.5 | 66 | 0.5 |

***Threshold NOI-2. Would the project result in exposure to or generation of excessive groundborne vibration or groundborne noise levels?***

## Project- and Program-Level Elements

Construction activities that might expose people to excessive (i.e., annoying) groundborne vibration or groundborne noise could cause a potentially significant impact. Groundborne vibration information related to construction activities has been published by Caltrans and the FTA (in its afore-mentioned guidance manual on transit noise and vibration impact assessment, which includes a chapter on construction activity vibration). Information from Caltrans indicates that transient vibrations (such as a clamshell drop or other singular event during a typical day of construction activity) of approximately 0.035 ips PPV may be characterized as barely perceptible, and vibration levels of 0.24 inch per second PPV may be characterized as distinctly perceptible. For continuous sources of vibration, corresponding with regular movements of construction equipment across the construction site and their performance of tasks that may cause repeated loads or impacts on the ground surface, Caltrans guidance indicates that 0.1 ips PPV is a vibration velocity level sufficient to "begin to annoy" occupants of structures (Caltrans 2013b).

Heavier pieces of construction equipment and vehicles expected to be used at the project site could include dozers, graders, cranes, loaded trucks, water trucks, rollers, and pavers. FTA guidance indicates that the reference vibration velocity levels from these types of conventional construction equipment ranges from 0.076 ips PPV to 0.21 ips PPV at a distance of 25 feet from the source (FTA 2006). Similar to airborne sound propagation, groundborne vibration energy typically attenuates rapidly over short distances as it radiates away from the source point and encounters discontinuities in soil and rock strata along the path of travel to a receptor. The closest homes exposed to groundborne vibration would be approximately 175 feet or more from the construction area. At this closest source-to-receptor distance, and assuming an on-site roller (0.21 ips PPV) represents the most vibratory conventional heavy equipment expected on site, the estimated PPV at the sensitive receiver would be 0.025 ips PPV and thus well below the 0.1 ips PPV annoyance-based impact criterion. Therefore, construction activities are not anticipated to result in continuous vibration levels that typically annoy people. Vibration impacts would be **less than significant,** and no mitigation is required.

***Threshold NOI-3.*** ***Would the project expose people residing or working in the project area to excessive noise levels (for a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport)?***

**Project- and Program-Level Elements**

The project site is not located within 2 miles of a public airport or public use airport or within an airport safety zone area. The closest airport, March Air Reserve Base, is located approximately 3.40 miles west of the project site. The project site does not lie within the 60 dBA CNEL noise contour of any airport and is not subject to aircraft noise in excess of regulatory limits. Therefore, the project would not expose people residing or working in the project area to excessive noise levels. **No impact** would result, and no mitigation is required**.**

## 4.11.5 Mitigation Measures

**MM-NOI-1** Prior to grading permit issuance, and to help ensure construction noise levels at community noise-sensitive receptors (e.g., residences) are compliant with City of Moreno Valley (City) requirements and adopted Federal Transit Administration guidance, the applicant or its construction contractor(s) shall implement the following:

- Construction noise reduction methods such as shutting off idling equipment, and usage of electric-driven air compressors and similar power tools in lieu of diesel-powered equipment, shall be applied where feasible.

- During construction, stationary operating construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors. When increased distance cannot be used to help reduce noise exposure at a sensitive receptor due to loud operation of stationary equipment, apply feasible on-site noise attenuation measures that may include temporary noise barriers (e.g., acoustical blankets or field-erected wooden walls) or the placement of on-site tanks, containers, or trailers so that direct noise source-to-receptor path(s) are occluded.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors while being located on the project site or on existing developed areas.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary. In the event the City receives a complaint, appropriate response (that may include corrective actions, as warranted by investigation of the received complaint and determination of noise exceedance) shall be implemented and a report of the response and/or action provided to the reporting party in a reasonable timeframe.

**MM-NOI-2** The construction contractor shall require that all construction equipment be operated with original factory-installed or factory-approved noise control equipment (e.g., exhaust mufflers and silencers, intake filters, and engine shrouds as appropriate) that is properly installed and in good working order. Enforcement shall be accomplished via field inspections by applicant or third-party personnel during construction activities to the satisfaction of the City of Moreno Valley Engineering Department.

**MM-NOI-3** The applicant shall require that the combined outdoor noise emission from operation of the two emergency generators (i.e., 1 x 1-MW and 1 x 2-MW gensets), including sound attenuated exhaust and casing radiated (and any air intakes or heat discharge) would not exceed 55 dBA $L_{eq}$ at a distance of 200 feet. Achievement of this acoustical performance metric shall be demonstrated either by on-site field noise testing or via engineering specifications (e.g., expected sound pressure levels at a defined distance from the equipment) provided by the equipment supplier and/or manufacturer and disclosed as part of the final project design (and reviewed by a qualified acoustical consultant) prior to equipment submittal approval and project construction.

**MM-NOI-4** The applicant shall require that when project design details are finalized, and prior to submission of the final project design to the City, an acoustical analysis of aggregate project operation noise from expected stationary sources of sound emission (e.g., HVAC systems) shall be conducted or reviewed by a qualified acoustical consultant (e.g., Institute of Noise Control Engineering [INCE] Board Certified Member or as otherwise approved by the City of Moreno Valley). Using reference sound level data provided by (and thus the responsibility of) equipment suppliers as part of the modeling input parameters, this predictive analysis shall evaluate aggregate noise levels from these stationary sound sources at the same assessment positions per each of three project phases as appearing in Table 4.11-9. The results of this acoustical analysis shall be summarized in a concise report, and include descriptions of equipment noise control, sound transmission path abatement, and other conditions as reflected by the final project design submitted to the City that contribute to expected attainment of noise levels that are compliant with applicable daytime and nighttime thresholds at these positions. This analysis shall be performed to include two operation noise scenarios per phase: with and without operation of the proposed emergency generators.

## 4.11.6 Level of Significance After Mitigation

With proper incorporation and implementation of the above-listed mitigation measures, construction and operations-related noise attributed to the project should be reduced to levels and corresponding impacts that are considered **less than significant**.

## 4.11.7 References Cited

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SOURCE: Bing Maps 2019

DUDEK

0 250 500 Feet

**FIGURE 4.11-1**

Noise Measurement and Modeling Locations

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# 4.12 POPULATION AND HOUSING

This section describes the existing setting of the project site, identifies regulatory requirements associated with population and housing, and evaluates potential impacts related to implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The analysis in this section is based on a review of existing resources and applicable laws, regulations, and guidelines. The information presented in this section was collected from a number of publicly available sources, including the City of Moreno Valley (City) General Plan.

## 4.12.1 Relevant Plans, Policies, and Ordinances

### Federal

There are no federal plans, policies or ordinances pertaining to population and housing that are applicable in the context of the proposed project.

### State

#### *California Department of Housing and Community Development*

State Housing Element Law (California Government Code Section 65580 et seq.) requires local government plans to address the existing and projected housing needs of all economic segments of the community through the housing elements of their general plan. The housing element is one of seven state-mandated elements that every general plan must contain, and it is required to be updated every 8 years and determined legally adequate by the state. The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the Housing Element defines the related policies and programs that the community will be implemented to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Sustainable Communities Strategy (SCS).

### Regional

#### *Southern California Association of Governments*

Southern California Association of Governments (SCAG) is the federally designated Metropolitan Planning Organization for six counties in Southern California: Ventura, Orange, San Bernardino, Riverside, Imperial, and Los Angeles. SCAG develops plans for transportation, growth management, and hazardous waste management, and develops a regional growth forecast, which forms the foundation for SCAG's regional plans and regional air quality plans developed by the South Coast Air Quality Management District (SCAQMD).

SCAG prepares several plans to analyze and address regional growth, including the Regional Comprehensive Plan (RCP), the Southern California Compass Growth Vision, the Regional Housing Needs Assessment (RHNA), the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the Regional Transportation Improvement Program, and annual state-of-the-region reports to measure progress on regional goals and objectives. Plans developed by SCAG that specifically pertain to population and housing are discussed below.

Regional Housing Needs Assessment

The RHNA is mandated by the State Housing Element Law as part of a periodic process of updating local housing elements in city and county general plans. The RHNA is produced by SCAG and contains a forecast of housing needs within each jurisdiction in the SCAG region for 8-year periods. The 5th Cycle RHNA Allocation Plan is the RHNA that is currently in effect. The 5th Cycle RHNA Allocation Plan covers a planning period of October 2013 through October 2021. The RHNA shows a need for 412,721 additional housing units within the SCAG region. Of the SCAG region allocation, the total assigned to the City is 6,169 units. The total assigned to the County of Riverside (County) as a whole is 101,374 units (SCAG 2012). Once the RHNA is established, local jurisdictions decide how to address their housing needs through the process of completing general plan housing elements. The City's current housing element was published in 2014 (City of Moreno Valley 2014).

Regional Comprehensive Plan

The 2008 Regional Comprehensive Plan (RCP) was prepared in response to SCAG's Regional Council directive in its 2002 Strategic Plan to define solutions to housing, traffic, water, air quality, and other regional challenges. The 2008 RCP is an advisory document that describes future conditions under current trends, defines a vision for a healthier region, and recommends an Action Plan with a target year of 2035. The RCP addresses land use and housing, transportation, air quality, energy, open space and habitat, water, solid waste, economy, security, and emergency preparedness. The RCP provides a series of recommended near-term policies that developers and stakeholders can consider for implementation, as well as potential policies for consideration by local jurisdictions and agencies when conducting project review (SCAG 2008).

The Land Use and Housing chapter of the RCP promotes sustainable planning for land use and housing in Southern California through maximizing the efficiency of the existing and planned transportation network, providing the necessary amount and mix of housing for a growing population, enabling a diverse and growing economy and protecting important natural resources.

Regional Transportation Plan/Sustainable Communities Strategy

The RTP/SCS is a regional planning document, which aims to implement sustainable growth strategies through the development of dense, transit-oriented communities with efficient and plentiful public transit, abundant and safe opportunities to walk, bike and pursue other forms of active transportation, while preserving more of the region's remaining natural lands for people to enjoy (SCAG 2016a). As part of the RTP/SCS document, SCAG develops population and housing forecasts for the SCAG region and for the jurisdictions that make up the SCAG region. Population and housing forecasts for the City of Moreno Valley and the County are shown in Table 4.12-1.

**Table 4.12-1**
**Population, Housing, and Jobs (SCAG)**

| Year | City of Moreno Valley | | | Riverside County | | |
|---|---|---|---|---|---|---|
| | *Population* | *Households* | *Jobs** | *Population* | *Households* | *Jobs** |
| 2018 | 207,629 | 53,170 | 37,408 | 2,415,954 | 729,920 | 762,114 |
| 2040 | 256,600 | 73,000 | 83,200 | 3,183,000 | 1,054,300 | 1,175,000 |

**Sources:** SCAG 2016b; SCAG 2019; County of Riverside 2015.
**Note:**
* Reported for 2017.

### *Western Riverside Council of Governments*

The Western Riverside Council of Governments (WRCOG) is a voluntary, collective body comprising 24 member agencies, including the City of Moreno Valley and the County of Riverside. WRCOG serves to unify Western Riverside County in matters pertaining to regional issues, including issues within transportation, the environment, energy, economy, and health (WRCOG 2019). WRCOG primarily administers several programs/plans, including Resilient Inland Empire (IE), Transportation Uniform Mitigation Fee (TUMF)_program, and the Active Transportation Plan, all of which aim to support regional efforts to improve transportation infrastructure so as to remediate risks associated with climate change (WRCOG 2019). WRCOG acknowledges housing as a priority area and supports efforts to expedite the development of market-rate housing, reduce homelessness, and provides ongoing state funding for mandated planning projects such as the Regional Housing Needs Assessment, Sustainable Communities Strategy (SCS), General Plan Housing Element updates, and other planning initiatives under Assembly Bill 32 and Senate Bill 375 (WRCOG 2019).

## Local

### *City of Moreno Valley General Plan*

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The state also mandates that the plan be updated periodically to ensure relevance and utility. The City General Plan was adopted by the City Council on July 11, 2006 and last revised in July 2016 (City of Moreno Valley 2006).

The General Plan contains a Housing Element, which identifies population trends and demographic characteristics, and which assesses housing needs and the City's strategy for meeting them (City of Moreno Valley 2014).

The City's Housing Element contains seven overarching goals pertaining to population and housing, as follows:

- Housing Goal No. 1: Availability of a wide range of housing by location, type of unit, and price to meet the existing and future needs of Moreno Valley residents.
- Housing Goal No. 2: Promote and preserve suitable and affordable housing for persons with special needs, including lower income households, large families, single parent households, the disabled, senior citizens and shelter for the homeless.
- Housing Goal No. 3: Removal or mitigation of constraints to the maintenance, improvement and development of affordable housing, where appropriate and legally possible.
- Housing Goal No. 4: Provide increased opportunities for homeownership.
- Housing Goal No. 5: Enhance the quality of existing residential neighborhoods in Moreno Valley, through maintenance and preservation, while minimizing displacement impacts.
- Housing Goal No. 6: Encourage energy conservation activities in all neighborhoods.
- Housing Goal No. 7: Equal housing opportunity for all residents of Moreno Valley, regardless of race, religion, sex, marital status, ancestry, national origin, color, or handicap.

## 4.12.2 Existing Conditions

The proposed project site is currently developed with the Kaiser Permanente Moreno Valley Medical Center. The project would include the expansion of the existing Kaiser Permanente Moreno Valley Medical Center in three phases. Phase I would occur beginning in 2020 and would include the demolition of approximately 7,600 square feet of service trailers and medical offices and the construction of a 95,000 square foot expansion of the existing hospital for use as a Diagnostic and Treatment building and a 22,000 square foot energy center. Phase II of the project would occur beginning in 2026 and would include the construction of a new hospital tower, a 380,000 square foot expansion of the Diagnostic and Treatment building, a new 65,000 square foot outpatient medical building, an 8,000 square foot expansion of the energy center and the construction of two new multilevel aboveground parking structures. Phase III of the proposed project would occur beginning in 2032 and would include the demolition, replacement and expansion of the existing hospital tower, the construction of a new 95,000 square foot medical office building and the construction of a third multilevel aboveground parking structure.

Under existing conditions, the Kaiser Permanente Medical Center employees 755 full-time employees, 147 of whom work in the existing medical office buildings and 608 of whom work in the existing Moreno Valley Hospital.

The following subsections provide an overview of existing conditions related to population, housing, and employment in the County as a whole and in the City.

### Southern California Association of Governments Growth Projections

SCAG produces a regional growth forecast, which is a key guide for developing regional plans and strategies mandated by federal and state governments such as the RTP/SCS, the program environmental impact report for the RTP/SCS, the air quality management plan (AQMP), the federal transportation improvement program (FTIP), and the regional housing needs assessment (RHNA). The growth forecasts are appended to the RTP/SCS, the most recent of which was adopted in April 2016. The Growth Forecast Appendix describes the forecasting process; trends in population, housing, and employment; forecasting methodology; and assumptions. The current RTP/SCS planning horizon is from 2012–2040. The SCAG region is expected to add 3.8 million residents, 1.5 million households and 2.4 million jobs between 2012 and 2040. Slow growth patterns experienced after the Great Recession are expected to continue into the future. Over the course of the RTP/SCS planning horizon, the SCAG region is expected to grow primarily through natural increase, with nearly 90% of population growth the result of births rather than net migration (SCAG 2016a). Table 4.12-1 shows population, household, and employment projections for the County as a whole and for the City, as calculated by SCAG during its 2016 RTP/SCS planning process.

#### *SCAG Growth Projections in the Health Care Sector*

The health care employment sector has experienced consistent growth since the Great Recession. SCAG has reported that in recent years, the data indicate that health care has been responsible for 9.6% of direct job growth (33,626) in San Bernardino and Riverside Counties (SCAG 2018).

Additionally, SCAG's 2019 Local Profile for the City's aggregate employment totals from individual businesses includes the Education/Health employment sector as a major employment industry in the City under existing conditions (SCAG 2019). Given the County and the City's historic trend of growth in the health care employment sector, and given that employment in the City is expected to increase by approximately 45,792 jobs between 2018 and 2040, the health care industry in the County and the City can reasonably be expected to continue to contribute to the local and regional employment pool.

### City of Moreno Valley Growth Projections

The Housing Element of the City's General Plan contains population and housing projections for the year 2020. The General Plan anticipated 2020 population for the City to be 213,700 people, and, using this projected growth, estimated the need for approximately 6,169 additional housing units in the SCAG 2014-2021 housing element cycle (City of Moreno Valley 2014). As shown above in Table 4.12-1, the City's population had already reached 207,629 in 2018, leaving 6,071 additional people accounted for in the City's planned 2019 and 2020 combined projected population growth. SCAG estimated that the City's population will grow to approximately 256,600 people by the year 2040.

### Riverside County Growth Projections

The Riverside County General Plan shows population projections for the County for the years 2020 and 2035. At the time the General Plan was produced (in 2015), the County was anticipated to have a population of 2,648,781 people, 927,300 jobs, and 981,297 housing units in 2020 with an anticipated increase up to 3,396,287 people, 1,285,284 jobs and 1,250,549 housing units in 2035. According to the County General Plan, growth forecasts through to 2035 follow a trend whereby employment in the County is projected to grow faster than population (County of Riverside 2015).

### U.S. Census Data

The U.S. Census Bureau publishes population, housing and employment estimates and projections that are updated annually. The latest population estimates to date for the City are for July 2010. The City's population as of 2010 was estimated by the U.S. Census Bureau to be 193,365 people and the number of households in the City was estimated by the U.S. Census Bureau to be 50,840 households for the period of 2013–2017, while persons per household was estimated to be 3.99 people per household (U.S. Census Bureau 2018a).

The latest U.S. Census Bureau estimates to date for the County are for July 2018. The County's population as of 2018 was estimated to be 2,450,758 people and the number of households in the County was estimated to be 711,724 households in 2017, while persons per household was estimated to be 3.26 people per household (U.S. Census Bureau 2018b).

The U.S. Census Bureau's population and housing estimates for the City and County are generally similar to those reported by SCAG for 2016. However, for the purposes of this analysis, the 2016 SCAG data, including current population and housing estimates and forecasts through 2020 and 2040 will be used instead of the Census Bureau's data.

## 4.12.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to population and housing are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to land use and planning would occur if the project would:

POP-1. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

POP-2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

## 4.12.4 Impacts Analysis

***Threshold POP-1. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

**Project- and Program-Level Impacts**

The proposed project would include the expansion of the existing Kaiser Permanente Medical Center over an approximate 18-year period. The proposed project would not involve construction of new homes or the extension of roads or other infrastructure that would directly induce population growth. Any infrastructure improvements associated with the proposed project would generally occur within the project site and in the immediate area and would be implemented for the purposes of supporting the proposed project. The proposed project would not involve the extension of utilities to areas that are not currently served. As such, the proposed project would not directly induce substantial population growth through developing new housing, nor would it indirectly induce substantial population growth through the extension of roads or other infrastructure to new areas. However, the proposed project would increase the number of jobs available at the project site relative to the number of jobs that are currently available at the site, as shown below in Table 4.12-2.

**Table 4.12-2**
**Kaiser Permanente Medical Center Employment Projections**

| Phase | Year | Employee Projections by Phase and Year | |
|---|---|---|---|
| | | *Incremental* | *Cumulative* |
| Existing | 2019 | 755 | 755 |
| I | 2022 | 300 | 1,055 |
| II | 2032 | 2,065 | 3,120 |
| III | 2038 | 1,640 | **4,761 (total)** |

**Source:** Denniston, pers. comm. 2019.

The potential for the project to induce population growth through provision of new employment is discussed further in the subsections below.

### Construction

Construction of the project's three phases will occur intermittently over an 18-year period, during which construction personnel would generate periodic and temporary increase in employment at the project site. However, construction employment at the project site is not anticipated to generate population growth in the City or in the County. Instead, the need for construction workers would most likely be accommodated within the existing and future labor market in the Riverside metropolitan area, which is highly dense and supports a diversity of construction firms and personnel. Given this, construction employment would not induce substantial population growth in the area and the project would not provide construction employment opportunities to the local and regional area for an extended period. Construction-related impacts would be **less than significant**.

### Operation

Under existing conditions, the project site supports approximately 755 employees. Upon project implementation, employment opportunities at the project site would increase. Based on project-specific information provided by Kaiser, total employment is estimated to be approximately 4,761 employees (Denniston, pers. comm. 2019), as shown in Table 4.12-2 above. The net increase in employment at the project site would be approximately 4,006 employees (4,761 proposed employees – 755 existing employees = 4,006 employees). The expected number of new jobs that would be generated by the proposed project is within employment growth projections for the City and County, as calculated by SCAG. Moreover, SCAG has reported that in recent years, the data indicate that health care has been responsible for 9.6% of direct job growth (33,626) in San Bernardino and Riverside Counties (SCAG 2018), and that the health care sector will continue to be a major provider of employment opportunities in the County and, as such, in the City. The City is projected to experience an increase in 45,792 jobs between 2018 and 2040 (the City had approximately 37,408 jobs in 2018 and is expected to have approximately 83,200 jobs in 2040). An additional 4,006 jobs in the City would represent approximately 8.7% of the City's projected employment growth through 2040.The Kaiser Permanente Medical Center is considered one of the five biggest employers in the City, and, as such, would not assume a larger than expected proportion of the City's future employment opportunities (City of Moreno Valley 2006). The number of new jobs generated by the proposed project also falls well within employment projections for the County as a whole. The County is projected to experience an increase in approximately 412,886 jobs between 2018 and 2040 (the County had approximately 762,114 jobs in 2018 and is expected to have approximately 1,175,000 jobs in 2040) (SCAG 2016b; County of Riverside 2015). The proposed project, at buildout, would represent less than 1% of the County's projected employment growth through 2040. Additionally, the expansion of the existing Medical Center is supported by the General Plan land use designation for the project site, which has a Medical Use Overlay (MUO) that was expressly implemented with the intention of encouraging the development of hospitals and medical centers on the project site (City of Moreno Valley 2006).

While increases in employment opportunities at the project site fall well within employment growth projections for the City and the region, increased permanent employment has the potential to attract additional residents to the City or surrounding areas, in the event that new employees chose to relocate to the City upon obtaining a job at the project site. However, significant population growth due to employee relocation is unlikely. Because the proposed project would be located within the larger planning area of the County of Riverside, it is anticipated that the jobs at the project site would be predominantly filled by existing City and County residents. In the event that new employees were to relocate to the City or County upon obtaining a job at the project site, the potential population growth would not exceed population projections for the City or County.

In summary, the proposed project is not expected to induce substantial, unplanned population growth in the City or in the County. The proposed project includes the expansion of an existing medical center and is located within the larger planning area of the County of Riverside, which would provide a robust and diverse employment pool. Give this, the increases in employment at the project site during construction and operation would not be expected to cause people to move into the City or the County from areas outside the City or County. Furthermore, the employment growth caused by the project falls well within current projections for employment growth in the City and County. For these reasons, the proposed project would not induce substantial unplanned population growth, and impacts would be **less than significant**.

***Threshold POP-2. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

**Project- and Program-Level Impacts**

As stated above, the proposed project includes the on-site expansion of the existing Kaiser Permanente Moreno Valley Medical Center. The project does not include any development or infrastructure that could displace existing people or housing, thereby necessitating the construction of replacement housing elsewhere. Conversely, the proposed project would provide employment opportunities, as well as advanced medical care to the surrounding local and regional communities. Given this, the project would not displace substantial numbers of existing people or housing, thereby necessitating the construction of replacement housing elsewhere and **no impact** would occur.

## 4.12.5 Mitigation Measures

Project impacts would be less than significant, and no mitigation measures are required.

## 4.12.6 Level of Significance After Mitigation

No mitigation would be required, and all impacts associated with population and housing would be less than significant.

## 4.12.7 References Cited

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# 4.13 PUBLIC SERVICES AND RECREATION

Public facilities and services are those functions that serve residents on a community-wide basis. These functions include fire and police protection, public parks and recreation facilities, schools, and libraries. This section identifies associated regulatory requirements, identifies impacts on these facilities as a result of implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project).

## 4.13.1 Relevant Plans, Policies, and Ordinances

**Federal**

There are no applicable federal plans, policies, or ordinances.

**State**

***California Code of Regulations Title 24, Part 2 and Part 9***

Part 2 of Title 24 of the California Code of Regulations (CCR) refers to the California Building Code, which contains regulations and general construction building standards of state adopting agencies, including administrative, fire, and life safety and field inspection provisions. Part 2 was updated in 2008 to reflect changes in the base document from the Uniform Building Code to the International Building Code. Part 9 refers to the California Fire Code, which contains fire safety-related building standards referenced in other parts of Title 24. This code is preassembled with the 2000 Uniform Fire Code of the Western Fire Chiefs Association. This code was revised in January 2008 with a change in the base model/consensus code from the Uniform Fire Code series to the International Fire Code.

***California Fire Code***

The California Fire Code and Office of the State Fire Marshall provides regulations and guidance for local agencies in the development and enforcement of fire safety standards. The California Fire Code also establishes minimum requirements that would provide a reasonable degree of safety from fire, panic, and explosion.

***State Responsibility Area Fire Safe Regulations***

The basic wildland fire protection standards of the California Board of Forestry are found in the California Department of Forestry and Fire Protection's (CALFIRE's) Fire Safe Regulations. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in State Responsibility Areas (SRAs). Title 14, Natural Resources, regulates that the future design and construction of structures, subdivisions, and developments in an SRA shall provide basic emergency access and perimeter wildfire protection measures.

### *Occupational Safety and Health Administration*

In accordance with California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the California Occupational Safety and Health Administration (OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials; fire hose size requirements; restrictions on the use of compressed air; requirements for access roads; and guidelines for testing, maintaining, and using all firefighting and emergency medical equipment.

### *California Vehicle Code Section 21806*

Section 21806 of the California Vehicle Code (CVC) pertains to emergency vehicles responding to Code 3 incident/calls. This section of the CVC states the following:

> Upon the immediate approach of an authorized emergency vehicle which is sounding a siren and which has at least one lighted lamp exhibiting red light that is visible, under normal atmospheric conditions, from a distance of 1,000 feet to the front of the vehicle, the surrounding traffic shall, except as otherwise directed by a traffic officer, do the following: (a)(1) Except as required under paragraph (2), the driver of every other vehicle shall yield the right-of-way and shall immediately drive to the right-hand edge or curb of the highway, clear of any intersection, and thereupon shall stop and remain stopped until the authorized emergency vehicle has passed. (2) A person driving a vehicle in an exclusive or preferential use lane shall exit that lane immediately upon determining that the exit can be accomplished with reasonable safety … (c) All pedestrians upon the highway shall proceed to the nearest curb or place of safety and remain there until the authorized emergency vehicle has passed.

### *California Education Code*

The California Education Code, Section 17620 legislates that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. Specifically, the appropriate fee is calculated per square foot of chargeable covered and enclosed space. per Section 17620(a)(1)(A), which applies to new commercial and industrial construction, the chargeable covered and enclosed space of commercial or industrial construction shall not include the square footage of any structure existing on the site of that construction as of the date the first building permit is issued for any portion of that construction.

## Local

### *City of Moreno Valley General Plan*

Fire and Emergency Medical Services

The Moreno Valley Fire Department (MVFD) is part of the CALFIRE / Riverside County Fire Department’s regional, integrated, cooperative fire protection organization. The City of Moreno Valley (City) Fire Service contracts with the Riverside County Fire Department (RCFD) for services. The RCFD is administered and operated by the California Department of Forestry and Fire Protection under an agreement with the County of Riverside. Moreno Valley is served by six fire stations. The MVFD has a response time goal of within 5 minutes 90% of the time.

The MVFD also responds to medical aid calls with advanced life support services. American Medical Response provides support paramedics and ambulance transportation under contract with the County of Riverside.

Safety Element Objectives 6.11 through 6.16 and the associated policies provide direction to ensure adequate protection from fire hazards, in terms of both fire prevention and suppression. The policies address a range of policies and programs, including fire education programs, building codes, fuel modification along the wildland-urban interface and requirements for smoke detectors, automatic fire sprinklers, emergency water supply and emergency access (City of Moreno Valley 2006).

Police Protection

Since 1984, in accordance with an annual police services contract, the Riverside County Sheriff's Department provides police protection and crime prevention services for Moreno Valley. The Sheriff’s Department provides services under the name of Moreno Valley Police Department (MVPD). All patrol vehicles bear the City's seal or logo and name. The Sheriff's Department also provides law enforcement services at the Riverside County Regional Medical Center and schools within Moreno Valley. Protection and prevention services provided include: general law enforcement, traffic enforcement, investigations, and routine support services such as communications, evidence collection, analysis and preservation, training, administration, and records (City of Moreno Valley 2006). Objective 6.8 in the Safety Element is to strive for police staffing of at least 1 officer per 1,000 residents, as feasible given budget constraints. In addition, the MVPD has an objective of responding within six minutes or less for Priority 1 calls (Koehler, pers. comm. 2019).

Parks

The City recognizes the same goal the State of California recognizes, which is a minimum level of service standard for parkland of 3 acres per 1,000 residents. The minimum standard was established in the Quimby Act (Government Code Section 66477). The City has enacted an ordinance requiring new development to dedicate land or pay fees to help the City toward its goal of meeting the level of service set forth herein. Only acreage usable for active recreation applies toward meeting this standard (City of Moreno Valley 2006).

The General Plan includes policies and programs that deal with parks and recreation. Program 4-1 directs the City to develop a parks and recreation facilities master plan. Program 4-9 requires that the City acquire land and develop neighborhood and community parks in the "Recommended Future Parkland Acquisition Areas" shown in Figure 4-4 of the Parks, Recreation, and Open Space Element. Policy 4.2.7 establishes the 3-acre per 1,000 residents level of service standard and Policy 4.2.17 requires new development to contribute to the park needs of the City (City of Moreno Valley 2006).

Additionally, in September 2010 the City adopted an updated Parks, Recreation and Open Space Comprehensive Master Plan (Master Plan). The purpose of the Master Plan is to provide long-range vision for parks, recreation, and open space while matching community needs with parks and recreation services and identifying future potential locations for neighborhood, community and regional parks and facilities to accommodate Moreno Valley's projected growth (City of Moreno Valley 2010). The Master Plan is an implementation tool providing strategies for addressing the General Plan's goals and policies.

Libraries

The Moreno Valley Public Library is located on the site of the old Midland Middle School at 25480 Alessandro Boulevard. The fundamental goal of the Moreno Valley Public Library is to provide services that will contribute to the educational development and cultural vitality of Moreno Valley. To achieve this goal, the Library's mission is to provide access to a broad range of information resources, offering a program of informational, educational, recreational, and cultural enrichment opportunities for patrons of all ages and backgrounds in the Moreno Valley area. The City standard is 0.5 gross square feet per capita of library space and 1.2 volumes per capita (City of Moreno Valley 2006).

***Moreno Valley Fire Department Strategic Plan 2012-2022***

The MVFD Strategic Plan guides the Fire Department's development over a ten year period and informs the public and Fire Department members of the goals and strategies that the Fire Department has for the future. It also serves as the foundation document for informing City Council as to the direction the Fire Department is headed in order to ensure the community receives outstanding fire protection services. The Fire Department reviews this plan biennially to ensure the goals outlined in this plan are being met (Moreno Valley Fire Department 2011).

***City of Moreno Valley Development Impact Fee***

New developments are subject to the payment of a Development Impact Fee (DIF), which would help cover the cost of new or expanded public facilities. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development. As such, the project would be required to pay a DIF for fire protection services and for law enforcement services.

## 4.13.2 Existing Conditions

### Fire Protection and Emergency Medical Services

The MVFD is the primary response agency for fires, emergency medical service, hazardous materials incidents, traffic accidents, terrorist acts, catastrophic weather events, and technical rescues for the City. The Fire Department also provides a full range of fire prevention services including public education, code enforcement, plan check and inspection services for new and existing construction, and fire investigation. Additionally, the City's Office of Emergency Management is located within the Fire Department allowing for a well-coordinated response to both natural and human-made disasters. The MVFD is part of the CALFIRE/Riverside County Fire Department's regional, integrated, cooperative fire protection organization. Table 4.13-1 identifies the MVFD stations and their locations.

**Table 4.13-1**
**Moreno Valley Fire Department Stations, Locations, and Equipment**

| Station | Location | Equipment |
|---|---|---|
| Station 2 – Sunnymead | 24935 Hamlock Avenue | One Type 1 engine, one 100-foot Aerial Ladder Truck, one Water Resource Squad and one USAR vehicle. |
| Station 6 – Towngate | 22250 Eucalyptus Avenue | One Type 1 engine, one Type 1 reserve engine and one Paramedic Squad. |
| Station 48 – Sunnymead Ranch | 10511 Village Road | One Type 1 engine |
| Station 58 – Moreno Beach | 28040 Eucalyptus Avenue | One Type 1 engine, one Type 3 engine and one Reserve Squad. |
| Station 65 – Kennedy Park | 15111 Indian Avenue | One Type 1 engine. |
| Station 91 – College Park | 16110 Lasselle Street | One Type 1 engine and one Reserve Aerial Ladder Truck |
| Station 99 – Morrison Park | 13400 Morrison Street | One Type 1 engine |

**Source:** City of Moreno Valley 2019a.

MVFD has a target response time of five minutes 90% of the time. MVFD Morris Park Fire Station No. 99 is located 3.2 miles north of the project site. Engine 99, responding from Fire Station No.

99 is currently, and would continue to be, the first responder to small fire-related incidents on the hospital campus. Engine 99, a Type 1 fire engine is staffed with a Fire Captain, Fire Apparatus and a Firefighter Paramedic. In 2018, Fire Station 99 responded to 1,703 emergency incidents with an average response time of 4:12 minutes 75% of the time. In the event that a large fire broke out on the hospital campus, multiple fire stations in neighboring jurisdictions would respond as well as Cal Fire. Initial response in the event of a large fire would include five Engines, one 100-foot aerial truck and a Battalion Chief for a total fire-ground staffing of 20 firefighters (Ahmad, pers. comm. 2019).

**Police Protection**

Protection and prevention services provided by MVPD include, but are not limited to, general law enforcement, investigations, routine support services such as communications, evidence collection, analysis and preservation, training, administration, and records (City of Moreno Valley 2006).

The built environment can present opportunities for crimes to occur or can discourage crimes. For instance, design can influence the amount of surveillance provided by residents or passersby, and whether there is an easy escape for someone who commits a crime. Design of public spaces and the relationships between buildings and public space are important considerations in Crime Prevention through Environmental Design (CPTED). CPTED is a set of approaches to the design of the built environment that seek to minimize opportunities for crime.

MVPD currently operates five divisions as well as a Volunteer group. The five MVPD divisions include Administration, Detective, Patrol, Special Enforcement, and Traffic Divisions. The majority of MVPD operates out of the Public Safety Building located at 22850 Calle San Juan de Los Lagos, however the department also utilizes satellite offices throughout the City.

The Patrol Division provides first responders to crimes in progress and to calls for service assigned by dispatch. The unit contains nine supervising sergeants, 64 sworn patrol officers, three K-9 teams, and 10 non-sworn officers (City of Moreno Valley 2019b).

Calls to the MVPD are prioritized and assigned by urgency, from greatest urgency (Priority 1) through non-emergency calls. Examples of Priority 1 calls include when an officer needs help or vehicular pursuit is underway. Priority 2 calls include injured persons, robberies in progress, bomb threats, carjackings, rape, and stolen vehicles. Priority 3 calls include assault, prowlers, disturbances, tampering with vehicles, and burglary alarms. The MVPD receives approximately 400 to 450 calls per day. Table 4.13-2 below identifies the target response time for each call type and the average actual response times for 2019.

**Table 4.13-2**
**Moreno Valley Police Department Target Response Times**

| Call Type | Target Response Time | Actual Response Time |
|---|---|---|
| Priority 1 | 6 minutes | 6:37 |
| Priority 2 | 15 minutes | 22:01 |
| Priority 3 | 35 minutes | 42:46 |

**Source**: City of Moreno Valley 2019b; Koehler, pers. comm. 2019.

As individual projects are proposed within the City, the MVPD service levels and staffing requirements are evaluated to determine if additional staffing and/or facilities would be required.

### Schools

The City is served by two public school districts. The primary school district is the Moreno Valley Unified School District (MVUSD) which is comprised of 23 elementary schools, six middle schools, four high schools and nine alternative education schools. Residents of Moreno Valley also attend schools within the Val Verde Unified School District, which is comprised of one pre-school, four elementary schools, two middle schools and one high school within the City. See Table 4.13-3 for details.

**Table 4.13-3**
**City of Moreno Valley School Districts and Enrollment**

| School Name | School Address | Capacity | Total Enrolment (2017–2018) |
|---|---|---|---|
| *Moreno Valley School District* | | | |
| *Elementary* | | | |
| Armada Elementary | 25201 J.F. Kennedy Drive | 967 | 850 |
| Bear Valley Elementary | 26125 Fir Avenue | 871 | 832 |
| Box Springs Elementary | 11900 Athens Drive | 568 | 443 |
| Butterfield Elementary | 13400 Kitching Drive | 1005 | 882 |
| Chaparral Hills Elementary | 24850 Delphinium Avenue | 783 | 659 |
| Cloverdale Elementary | 12050 Kitching Street | 763 | 721 |
| Creekside Elementary | 13563 Heacock Street | 506 | 496 |
| Edgemont Elementary | 21790 Eucalyptus Avenue | 705 | 663 |
| Hendrick Ranch Elementary | 25570 Brodiaea Avenue | 705 | 637 |
| Hidden Springs Elementary | 9801 Hidden Springs Drive | 580 | 563 |
| Honey Hollow Elementary | 11765 Honey Hollow Drive | 685 | 620 |
| La Jolla Elementary | 147450 Willowgrove Drive | 755 | 731 |
| Midland Elementary | 11440 Davis Street | 689 | 646 |
| Moreno Elementary | 26700 Cottonwood Avenue | 513 | 478 |
| North Ridge Elementary | 25101 Kalmia Avenue | 763 | 736 |

## Table 4.13-3
## City of Moreno Valley School Districts and Enrollment

| School Name | School Address | Capacity | Total Enrolment (2017–2018) |
|---|---|---|---|
| Ramona Elementary | 24801 Bay Avenue | 680 | 657 |
| Ridge Crest Elementary | 28500 J.F Kennedy Drive | 618 | 597 |
| Seneca Elementary | 11615 Wordsworth Road | 551 | 454 |
| Serrano Elementary | 24100 Delphinium Avenue | 547 | 519 |
| Sugar Hill Elementary | 24455 Old Country Road | 564 | 541 |
| Sunnymead Elementary | 24050 Dracaea Avenue | 814 | 791 |
| Sunnymeadows Elementary | 23200 Eucalyptus Avenue | 730 | 624 |
| TownGate Elementary | 22480 Dracaea Avenue | 791 | 737 |
| *Middle School* | | | |
| Badger Springs Middle School | 24750 Delphinium Avenue | 1335 | 1180 |
| Landmark Middle School | 15261 Legendary Drive | 1247 | 1153 |
| Mountain View Middle School | 13130 Morrison Street | 1377 | 1327 |
| Palm Middle School | 11900 Slawson Avenue | 1261 | 1236 |
| Sunnymead Middle School | 23996 Eucalyptus Avenue | 1565 | 1503 |
| Vista Heights Middle School | 23049 Old Lake Drive | 1567 | 1322 |
| *High School* | | | |
| Canyon Springs High School | 23100 Cougar Canyon Drive | 2640 | 2162 |
| Moreno Valley High School | 23300 Cottonwood Avenue | 2565 | 2319 |
| Valley View High School | 13135 Nason Street | 2696 | 2558 |
| Vista del Lago High School | 15150 Laselle Street | 2566 | 2082 |
| Adult Ed | 13350 Indian Street | -- | -- |
| Alessandro School (SDC K-12) | 23311 Dracaea Avenue | 120 | 50 |
| Bridges/ Bayside Community Daycare | 24501 Cactus Avenue | 330 | 134 |
| Bridges Charter School | 24511 Cactus Avenue | 125 | 26 |
| March Mountain | 24551 Dracaea Avenue | 264 | 330 |
| March Valley | 24551 Dracaea Avenue | 198 | 87 |
| Bridges MVOA and GO Program | 24521 Cactus Avenue | 160 | 221 |
| Rainbow Springs | 23990 Eucalyptus Avenue | -- | -- |
| Headstart/Preschool | 23990 Eucalyptus Avenue | -- | -- |
| *Val Verde Unified School District* | | | |
| Val Verde Academy Preschool | 25100 Red Maple Lane | 804 | 123 |
| *Elementary* | | | |
| Laselle Elementary | 26446 Krameria Avenue | 954 | 835 |
| Mary McLeod Bethune Elementary | 25390 Krameria Avenue | 990 | 645 |
| Rainbow Ridge Elementary | 15950 Indian Avenue | 930 | 798 |
| Victoriano Elementary | 25650 Los Cabos Drive | 894 | 834 |
| *Middle School* | | | |
| March Middle School | 15800 Indian Avenue | 995 | 810 |
| Vista Verde Middle School | 25777 Krameria Avenue | 1088 | 993 |

**Table 4.13-3**
**City of Moreno Valley School Districts and Enrollment**

| School Name | School Address | Capacity | Total Enrolment (2017–2018) |
|---|---|---|---|
| *High School* | | | |
| Rancho Verde High School | 17750 Laselle Street | 2250 | 2036 |

**Sources:** MVUSD 2019; Val Verde Unified School District 2019.

The California State Allocation Board (SAB) Office of Public School Construction regulates enrollment projections for the state's public school districts. The SAB defines a number of options to generate student enrollment projections and provides an approved methodology for determining the elementary, middle, and high school students that would be generated by new residential units. This methodology is based on historical student generation rates of new residential units constructed within the school district during the previous 5 years.

When multiple districts with multiple yield factors are analyzed, a region's projected enrollment may be calculated using the statewide average student yield factors as provided by the SAB. These estimates are a result of statewide sampling that incorporates widely varying dwelling unit types, households, and other demographic characteristics across the state. This methodology is appropriate for considering any residential units that may be constructed as a result of increased employment at Kaiser Permanente Moreno Valley Medical Center, as those employees may require varied dwelling unit types ranging from affordable housing to high-end single-family units.

### Parks

The Moreno Valley Parks and Community Services Department is responsible for maintaining and updating the Parks, Recreation and Open Space Comprehensive Master Plan. The Master Plan lists six categories of City parks: Community Parks, Neighborhood Parks, Mini Neighborhood Parks, Greenways, Specialty Parks and Undeveloped Land Sites. The City maintains over 541 acres of parks, trails, and park facilities as well as joint-use agreements with the local school districts that allow residents to access local school facilities (swimming pools, athletic fields etc.) during certain hours. The Master Plan does not count private facilities toward the City's goals for parks and recreation.

In addition to the City's parks, Lake Perris State Recreation Area is located approximately half a mile south of the project site. The 8,300-acre recreation area is maintained by California State Parks and is open for a variety of recreational uses including camping, boating, fishing, hiking, and horseback riding (California State Parks 2008).

**Libraries and Other Facilities**

The Moreno Valley Public Library is located at 25480 Alessandro Boulevard. The 16,000 square foot facility provides services that contribute to the educational development and cultural vitality of Moreno Valley residents by providing access to a broad range of informational resources, programs, and cultural enrichment opportunities (City of Moreno Valley 2019c).

## 4.13.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to public services and recreation are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to public services or recreation would occur if the project would:

PUB-1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire/life safety protection; police protection; schools; parks, or other public facilities?

PUB-2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

PUB-3. Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

## 4.13.4 Impacts Analysis

***Threshold PUB-1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire/life safety protection; police protection; schools; parks, or other public facilities?***

**Fire Protection**

The project involves a three-phased expansion of the existing Medical Center on the project site, which would result in an approximately 1,125,000 square-foot Medical Center an associated increase of 4,006 on-site employees when compared to existing conditions. The proposed project would provide a comprehensive range of state-of-the-art health care services to Kaiser Permanente members in the City and surrounding communities. Fire Station No. 99 is located at 13400 Morrison Street approximately 3.2 miles north of the project site. Fire Station No. 99 is currently, and would continue to be, the first responder to all small fire-related incidents on the hospital campus. The project site is subject to the goal of a 5-minute response-time 90% of the time from the existing fire stations. Fire Station No. 99's current average response time is 4.2 minutes, 75 % of the time. In the event that a large fire broke out on the hospital campus, multiple fire stations in the City would respond. Initial response in the event of a large fire would include five fire engines, one 100-foot aerial truck and a Battalion Chief for a total of 20 personnel (Ahmad, pers. comm. 2019).

Project employment could result in slight residential population growth within the MVFD's jurisdiction. Ultimately, the slight increase in on-site and citywide population could result in increased calls for fire protection services. However, the increase in calls would be minimal and would not result in the need for new fire facilities.

With the nearby services of Fire Station No. 99 as well as fire stations in neighboring jurisdictions, the project would be served by sufficient fire protection services and the MVFD's 5-minute response time target would be adequately met. The additional demand for fire rescue response services generated by the project would not negatively affect response times or workload capacities for the existing engines (Ahmad, pers. comm. 2019). Therefore, the project would not result in the need for new or expanded fire protection facilities, impacts would be **less than significant**, and no mitigation is required.

While no new or physically altered fire facilities would be required for any phase of the proposed project, any new or physically altered fire facilities would be required to comply with California Building Standards Code, Chapters 7 and 7A, and the California Fire Code (24 CCR, Part 9). New construction would also be required to conform to standards of the Office of Statewide Health Planning and Development (OSHPD). Buildings would be required to install fire prevention devices, such as fire alarms and sprinklers, in order to improve emergency-related responses at the proposed project site. Additionally, as part of standard development practices, project plans would be reviewed by OSHPD, the site plans would be reviewed by MVFD prior to construction, and California law requires that licensed care facilities undergo an annual fire safety inspection, all of which would reduce potential risks from fire hazard at the project site. The MVFD ensures that new development complies with California Building Standards Code, Chapters 7 and 7A, and the California Fire Code (24 CCR, Part 9). Buildings would be required to install fire prevention devices, such as fire alarms and sprinklers, in order to improve emergency-related problems for the proposed development.

It is also further noted that the proposed project would be subject to the payment of a DIF, which would be used exclusively for future facility improvements, determined necessary by service providers, to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City (City of Moreno Valley 2017). The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. As such, the project would be required to pay a DIF for fire protection services and for law enforcement services.

**Police Protection**

The project involves a three-phased expansion of the existing Medical Center on the project site. In addition to safety concerns of all buildings, hospitals in general have several particular security concerns including the protection of property and assets, medical equipment, and drugs; protection of patients, including incapacitated patients; and safe control of violent or unstable patients. Accordingly, the existing Medical Center provides additional public safety services through its Kaiser Security Department, which seeks to proactively and consistently provide a secure and safe environment for the protection of visitors, patients, physicians, personnel, contract workers, and hospital assets. The Kaiser Security Department team is comprised of dedicated protection professionals who serve employees, staff, volunteers, patients, and visitors. The Kaiser Security Department is staffed 24 hours a day, 7 days a week, and provides security services to the existing hospital medical and office building. The Security Department team consists of four full-time employees, and upon project implementation, the team would increase to five employees. As such, the proposed hospital would be adequately staffed with a security team (Morgan, pers. comm. 2019).

Plans for each phase of the project would be reviewed by the MVPD, and the project would be required to incorporate the MVPD's recommendations into the final project design. MVPD recommendations may include specific CPTED features such as interior and exterior video surveillance systems, and sufficient lighting in parking lots.

As part of standard development practices, project plans would be reviewed by the MVPD, and the project would be required to incorporate the MVPD's recommendations into the final project design. Project design features would include the following:

- Crime Prevention through Environmental Design (CPTED) features such as interior and exterior video surveillance systems and sufficient lighting in parking lots.
- Reflectorized building numbering material.
- Minimum of two reserved law enforcement parking within 100 feet of the emergency room door.

- Installation of radio communication devices.
- Provide a separate room/office within the Emergency Room for the exclusive use by public safety personnel and emergency responders for the purposes of monitoring arrestees or prisoners who are being treated for illness or injury, conducting interviews and investigations, and completing paperwork.
- Employ private security personnel on a continual basis, 7 days a week, 24 hours a day.
- Video surveillance system must encompass all exterior common areas and every vehicle entry and exit point.

Currently, approximately 755 employees work at the project site. Upon build-out of Phase I of the project, 300 new employees would be present at the project site for a total employment population of 1,055. Upon implementation of Phase II, an additional 2,065 employees would work at the site for a total employment population of 3,120. Upon completion of Phase III, an additional 1,640 employees would be added to the project site, for a total employment population of 4,761. As such, at buildout a total of 4,006 new employees would be introduced at the project site.

The MVPD's Patrol Division provides first responders to crimes in progress and to calls for service assigned by dispatch. The unit contains nine supervising sergeants, 64 sworn patrol officers, three K-9 teams, and 10 non-sworn officers. MVPD's target response time for Priority 1 calls is six minutes. Current response times for Priority 1 calls is 6 minutes and 37 seconds (Koehler, pers. comm. 2019). Table 4.12-2 above shows target and actual response times for Priority 1, Priority 2, and Priority 3 calls. The anticipated increase in project employment could result in a subsequent residential population growth within the MVPD's jurisdiction, and the increase in on-site and citywide population could result in increased calls for police protection. However, the increase in calls would not be anticipated to result in the need for new police facilities.

Therefore, in light of the relatively small anticipated increase in employee and resident population, and with the presence of on-site security and compliance with MVPD recommendations, the project would not result in the need for new or expanded police protection facilities, impacts would be **less than significant**, and no mitigation is required.

Furthermore, the proposed project would be subject to the payment of a DIF, which would be used exclusively for future facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The project would be required to pay a DIF for law enforcement services. Payment of the DIF would allow the project to contribute to its fair share cost of facilities and equipment due to the increased demand for police services. As such, the project would be required to pay a DIF for fire protection services and for law enforcement services.

### Schools

The project involves a three-phased expansion of the existing Medical Center on the project site. The project would not include a residential component, and therefore, would not directly generate new student enrollment. However, the hospital would generate approximately 4,006 new employment opportunities at full buildout, which could indirectly generate population growth within the City and a subsequent increase in student enrollment. As identified in Table 4.12-3, all schools in each school district are currently operating below capacity, with the exception of two alternative education schools (March Mountain and Bridges MVOA and GO Program in the MVUSD). Additionally, the MVUSD did not have enrollment information for Rainbow Springs and Headstart Preschool (Acevedo, pers. comm. 2019). The project would be built in three phases between 2020 and 2036. There are currently 755 employees working at the Medical Center. During project implementation, Phase I would add 300 employees, Phase II would add 2065 employees and Phase III would add 1640 employees, resulting in a total increase of 4,006 employees at the Medical Center. Thus, employment opportunities and any indirect increase in student generation would occur over time. The school districts which service the City annually assess the need for new or expanded school facilities and take into consideration new development projects and approximate student generation. Per the California Education Code (Title 1, Chapter 6, Section 17620), the project would be required to pay DIFs, which would be considered full mitigation for any potential impacts to schools that would occur as a result of the project.

Therefore, since all of the schools within the relevant school districts are currently operating below capacity (with the exception of two), it is not anticipated that Phase I or other phases would result in the need for new or physically altered school facilities. Additionally, the project would be required to pay school fees pursuant to California Education Code Section 17620. As such, impacts related to school facilities would be **less than significant**, and no mitigation is required.

### Parks

The project involves a three-phased expansion of the existing Medical Center on the project site. The project would not directly induce substantial population growth in the area. The project does not involve a housing component or result in the construction of a use that would generate the need for additional park services or increased use of parks. At full buildout, the project would generate approximately 4,006 new employment opportunities, which could indirectly contribute to increased park usage from the resulting increase in the number of residents within the City. The existing parks closest to the project site are Fairway Park, located approximately one mile northeast of the project site; Vista Lomas Park, located approximately 0.8-mile west of the project site; and Celebration Park, located approximately 0.8-mile northeast of the project site. These parks, and other parks in the City, are not expected to experience a substantial increase in use as a result of expansion of the existing Medical Center at full buildout or any phase. Additionally, payment of the DIF would ensure that the project contributes its fair share cost for any new facilities planned due to the increased use of parks and recreation facilities associated with new development.

The project would not result in the increased demand for or use of existing parks or recreational facilities such that new or physically altered park facilities would be required. Therefore, impacts to park facilities and services would be **less than significant**, and no mitigation is required.

### Libraries and Other Public Facilities

The project involves a three-phased expansion of the existing Medical Center on the project site. At full buildout, the expanded Medical Center would result in an increase in approximately 4,006 employees in the area, some of whom may reside in the City and ultimately use the local library. However, any increased use of the library by additional employees at the new hospital is expected to be minimal and would not result in the need for new or physically altered library facilities. As such, impacts would be **less than significant**, and no mitigation is required.

***Threshold PUB-2. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

The project involves a three-phased expansion of the existing Medical Center on the project site. The project does not involve a housing component or use that would result in the need for additional park services or increased use of parks or other recreational facilities. The project would generate approximately 4,006 new employment opportunities, which could indirectly contribute to increased use of neighborhood and regional parks or other recreational facilities. The existing parks closest to the project site are Fairway Park, located approximately one mile northeast of the project site; Vista Lomas Park, located approximately 0.8-mile west of the project site; and Celebration Park, located approximately 0.8-mile northeast of the project site. These parks, and other parks in the City, are not expected to experience a substantial increase in use as a result of the project. Additionally, payment of the DIF would allow the project to contribute its fair share cost of any new facilities planned due to the increased use of parks and recreation facilities associated with new development.

The project would not likely result in the increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, impacts to existing neighborhood and regional parks or other recreational facilities would be **less than significant**, and no mitigation is required.

***Threshold PUB-3.*** ***Would the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

The project involves a three-phased expansion of the existing Medical Center on the project site. The project does not include any recreational facilities or, as discussed above, require the construction of new or expanded recreational facilities. Therefore, no adverse physical effects on the environment as a result of the expansion or construction of new recreational facilities would occur as a result of the project. Impacts would be **less than significant**, and no mitigation is required.

## 4.13.5 Mitigation Measures

Impacts related to public facilities were found to be less than significant. Therefore, no mitigation measures are required.

## 4.13.6 Level of Significance After Mitigation

Since there would be no significant impacts needing mitigation, residual impacts would be less than significant.

## 4.13.7 References Cited

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# 4.14 TRANSPORTATION

This section identifies associated regulatory requirements; describes the existing traffic conditions within the project area; evaluates potential adverse impacts related to (1) conflicts with an applicable program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities; (2) conflict or inconsistency with California Environmental Quality Act (CEQA) Guidelines section 15064.3, subdivision (b); (3)a substantial increase in hazards due to a geometric design feature, and (4) inadequate emergency access; lists any applicable project design features (PDFs); and identifies mitigation measures related to implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project).

The following discussion summarizes the Traffic Impact Analysis (TIA), prepared by LSA, March 2019, per the requirements established by the City of Moreno Valley (City) Transportation Engineering Division's (2007) *Traffic Impact Analysis Preparation Guide August 2007* and the Riverside County *Transportation Department Traffic Impact Analysis Preparation Guide, April 2008*. The complete report is included as Appendix I of this Environmental Impact Report (EIR).

## 4.14.1 Relevant Plans, Policies, and Ordinances

**Federal**

There are no applicable federal regulations related to traffic that would apply to this project.

**State**

***Sustainable Communities Strategies: Senate Bill 375 – Land Use Planning***

Senate Bill (SB) 375 provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the greenhouse gas reduction goals established in Assembly Bill (AB) 32. SB 375 requires that regional transportation plans developed by metropolitan planning organizations relevant to the project site (i.e., , Southern California Association of Governments (SCAG)) incorporate a "sustainable communities strategy" in their regional transportation plans that will achieve greenhouse gas emission reduction targets set by the California Air Resources Board. SB 375 is similar to the Regional Blueprint Planning Program established by Caltrans, which provides discretionary grants to fund regional transportation and land use plans voluntarily developed by metropolitan planning organizations working in cooperation with SCAG.

SCAG has engaged in a public involvement process for the development of its regional transportation plans and programs. As a metropolitan planning organization, SCAG is responsible for preparing and utilizing a public participation plan that is developed in consultation with all interested parties and provides reasonable opportunities for interested parties to comment on the content of SCAG's proposed Regional Transportation Plan and the Regional Transportation Improvement Program. SB 375 requires SCAG to adopt a public participation plan for development of the sustainable communities strategy and an alternative planning strategy.

***Senate Bill 743***

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the CEQA process for several categories of development projects including the development of infill projects in transit priority areas and to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (Section 21099). In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of Level of Service (LOS) in CEQA documents.

Currently, environmental review of transportation impacts typically focuses on the delay that vehicles experience at intersections and on roadway segments, which is often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turns encourages more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative forms of transportation such as biking and walking. SB743 directs the Office of Planning and Research (OPR) to develop an alternative metric(s) for analyzing transportation impacts in CEQA documents. The alternative shall promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of multimodal transportation system, and providing clean, efficient access to destinations. Under SB 743, it is anticipated that the focus of transportation analysis will shift from vehicle delay to vehicle miles traveled (VMT) within transit priority areas (i.e., areas well served by transit).

In accordance with SB 743, new CEQA Guidelines Section 15064.3(a), adopted in December 2018, states "a project's effect on automobile delay does not constitute a significant environmental impact." CEQA Guidelines Section 15064.3(c) provides that the provisions of Section 15064.3 shall apply statewide beginning on July 1, 2020 but that a lead agency may elect to be governed by its provisions immediately upon adoption. The City has not yet adopted a VMT threshold or corresponding methodology. Accordingly. projects such as proposed project are not currently required to incorporate VMT as the primary transportation impact metric.

### Local

#### *City of Moreno Valley General Plan*

The Circulation Element of the City General Plan (City of Moreno Valley 2006) includes goals and policies that will be applied to the project related to traffic. Goals and policies identified in the Circulation Element of the General Plan that would be applied to the proposed project have been analyzed for consistency in Section 4.10, Land Use and Planning.

#### *City of Moreno Valley Development Impact Fee (DIF) Program*

The City created its Development Impact Fee (DIF) program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding local improvements necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The identification of specific roadway and intersection improvement projects and the timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department.

Based on discussion with City Engineer, it was determined that currently there are no applicable improvements listed in City's DIF program that the project could contribute to for its impacts to roadway segments and intersections.

#### *Transportation Uniform Mitigation Fee (TUMF) Program*

In 2000, the Western Riverside Council of Governments (WRCOG) established the Transportation Uniform Mitigation Fee (TUMF) Program to mitigate the cumulative regional impacts of projected future growth and new development on the region's arterial highway system. The TUMF Program applies a uniform mitigation fee to new development projects that is collected by each WRCOG member agency, including the City. The collected funds are pooled and used by WRCOG to fund transportation network improvements, including roads, bridges, interchanges, and railroad grade separations, identified by the public works departments of WRCOG member agencies and listed in the Regional System of Highways and Arterials (RHSA).

## 4.14.1.1 Level of Service (LOS) Analysis Methodologies

The scope of work for the traffic analysis, including trip generation, trip distribution, study area, and analysis methodologies, has been approved by City staff via the Scoping Agreement process. A copy of the Scoping Agreement is included in the Appendix A of the TIA in (Appendix I). Based on the City's TIA guidelines, the TIA is required to analyze all intersections of Collector or higher classification streets where the project will contribute 50 or more peak hour trips or intersections identified by City staff for analysis. These intersections may also fall within the jurisdictions of the City of Perris and Caltrans.

AM and PM peak hour level of service (LOS) for the study intersections were evaluated using the methodology outlined in the Highway Capacity Manual (HCM) 6th Edition. Daily operating conditions for the key study roadway segments were analyzed using the Volume to Capacity (V/C) relationship per roadway classification to estimate LOS .

**HCM Method of Analysis for Intersections**

In conformance with City of Moreno Valley and City of Perris requirements, AM and PM peak hour operating conditions for the study intersections were evaluated using the HCM operations method of analysis. Intersection LOS was calculated using Synchro 10 software, which uses the HCM 6 methodologies.

Level of service (LOS) can be characterized for the whole intersection, each intersection approach, and by each lane group. Control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control, and is a surrogate measure of driver discomfort and fuel consumption.

The HCM establishes LOS A through F for intersections. A description of LOS for signalized intersections is summarized in Table 4.14-1 and LOS criteria for signalized and unsignalized intersections ins described in Table 4.14-2.

**Table 4.14-1**
**Intersection Level of Service Definitions**

| Level of Service (LOS) | Level of Service Description |
|---|---|
| A | Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping. |
| B | Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A. |
| C | Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping. |

**Table 4.14-1**
**Intersection Level of Service Definitions**

| Level of Service (LOS) | Level of Service Description |
|---|---|
| D | Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable. |
| E | Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent. |
| F | Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue. |

**Source:** HCM 6

**Table 4.14-2**
**LOS Criteria for Unsignalized and Signalized Intersections (HCM Methodology)**

| Level of Service (LOS) | Unsignalized Intersection Average Delay per Vehicle (sec) | Signalized Intersection Control Delay per Vehicle |
|---|---|---|
| A | ≤ 10.0 | < 10 |
| B | > 10.0 and ≤ 15.0 | > 10 and < 20 |
| C | > 15.0 and ≤ 25.0 | > 20 and < 35 |
| D | > 25.0 and ≤ 35.0 | > 35 and < 55 |
| E | > 35.0 and ≤ 50.0 | > 55 and < 80 |
| F | > 50.0 | > 80 |

**Source:** HCM 6

## V/C Ratio Method of Analysis for Roadway Segments

In conformance with the City of Moreno Valley and City of Perris requirements, daily operating conditions for the key study roadway segments have been investigated according to the V/C Ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the classification of each roadway. The six qualitative categories of Level of Service have been defined are shown in Table 4.14-3.

The roadway segment daily capacity per LOS criteria of each street classification according to the City of Moreno Valley TIA guidelines and the City of Perris General Plan Circulation Element is presented in Tables 4.14-4 and 4.14-5, respectively.

**Table 4.14-3**
**LOS Criteria for Roadway Segments (V/C Methodology)**

| Level of Service (LOS) | Level of Service Description |
|---|---|
| A | Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control Delay at the boundary intersection is minimal. The travel speed exceeds 80% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| B | Describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary is not significant. The travel speed is between 67% and 80% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| C | Describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersection may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| D | Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| E | Characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0. |
| F | Characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is between 30% or less of the base free-flow speed, and the volume-to-capacity ratio is greater than 1.0. |

**Table 4.14-4**
**Daily Roadway Segment Capacity and Levels of Service (Moreno Valley)**

| Type of Arterial | Level of Service | | | | |
|---|---|---|---|---|---|
| | *A* | *B* | *C* | *D* | *E* |
| Six-Lane Divided Arterial | 33,900 | 39,400 | 45,000 | 50,600 | 56,300 |
| Four-Lane Divided Arterial | 22,500 | 26,300 | 30,000 | 33,800 | 37,500 |
| Four-Lane Undivided Arterial | 15,000 | 17,500 | 20,000 | 22,500 | 25,000 |
| Two-Lane Industrial Collector | 7,500 | 8,800 | 10,000 | 11,300 | 12,500 |
| Two-Lane Undivided Residential | N/A | N/A | N/A | N/A | 2,000 |

**Source:** City of Moreno Valley Transportation Engineering Division 2007

**Table 4.14-5**
**Daily Roadway Segment Capacity and Levels of Service (Perris)[1]**

| Functional Classification | Number of Lanes | Maximum Two-Way Average Daily Traffic (ADT)[2] | | | | |
|---|---|---|---|---|---|---|
| | | *LOS A* | *LOS A* | *LOS A* | *LOS A* | *LOS A* |
| Collector | 2 | 7,800 | 9,100 | 10,400 | 11,700 | 13,000 |
| Collector | 4 | 15,540 | 18,130 | 20,700 | 23,300 | 25,900 |
| Arterial | 2 | 10,800 | 12,600 | 14,400 | 16,200 | 18,000 |
| Arterial | 4 | 21,540 | 25,130 | 28,700 | 32,300 | 35,900 |
| Arterial | 6 | 32,340 | 37,730 | 43,100 | 48,500 | 53,900 |
| Expressway | 4 | 24,540 | 28,630 | 32,700 | 36,800 | 40,900 |
| Expressway | 6 | 36,780 | 42,910 | 49,000 | 55,200 | 61,300 |
| Expressway | 8 | 49,020 | 57,190 | 65,400 | 73,500 | 81,700 |
| Freeway | 4 | 45,900 | 53,550 | 61,200 | 68,900 | 76,500 |
| Freeway | 6 | 70,500 | 82,250 | 94,000 | 105,800 | 117,500 |
| Freeway | 8 | 96,300 | 112,350 | 128,400 | 144,500 | 160,500 |
| Freeway | 10 | 120,360 | 140,420 | 160,500 | 180,500 | 200,600 |

**Source:** City of Perris General Plan Circulation Element (amended August 2008).
1 All Capacity Exhibits are based on optimum conditions and are intended as guidelines for planning purposes only.
2 Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.
LOS = Level of Service

## Impact Criteria and Threshold

### *City of Moreno Valley*

The City uses both LOS C and LOS D as its minimum LOS criteria for intersections and roadway segments. LOS D is applicable to intersections and roadway segments adjacent to employment-generating land uses, while LOS C is applicable to all other areas. Based on the City TIA Guidelines, for projects in conformance with the General Plan, a significant transportation impact occurs at an intersection or roadway segment when the LOS falls below the target LOS of C or D (as applicable) with the addition of project traffic or when a project contributes to an unsatisfactory condition (LOS D, E, or F).

### *City of Perris*

At study intersection and roadway segments under the jurisdiction of the City of Perris, the determination of a significant circulation impact is based on the impact criteria contained in the Riverside County TIA guidelines, which state that a significant impact occurs at a study intersection or roadway segment when the project traffic deteriorates the LOS to below the target LOS of D or when the cumulative traffic exceeds the target LOS.

*Caltrans*

Caltrans does not have significant impact criteria for study intersections. Therefore, a significant impact occurs when the project causes an unsatisfactory condition (deteriorate from LOS A through D to E or F) for intersections or when the project contributes to an existing deficiency.

**Vehicle Miles Traveled Significance Thresholds**

As discussed above, the City has not yet adopted local VMT criteria therefore this section is based on traffic impact study that provides a delay based level of service analysis for the proposed project.

Based on OPR's review of the applicable research, and an assessment by the California Air Resources Board, OPR recommends that a per capita or per employee VMT that is 15% below that of the existing development may be a reasonable threshold.

## 4.14.2 Existing Conditions

The project site is located in the City of Moreno Valley and north of the City of Perris. The project site is located approximately 5 miles east of I-215 and approximately 2 miles south of SR-60. Figure 4.14-1 illustrates the project location.

**Study Area**

Based on the City's TIA guidelines, discussion with City staff and Scoping Agreement prepared for the project, study area intersections and roadway segments included in the traffic analysis were identified. Existing conditions peak hours and daily traffic volume data has been collected at the key study intersections and roadway segments, respectively, on a "typical" weekday for use in the preparation of intersection and roadway segment level of service calculations.

***Intersections***

The 64 key study intersections (including three project driveways along Iris Avenue) were selected for evaluation based on City's criteria of where the project would add 50 or more peak hour trips or intersections identified by City staff. These intersections provide both local and regional access to the study area and define the extent of the boundaries for the TIA.

Figure 4.14-2 illustrates the location of all the study area intersections.

### *Roadway Segments*

The study roadway segments listed in the following section are locations that could potentially be impacted by the project. The 60 roadway segments analyzed were selected based on the arterial network within the study area per the Scoping Agreement and based on discussion with City staff. Table 4.14.6 provides the roadway segment classification for all the study area segments.

**Table 4.14-6**
**Roadway Segment Classification**

| Roadway | No. | Segment | Existing Condition Number of Lanes | Jurisdiction | General Plan Classification | General Plan Curb to Curb Width | Existing Pedestrian Facilities | Existing Bicycle Facilities |
|---|---|---|---|---|---|---|---|---|
| Perris Boulevard | 1 | between Iris Avenue and Krameria Avenue | 6 | Moreno Valley | Divided Arterial - 6 Lane | 86 | Yes | No |
| | 2 | between Krameria Avenue and San Michele Road | 6 | Moreno Valley | Divided Arterial - 6 Lane | 86 | Yes | No |
| | 3 | between San Michele Road and Nandina Avenue | 6 | Moreno Valley | Divided Arterial - 6 Lane | 86 | Partial | No |
| | 4 | between Nandina Avenue and Harley Knox Boulevard | 6 | Moreno Valley/Perris | Divided Arterial - 6 Lane (Moreno Valley), Primary Arterial (Perris) | 86 | Yes | No |
| Lasselle Street | 5 | between John F Kennedy Drive and Iris Avenue | 4 | Moreno Valley | Arterial | 76 | Partial | Class II |
| | 6 | between Iris Avenue and Krameria Avenue | 4 | Moreno Valley | Arterial | 76 | Yes | No |
| | 7 | between Krameria Avenue and Via Xavier Lane | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | 4 | Moreno Valley | Arterial | 76 | Yes | No |
| Lasselle Street - Evans Road | 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | 4 | Moreno Valley/Perris | Arterial (Moreno Valley), Primary Arterial (Perris) | 76 | Partial | No |

# Table 4.14-6
## Roadway Segment Classification

| Roadway | No. | Segment | Existing Condition Number of Lanes | Jurisdiction | General Plan Classification | General Plan Curb to Curb Width | Existing Pedestrian Facilities | Existing Bicycle Facilities |
|---|---|---|---|---|---|---|---|---|
| Nason Street | 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | 4 | Moreno Valley | Divided Arterial - 4 Lane | 86 | Yes | Class II |
| | 14 | between Eucalyptus Avenue and Cottonwood Avenue | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 15 | between Cottonwood Avenue and Alessandro Boulevard | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 16 | between Alessandro Boulevard and Cactus Avenue | 4 | Moreno Valley | Divided Major Arterial - Reduced Cross Section | 102 | Yes | Class II |
| | 17 | between Cactus Avenue and Iris Avenue | 4 | Moreno Valley | Arterial | 64 | Partial | Class II |
| Oliver Street | 18 | between Alessandro Boulevard and Cactus Avenue | 2 | Moreno Valley | Minor Arterial | 64 | Partial | No |
| | 19 | between Cactus Avenue and John F Kennedy Drive | 4 | Moreno Valley | Minor Arterial | 64 | Yes | No |
| | 20 | between John F Kennedy Drive and Iris Avenue | 3 | Moreno Valley | Minor Arterial | 64 | Partial | No |
| Moreno Beach Drive | 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | 4 | Moreno Valley | Divided Major Arterial | 110 | No | No |
| | 22 | between Eucalyptus Avenue and Cottonwood Avenue | 4 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II |
| | 23 | between Cottonwood Avenue and Alessandro Boulevard | 2 | Moreno Valley | Divided Major Arterial | 110 | No | Class II |
| | 24 | between Alessandro Boulevard and Cactus Avenue | 2 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II (Partial) |
| | 25 | between Cactus Avenue and John F Kennedy Drive | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 26 | between John F Kennedy Drive and Via Del Lago | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |

**Table 4.14-6**
**Roadway Segment Classification**

| Roadway | No. | Segment | Existing Condition Number of Lanes | Jurisdiction | General Plan Classification | General Plan Curb to Curb Width | Existing Pedestrian Facilities | Existing Bicycle Facilities |
|---|---|---|---|---|---|---|---|---|
| Alessandro Boulevard | 27 | between I-215 Northbound Ramps and Day Street | 5 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II (EB Only) |
| | 28 | between Day Street and Elsworth Street | 5 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II |
| | 29 | between Elsworth Street and Frederick Street | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | No |
| | 30 | between Frederick Street and Graham Street | 5 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II |
| | 31 | between Graham Street and Heacock Street | 5 | Moreno Valley | Divided Major Arterial | 110 | Partial | Class II |
| | 32 | between Heacock Street and Indian Street | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 33 | between Indian Street and Perris Boulevard | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 34 | between Perris Boulevard and Kitching Street | 5 | Moreno Valley | Divided Major Arterial | 110 | Partial | No |
| | 35 | between Kitching Street and Lasselle Street | 2 | Moreno Valley | Divided Major Arterial | 110 | No | No |
| | 36 | between Lasselle Street and Nason Street | 2 | Moreno Valley | Divided Major Arterial | 110 | Partial | No |
| | 37 | between Nason Street and Moreno Beach Drive | 2 | Moreno Valley | Divided Arterial - 4 Lane | 86 | No | No |
| Cactus Avenue | 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | 4 | Moreno Valley/ March JPA | Divided Major Arterial - Reduced Cross Section | 102 | No | No |
| | 39 | between Elsworth Street and Frederick Street | 6 | Moreno Valley/ March JPA | Divided Major Arterial - Reduced Cross Section | 102 | Partial | Class II |
| | 40 | between Frederick Street and Graham Street - Riverside Drive | 6 | Moreno Valley/ March JPA | Divided Major Arterial - Reduced Cross Section | 102 | Partial | Class II |
| | 41 | between Graham Street -Riverside Drive and Heacock Street | 6 | Moreno Valley/ March JPA | Divided Major Arterial - Reduced Cross Section | 102 | Partial | Class II |
| | 42 | between Heacock Street and Indian Street | 4 | Moreno Valley | Minor Arterial | 64 | Yes | No |
| | 43 | between Indian Street and Perris Boulevard | 4 | Moreno Valley | Minor Arterial | 64 | Yes | No |
| | 44 | between Perris Boulevard and Kitching Street | 4 | Moreno Valley | Minor Arterial | 64 | Yes | No |
| | 45 | between Kitching Street and Lasselle Street | 4 | Moreno Valley | Minor Arterial | 64 | Yes | No |
| | 46 | between Lasselle Street and Nason Street | 4 | Moreno Valley | Minor Arterial | 64 | Partial | Class II |

**Table 4.14-6**
**Roadway Segment Classification**

| Roadway | No. | Segment | Existing Condition Number of Lanes | Jurisdiction | General Plan Classification | General Plan Curb to Curb Width | Existing Pedestrian Facilities | Existing Bicycle Facilities |
|---|---|---|---|---|---|---|---|---|
| John F Kennedy Drive | 47 | between Oliver Street and Moreno Beach Drive | 2 | Moreno Valley | Minor Arterial | 64 | Yes | Class II |
| Iris Avenue | 48 | between Heacock Street and Indian Street | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 49 | between Indian Street and Perris Boulevard | 3 | Moreno Valley | Arterial | 76 | Partial | Class II |
| | 50 | between Perris Boulevard and Kitching Street | 4 | Moreno Valley | Arterial | 76 | Yes | Class II |
| | 51 | between Kitching Street and Lasselle Street | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 52 | between Lasselle Street and Camino Flores | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 53 | between Camino Flores and Coachlight Court - Avenida De Circo | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 56 | between Nason Street – Hillrose Lane and Driveway 1 | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 57 | between Driveway 1 and Driveway 2 | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 58 | between Driveway 2 and Driveway 3 | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 59 | between Driveway 3 and Oliver Street | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |
| | 60 | between Oliver Street and Via Del Lago | 6 | Moreno Valley | Divided Major Arterial | 110 | Yes | Class II |

## Study Area Primary Roadway Segments

I-215 provides primary regional access to the project site. I-215 runs in the north–south direction, west of the project site. The principal local network of streets serving the project site consist of Alessandro Boulevard, Cactus Avenue, Iris Avenue, Perris Boulevard, Lasselle Street/Evans Road, Nason Street, Oliver Street and Moreno Beach Drive. The discussion below provides a brief description of the key area streets and Figures 4.14-3 and 4.14-4 illustrate the City of Moreno Valley General Plan Street Classifications and City of Perris General Plan Street Classifications.

***Alessandro Boulevard*** is an east-west arterial within the City. From the westerly limit of the study area to Kitching Street, Alessandro Boulevard is a partly divided arterial varying from five to six lanes. From Kitching Street to the easterly limit of study area, Alessandro Boulevard is an undivided arterial with two lanes. In the City Circulation Plan, Alessandro Boulevard is designated partly as “Divided Major Arterial” and partly as “Divided Arterial – 4 Lane.”

***Cactus Avenue*** is an east-west divided arterial within the City. The number of lanes varies from four to six. In the City Circulation Plan, Cactus Avenue is designated partly as “Divided Major Arterial – Reduced Cross Section” and partly as “Minor Arterial.”

***Iris Avenue*** is an east-west divided arterial with the number of lanes varying from three to six, within the City. In the City Circulation Plan, Iris Avenue is designated partly as “Divided Major Arterial” and partly as “Arterial.”

***Perris Boulevard*** is a north-south six-lane divided arterial within the study area in both the City Moreno Valley and the City of Perris. Perris Boulevard is designated as “Divided Arterial – 6 Lane” within Moreno Valley (as per the City’s Circulation Plan) and as “Primary Arterial” within Perris (as per the City of Perris General Plan Circulation Element) (City of Moreno Valley 2006; City of Perris 2008).

***Lasselle Street/Evans Road*** is a north-south divided arterial with the number of lanes varying from four to five. Within the study area, the designation of Laselle Street on the City of Moreno Valley Circulation Plan is “Arterial,” “Divided Major Arterial,” and Divided Major Arterial- Reduced Cross Section” (City of Moreno Valley 2006). South of the intersection with Camino Del Rey, it continues as Evans Road into the City of Perris. In Perris, Evans Road is designated as “Primary Arterial” (per the City of Perris 2008).

***Nason Street*** is a north-south is a divided arterial within the City. Travel lanes within the study vary between four and five lanes. Nason Street is designated partly as “Divided Major Arterial – Reduced Cross Section,” partly as “Divided Arterial – 4 Lane,” and partly as “Arterial” in the City’s Circulation Plan.

***Oliver Street*** runs north-south and is a partly divided and partly undivided arterial with the number of lanes varying from two to four. There are no existing bike lanes and sidewalks exist on both sides of the segments except for the stretch between John F Kennedy Drive and Filaree Avenue, where sidewalks are present only on one side of the road.

***Moreno Beach Drive*** runs north-south in the City. Within the study area, it is designated as "Divided Major Arterial" in the City's Circulation Plan. Under existing conditions, it is a partly divided and partly undivided arterial with the number of lanes varying from two to six.

### Existing Traffic Volumes

Existing AM and PM peak hour traffic volumes for the 64 existing key study intersections and daily two-way traffic volumes for the 60 key roadway segments evaluated in this traffic analysis were collected in November 2017 and January 2018, respectively (see Appendix I). This analysis was based on existing peak hour intersection and 24 hour roadway segment counts. The existing conditions analysis reflects these counts as well as existing lane configurations for all analyzed intersections and roadway segments.

Figures 4.14-5A and 4.14-5B illustrate the intersection geometrics and traffic control for the study area intersections. Figures 4.14-6A and 4.14-6B illustrate the existing peak hour traffic volumes for the study area intersections.

### Existing Conditions Intersection Capacity Analysis

Table 4.14-7 summarizes the existing peak hour service level calculations for the study intersections based on existing traffic volumes and current street geometry. As shown in Table 4.14-7, based on the HCM methodology and the applicable LOS criteria, seven of the study intersections currently operate at an unacceptable LOS. The remaining key intersections currently operate at an acceptable LOS during the AM and PM peak hours. The intersections operating at an adverse LOS are listed below and shown in **bold** in the table.

- No. 17 Indian Street/Cactus Avenue (AM peak hour only);
- No. 27 Kitching Street/Cactus Avenue (AM peak hour only);
- No. 30 Lasselle Street/Cactus Avenue (AM peak hour only);
- No. 33 Lasselle Street/Krameria Avenue (AM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM peak hour only);
- No. 49 Nason Street-Hillrose Lane/Iris Avenue (PM peak hour only); and
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM peak hour only).

## Table 4.14-7
## Existing Intersection Levels of Service

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | |
| | | | | | Delay (sec.) | LOS | Delay (sec.) | LOS |
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 12.5 | B | 14.1 | B |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 23.1 | C | 19.2 | B |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 10.8 | B | 15.6 | B |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | 23.5 | C | 17.8 | B |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | 37.5 | D | 27.8 | C |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 30.4 | C | 29.9 | C |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 39.8 | D | 47.3 | D |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.1 | D | 28.6 | C |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 9.1 | A | 11.5 | B |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 26.8 | C | 27.2 | C |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 31.9 | C | 26.8 | C |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.5 | D | 33.8 | C |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 34.9 | C | 39.6 | D |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 23.7 | C | 19.7 | B |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 32.2 | C | 31.5 | C |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 35.8 | **D*** | 32.5 | C |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 40.0 | D | 30.4 | C |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 41.3 | D | 35.9 | D |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 43.3 | D | 36.5 | D |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 23.4 | C | 36.3 | D |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 27.4 | C | 21.2 | C |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 10.7 | B | 13.6 | B |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 8.6 | A | 13.4 | B |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 31.9 | C | 31.0 | C |

**Table 4.14-7**
**Existing Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | |
| | | | | | Delay (sec.) | LOS | Delay (sec.) | LOS |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 33.7 | C | 23.2 | C |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 39.9 | **D*** | 28.1 | C |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | 30.7 | C | 33.4 | C |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | 46.5 | D | 31.7 | C |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 43.2 | **D*** | 33.6 | C |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 17.0 | B | 9.5 | A |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 32.4 | C | 39.1 | D |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 41.4 | **D*** | 19.9 | B |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 4.5 | A | 3.8 | A |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 5.1 | A | 3.0 | A |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 4.5 | A | 4.7 | A |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 12.6 | B | 5.8 | A |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 50.8 | **D*** | 28.1 | C |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | 49.4 | D | 25.5 | C |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 13.8 | B | 22.2 | C |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 15.7 | B | 16.7 | B |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 23.4 | C | 30.4 | C |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 25.7 | C | 21.0 | C |
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 23.8 | C | 24.1 | C |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 35.0 | C | 25.6 | C |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 14.2 | B | 9.7 | A |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 31.1 | C | 27.3 | C |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 32.7 | C | 29.2 | C |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 30.2 | C | 35.7 | **D*** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | 39.4 | **E*** | 18.9 | C |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 35.9 | D | 27.0 | C |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 13.0 | B | 9.0 | A |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 29.0 | C | 32.3 | C |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 20.7 | C | 22.1 | C |

**Table 4.14-7**
**Existing Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 16.9 | B | 11.3 | B |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 30.0 | C | 43.1 | D |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 27.6 | C | 27.2 | C |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 20.5 | C | 15.1 | B |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | 24.8 | C | 34.6 | C |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 20.8 | C | 26.8 | C |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 21.3 | C | 40.8 | D |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 9.6 | A | 10.8 | B |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 33.0 | C | 31.8 | C |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 14.1 | B | 12.3 | B |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

### Existing Conditions Roadway Segment Analysis

Table 4.14-8 summarizes the daily level of service results at the 60 study roadway segments during a “typical” weekday for the existing traffic conditions. “Typical” conditions are comprised of traffic counts collected during weekdays (Tuesdays, Wednesdays, or Thursdays) during a non-holiday week while adjacent schools are in session. For this project, traffic counts were collected in November 2017 and January 2018 under typical conditions.

The following roadway segments are currently operating at an unsatisfactory LOS and are shown in bold in Table 4.14-8:

- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue ; and
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street.

As shown in Table 4.14-8, all other roadway segments in the study area operate at a satisfactory LOS.

**Table 4.14-8**
**Existing Roadway Segment Levels of Service**

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | |
|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* |
| | *Segments on Perris Boulevard* | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 26,800 | A |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 29,300 | A |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 29,000 | A |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 31,200 | A |
| | *Segments on Lasselle Street* | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 17,200 | A |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 27,200 | C |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 25,200 | B |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 24,000 | B |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 23,700 | B |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 23,100 | B |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 21,900 | A |
| | *Segment on Lasselle Street - Evans Road* | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 23,900 | B |
| | *Segments on Nason Street* | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 21,700 | A |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 24,500 | B |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 19,500 | A |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 15,000 | A |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 11,800 | A |
| | *Segments on Oliver Street* | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,100 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 4,200 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 2,600 | A |

## Table 4.14-8
## Existing Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | |
|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* |
| | *Segments on Moreno Beach Drive* | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 21,800 | A |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 16,700 | A |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 16,100 | **D*** |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 16,400 | **F*** |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 13,700 | A |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 14,700 | A |
| | *Segments on Alessandro Boulevard* | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 29,700 | B |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 29,500 | B |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 27,700 | A |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 31,700 | B |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 32,500 | B |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 31,200 | A |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 26,600 | A |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 21,800 | A |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 16,000 | D |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 10,400 | D |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 8,700 | B |
| | *Segments on Cactus Avenue* | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 47,200 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 42,200 | C |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 44,500 | C |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 39,900 | C |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,200 | A |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 21,100 | A |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 17,000 | A |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 13,100 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 14,400 | A |

**Table 4.14-8**
**Existing Roadway Segment Levels of Service**

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | |
|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* |
| *Segment on John F Kennedy Drive* | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,700 | A |
| *Segments on Iris Avenue* | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 9,400 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 12,200 | A |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 22,200 | A |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 22,200 | A |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 28,400 | A |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 27,000 | A |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 25,100 | A |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 23,400 | A |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 19,500 | A |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 18,700 | A |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 16,100 | A |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 15,500 | A |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 13,500 | A |

**Notes:**
LOS = Level of Service
* Exceeds LOS Standard
[1] Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
[2] Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

### Existing Transit, Bicycle, and Pedestrian Facilities

Public transportation with the study area includes bus and rail service. The Riverside Transit Agency (RTA) is responsible for providing bus transit service and Metrolink provides rail transit service.

Table 4.14-9 identifies the transit operators and the service they each provide within the study area. Route 20 operates along Iris Avenue and provides service between Magnolia Center and Moreno Valley College and also connects the project site to the Riverside University Medical

Center, Metrolink Station. The nearest Route 20 bus stop is located on Iris Avenue along project frontage.

The Perris Valley Line, a 24-mile extension of the Metrolink commuter rail service from Downtown Riverside to Perris, connects Metrolink's 91 Line which runs through Corona and Fullerton to Los Angeles. The Perris Valley Line runs along the west side of I-215 and the nearest station to the project (Moreno Valley/ March Field Station) is located approximately 7.5 miles from the proposed project.

Figure 4.14-7 illustrates the master plan of trails within the City and surrounding region. These trails include bikeways and multiuse trails readily available and planned for both pedestrian and cyclist usage.

Table 4.14-6 summarizes the classifications of bicycle lanes within the study area limits. Figure 4.14-8 illustrates the Moreno Valley bicycle lane network plan. A class II bike facility currently exists along Iris Avenue on both sides of the roadway. A paved meandering sidewalk is constructed on both sides of Iris Avenue near the project site. A pedestrian crosswalk facilitates access across Iris Avenue from project site at the signalized Driveway 2.

**Table 4.14-9**
**Moreno Valley Transit Services**

| Operator | Route[1] |
|---|---|
| *Bus* | |
| RTA 11 | Loop route with stops at Moreno Valley Mall, Perris Avenue & Hemlock Street, Alessandro Boulevard and Heacock Avenue, Meyer Drive and 6th St., and Frederick Street and Alessandro Boulevard. |
| RTA 16 | Operates on a north-south express route between Moreno Valley Mall and University of California, Riverside. |
| RTA 18 | Operates on a north-south route between Moreno Valley Mall and Moreno Valley College. |
| RTA 19 | Operates on a north-south route between Moreno Valley Mall and Perris Transit Center, mostly via Perris Boulevard. |
| RTA 20 | Operates on a north-south route between Magnolia Avenue/Elizabeth Street in Riverside and Iris Boulevard/Lasselle Street, mostly along Alessadro Boulevard with stops at Moreno Valley Community College, Kaiser Medical Center, and Moreno Valley Metrolink Station. |
| RTA 26 | Operates two loop routes. West Loop route stops at Moreno Valley Metrolink, Mission Grove at Social Security, and a transfer stop at Orange Terrace/Van Buren Boulevard |
| RTA 31 | Operates on a north-south express route between Hemet Valley Mall and Moreno Valley Mall, via Route 79 and SR-60. |
| RTA 41 | Operates on an east-west route between Mead Valley Community Center and Riverside University Medical Center, mostly via Cajalco Express, Lasselle Street and Evans Road. |
| RTA 208 | Operates on a north-south commuter link express route between Promenade Mall in Temecula and Vine Street layover in Downtown Riverside. |

**Table 4.14-9**
**Moreno Valley Transit Services**

| Operator | Route[1] |
|---|---|
| RTA 210/Sunline 220 | Operates on an east-west commuter link express limited route between Palm Desert Mall and Vine Street layover in Riverside. |
| *Rail* | |
| Metrolink 91/Perris Valley | Operates on an east-west commuter rail from Perris to Norwalk with a stop in Moreno Valley/ March Field. |

**Notes**:
1 Route information obtained from Riverside Transit Authority website (www.riversidetransit.com) and Metrolink's website (www.metrolinktrains.com).

### General Plan Buildout 2040

General Plan build-out conditions traffic volumes were developed using forecast volumes obtained from Moreno Valley Traffic Model (MVTM) and by applying the National Cooperative Highway Research Program (NCHRP) post-processing methodologies. The MVTM was developed in accordance with regional consistency requirements and is based on the traditional forecasting procedure that includes trip generation, trip distribution and traffic assignment. The model addresses traffic from surrounding communities as well as Moreno Valley.

Information concerning cumulative projects in the City was obtained from the City Economic Development website. Cumulative projects were also considered for the adjacent jurisdictions of County of Riverside, City of Riverside, City of Perris, and the March Joint Powers Authority. As such, the future year scenario in MVTM includes all projects anticipated to be built over the next 25 years. The model socioeconomic data from Riverside County/WRCOG for the future scenario were reviewed to check whether the cumulative projects that are anticipated to affect the study area are included in the model. If a project was missing or not appropriately included in the model, the model's socioeconomic data were accordingly updated to include those projects. Appendix I, Figure 4-2 illustrates the cumulative project locations and Table 4-B lists the cumulative projects included in the analysis.

Figures 4.14.9A and 4.14.9B illustrate the peak hour traffic volumes at study intersections for General Plan build-out without project conditions. Table 4-C in Appendix I summarizes the General Plan build-out roadway segment daily traffic volumes.

### Project Completion Year Conditions

Since the project would be developed in three phases, all project completion years conditions were analyzed in addition to General Plan Buildout year 2040. Traffic volumes for each project completion year (2023, 2032 and 2038) were developed by interpolating the volumes between existing and General Plan build-out without project traffic volumes.

Figures 4.14.10A and 4.14.10B illustrate the peak hour traffic volumes at study intersections for Phase I Project Completion Year (2023) without project conditions. Table 4-D in Appendix I summarizes the Phase I Project Completion Year (2023) roadway segment daily traffic volumes.

Figures 4.14.11A and 4.14.11B illustrate the peak hour traffic volumes at study intersections for Phase II Project Completion Year (2032) without project conditions. Table 4-E in Appendix I summarizes the Phase II Project Completion Year (2032) roadway segment daily traffic volumes.

Figures 4.14.12A and 4.14.12B illustrate the peak hour traffic volumes at study intersections for Phase III Project Completion Year (2038) without project conditions. Table 4-E in Appendix I summarizes the Phase III Project Completion Year (2038) roadway segment daily traffic volumes.

## 4.14.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), and will be used to determine the significance of potential traffic and circulation impacts. Impacts to traffic and circulation would be significant if the project would:

- TRA-1 Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- TRA-2 Conflict or be inconsistent with the CEQA Guidelines Section 15064.3, subdivision (b).
- TRA-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- TRA-4 Result in inadequate emergency access.

## 4.14.4 Project Design Features

The following Project Design Features (PDF) would also reduce impacts associated with traffic during construction and permanent operations of the proposed project.

**PDF-TRA-1** Traffic Control During Project Construction: The project would comply with the City's Emergency Operations Plan (EOP) for both construction and operations of all phases. Construction activities during all phases that may temporarily restrict vehicular traffic would implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures in accordance with the City's EOP. Operation of the project would not interfere with the City's EOP as driveways off Iris Avenue would be made accessible for emergency vehicles.

**PDF-TRA-2** Kaiser will have a Transportation Demand Management (TDM) representative that will manage all aspects of the TDM program and participate in City-sponsored workshops and information roundtables, as well as be responsible for the TDM activities at the project site. The following TDMs would be implemented:

***Transportation Information Center.*** Kaiser Permanente will provide information at the project site for employees, members, and visitors about local public transit services (including bus lines, future light rail lines, bus fare programs, rideshare programs and shuttles) and bicycle facilities (including routes, rental and sales locations, on-site bicycle racks and showers). Kaiser Permanente will also provide walking and biking maps for employees, visitors and residents, which would include but not be limited to information about convenient local services and restaurants within walking distance of the project site. Such transportation information will be provided at a transportation kiosk at the project site which will be maintained by the Kaiser Rider coordinator. In addition, information would be provided highlighting the environmental and health benefits of utilization of alternative transportation modes (e.g., Kaiser's Walk-for-your-Health program, etc.).

***Preferential Parking for Employees*.** Kaiser Permanente will provide preferential parking (i.e., vanpool spaces, carpool spaces) within the parking facilities for employees who commute to work in Kaiser Permanente registered vanpools and carpools. For example, an employee who drives to work with at least one other employee to the project site may register as a carpool entitled to preferential parking within the meaning of this provision.

***Convenient Parking and Facilities for Bicycle Riders*.** Kaiser Permanente will provide locations at all site buildings for convenient parking for bicycle commuters for employees working at the sites, members traveling to the site, and visitors to the sites. The bicycle parking will be located within the Kaiser Permanente project site and/or in the public right-of-way adjacent to the commercial uses such that long-term and short-term parkers can be accommodated.

***Guaranteed Return Trip for Employees*.** Kaiser Permanente will provide vanpool and carpool reliant employees with a free return trip (or to the point of commute origin), when a personal emergency situation requires it.

## 4.14.5 Impacts Analysis

***Threshold TRA-1. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

***Impacts to Roadway Facilities***

In considering whether the proposed project would conflict with an applicable plan, ordinance, or policy, it is necessary to analyze the project's potential impacts relative to the significance criteria utilized by the City of Moreno Valley and the City of Perris discussed above. This impact analysis was conducted under the following scenarios:

(1) Existing with Project Conditions;

(2) Phase I Project Completion Year (2023) Conditions;

(3) Phase II Project Completion Year (2032) Conditions;

(4) Phase III Project Completion Year (2038) Conditions;

(5) General Plan Build-Out (2040) with Project Conditions;

Project Trip Generation, Distribution, and Assignment are provided below.

**1. Project Trip Generation**

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation rates used in the traffic forecasting procedure are from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

Table 4.14-10 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed project and the forecast daily and peak hour project traffic volumes for a "typical" weekday. The trip generation potential for the proposed project was forecast using ITE Land Use Code 610: Hospital rates and ITE Land Use Code 720: Medical-Dental Office Building rates, as shown in Table 4.14-10.

***A. Project Phase I Trip Generation Forecast***

Phase I consists of the demolition of the Iris Medical Office Building (MOB) 1 and Education Trailers medical office buildings (10,500 square feet) and the construction of a 95,000 square-foot Diagnostics and Treatment (D&T) Expansion (hospital) and 22,000 square foot Energy Center. As shown in Table 4.14-10, the Project Phase I is expected to generate net new 653 daily trips, with

55 trips (34 inbound, 21 outbound) produced in the AM peak hour and 56 trips (19 inbound, 37 outbound) produced in the PM peak hour on a "typical" weekday.

### *B. Project Phase II Trip Generation Forecast*

Phase II consists of the construction of a 65,000 square foot medical office building (MOB 3), 380,000 square foot expansion of the D&T center, patient towers North and East, and 8,000 square foot Energy Center. As shown in Table 4.14-10, the Project Phase II is expected to generate net new 6,336 daily trips, with 519 trips (371 inbound, 148 outbound) produced in the AM peak hour and 594 trips (181 inbound, 413 outbound) produced in the PM peak hour on a "typical" weekday.

### *C. Project Phase III Trip Generation Forecast*

Phase III consists of the demolition of 130,000 square feet of the existing hospital and construction of a 95,000 square foot medical office building (MOB 4) and a 375,000 square foot expansion of the D&T center along with patient towers South and West. As shown in Table 4.14-10, the Project Phase III is expected to generate 5,932 daily trips, with 482 trips (354 inbound, 128 outbound) produced in the AM peak hour and 566 trips (168 inbound, 398 outbound) produced in the PM peak hour on a "typical" weekday.

### *D. Total Project Trip Generation Forecast*

As shown in Table 4.14-10, the total Project Phase I, II, and III is expected to generate 12,921 daily trips, with 1,056 trips (759 inbound, 297 outbound) produced in the AM peak hour and 1,216 trips (368 inbound, 848 outbound) produced in the PM peak hour on a "typical" weekday.

## 2. Project Trip Distribution and Assignment

The project trip distribution pattern for the project was developed using the select zone model run obtained from Moreno Valley Transportation model (MVTM) and is illustrated in Figures 4.14.13A, and 4.14.13B. Regional project distribution is illustrated in Figure 4.14.14.

The anticipated AM and PM peak hour Existing and Phase I, II and III traffic volumes at the 64 study intersections are presented in Figures 4.14.15A, 4.14.15B, 4.14.16A, 4.14.16B, 4.14.17A, and 4.14.17B, respectively. The traffic volume assignment presented in the above mentioned figures reflect the project trip distribution characteristics shown in Figure 4.14.13A and 4.14.13B and the project trip generation forecast presented in the Table 4.14-10.

## Table 4.14-10
## Project Trip Generation

| Land Use | Units | | AM Peak Hour In | AM Peak Hour Out | AM Peak Hour Total | PM Peak Hour In | PM Peak Hour Out | PM Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|---|
| *Existing* | | | | | | | | | |
| Iris Medical Office Building 1 and Education Trailers | 10.50 | TSF | | | | | | | |
| *Trips/Unit*[1] | | | *2.17* | *0.61* | *2.78* | *0.97* | *2.49* | *3.46* | *34.80* |
| *Trip Generation* | | | *23* | *6* | *29* | *10* | *26* | *36* | *365* |
| Medical Office Building 2 | 74.50 | TSF | | | | | | | |
| *Trips/Unit*[1] | | | *2.17* | *0.61* | *2.78* | *0.97* | *2.49* | *3.46* | *34.80* |
| *Trip Generation* | | | *162* | *46* | *208* | *72* | *186* | *258* | *2,593* |
| Hospital | 130.00 | TSF | | | | | | | |
| *Trips/Unit*[2] | | | *0.61* | *0.28* | *0.89* | *0.31* | *0.66* | *0.97* | *10.72* |
| *Trip Generation* | | | *79* | *37* | *116* | *40* | *86* | *126* | *1,394* |
| **Existing Net Trip Generation** | | | **264** | **89** | **353** | **122** | **298** | **420** | **4,352** |
| *Phase I - Year 2023* | | | | | | | | | |
| D & T Expansion | 95.00 | TSF | | | | | | | |
| *Trips/Unit*[2] | | | *0.61* | *0.28* | *0.89* | *0.31* | *0.66* | *0.97* | *10.72* |
| *Trip Generation* | | | *57* | *27* | *84* | *29* | *63* | *92* | *1,018* |
| CUP Expansion (Energy Center) | 22.00 | TSF | | | | | | | |
| *Trips/Unit*[3] | | | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* |
| *Trip Generation* | | | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** |
| Iris Medical Office Building 1 and Education Trailers | -10.50 | TSF | | | | | | | |
| *Trips/Unit*[1] | | | *2.17* | *0.61* | *2.78* | *0.97* | *2.49* | *3.46* | *34.80* |
| *Trip Generation* | | | *(23)* | *(6)* | *(29)* | *(10)* | *(26)* | *(36)* | *(365)* |
| **Phase I Net Trip Generation** | | | **34** | **21** | **55** | **19** | **37** | **56** | **653** |
| *Phase II - Year 2032* | | | | | | | | | |
| Patient Bed Towers (North and East) and D & T Expansion | 380.00 | TSF | | | | | | | |
| *Trips/Unit*[2] | | | *0.61* | *0.28* | *0.89* | *0.31* | *0.66* | *0.97* | *10.72* |
| *Trip Generation* | | | *230* | *108* | *338* | *118* | *251* | *369* | *4,074* |
| Medical Office Building 3 | 65.00 | TSF | | | | | | | |
| *Trips/Unit*[1] | | | *2.17* | *0.61* | *2.78* | *0.97* | *2.49* | *3.46* | *34.80* |
| *Trip Generation* | | | *141* | *40* | *181* | *63* | *162* | *225* | *2,262* |

**Table 4.14-10**
**Project Trip Generation**

| Land Use | Units | | AM Peak Hour In | AM Peak Hour Out | AM Peak Hour Total | PM Peak Hour In | PM Peak Hour Out | PM Peak Hour Total | Daily |
|---|---|---|---|---|---|---|---|---|---|
| CUP Expansion (Energy Center) | 8.00 | TSF | | | | | | | |
| *Trips/Unit[3]* | | | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* |
| *Trip Generation* | | | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** |
| **Phase II Net Trip Generation** | | | **371** | **148** | **519** | **181** | **413** | **594** | **6,336** |
| **Phases I+II Net Trip Generation** | | | **405** | **169** | **574** | **200** | **450** | **650** | **6,989** |
| *Phase III - Year 2038* | | | | | | | | | |
| Patient Bed Towers (South and West), D & T Expansion, and ED | 375.00 | TSF | | | | | | | |
| *Trips/Unit[2]* | | | *0.61* | *0.28* | *0.89* | *0.31* | *0.66* | *0.97* | *10.72* |
| *Trip Generation* | | | *227* | *107* | *334* | *116* | *247* | *363* | *4,020* |
| Medical Office Building 4 | 95.00 | TSF | | | | | | | |
| *Trips/Unit[1]* | | | *2.17* | *0.61* | *2.78* | *0.97* | *2.49* | *3.46* | *34.80* |
| *Trip Generation* | | | *206* | *58* | *264* | *92* | *237* | *329* | *3,306* |
| Existing Hospital | -130.00 | TSF | | | | | | | |
| *Trips/Unit[2]* | | | *0.61* | *0.28* | *0.89* | *0.31* | *0.66* | *0.97* | *10.72* |
| *Trip Generation* | | | *(79)* | *(37)* | *(116)* | *(40)* | *(86)* | *(126)* | *(1,394)* |
| **Phase III Net Trip Generation** | | | **354** | **128** | **482** | **168** | **398** | **566** | **5,932** |
| **Phases I+II+III Net Trip Generation** | | | **759** | **297** | **1,056** | **368** | **848** | **1,216** | **12,921** |

**Notes**:
TSF = Thousand Square Feet; D & T = Diagnostic & Treatment; ED = Emergency Department
1 Rates based on Land Use 720 - "Medical-Dental Office Building" from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, Setting/Location - "General Urban/Suburban."
2 Rates based on Land Use 610 - "Hospital" from ITE *Trip Generation Manual*, 10th Edition, Setting/Location - "General Urban/Suburban."
3 It is anticipated that the Energy Center will not generate any trips..

### 4.14.5.1 Existing with Project Level of Service Analysis

Analysis of the existing with project scenario is provided for CEQA compliance to identify direct project impacts if the project were to be built and in operation today. This scenario eliminates the effects of ambient growth and other cumulative projects and deals specifically with project impacts.

The estimates of project generated traffic volumes were added to the Existing traffic conditions to obtain traffic volumes for the Existing with Project traffic conditions. Figures 4.14.18A and 4.14.18B present the AM and PM peak hour Existing with Project Traffic Volumes, respectively, at the 64 study intersections. In addition, Appendix I, Table 4-A also presents the daily traffic volumes for the Buildout Project Trips and Existing with Project trips for all the roadway segments.

Existing with Project peak hour and daily traffic volumes were analyzed to provide intersection and roadway segment LOS analysis, respectively.

### 1. *Existing with Project Intersection Analysis*

Based on the LOS analysis and the applicable criteria, seven study intersections are forecast to operate at unacceptable levels of service under Existing with Project conditions. The intersections operating at an unsatisfactory LOS are listed below (see Table 4.14-11). The remaining study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours for the Existing with Project traffic conditions.

- No. 17 Indian Street/Cactus Avenue (AM peak hour only);
- No. 27 Kitching Street/Cactus Avenue (AM peak hour only);
- No. 30 Lasselle Street/Cactus Avenue (AM peak hour only);
- No. 33 Lasselle Street/Krameria Avenue (AM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM peak hour only);
- No. 49 Nason Street-Hillrose Lane/Iris Avenue (AM and PM peak hours); and
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM peak hour only)

Since all these intersections operate at an unsatisfactory LOS under existing conditions, and the project contributes traffic to these locations, it is considered to have a significant impact. As shown in Table 4.14-32, improvements at the impacted intersections are provided for the proposed project. However, even with the implementation of those improvements, three of the impacted intersections (Intersection Nos. 27, 30 and 33) would continue to operate at an unacceptable LOS based on the acceptable LOS standards used in the analysis (Table 4.14-22). No improvements are feasible at Intersection No. 38 due to right-of-way constraints. Therefore, the project would have a **significant and unavoidable impact**.

### 2. *Existing with Project Roadway Segment Analysis*

Based on the roadway segment LOS analysis, five of the study roadway segments would operate at an unacceptable LOS. All other roadway segments would operate at an acceptable LOS. The roadway segments that would operate at an unacceptable LOS for the Existing with Project traffic conditions are as follows (see Table 4.14-12):

- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue;
- No. 35 Alessandro Boulevard between Kitching Street and Lasselle Street;

- No. 36 Alessandro Boulevard between Lasselle Street and Nason Street; and
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street.

The two segments on Alessandro Boulevard do not operate at an unsatisfactory LOS under existing conditions; therefore, the project has a significant direct impact at these two segments under Existing with Project Conditions. However, the two segments on Moreno Beach Drive and the one on Cactus Avenue operate at an unsatisfactory LOS under existing conditions. Thus, the project contributes to the existing deficiency at these segments. As such, the project has a significant impact at these segments.

As shown in Table 9.14-32, improvements at the impacted roadway segments are provided for the proposed Project. With implementation of those improvements, all the impacted roadway segments would operate at an acceptable LOS based on the acceptable LOS standards used in the analysis. Therefore, the project would have a **less than significant impact**.

**Table 4.14-11**
**Existing Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 12.5 | B | 14.1 | B | 12.7 | B | 14.0 | B | No |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 23.1 | C | 19.2 | B | 22.9 | C | 19.8 | B | No |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 10.8 | B | 15.6 | B | 11.4 | B | 16.6 | B | No |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - | - | - | - | - | No |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | 23.5 | C | 17.8 | B | 24.9 | C | 19.4 | B | No |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | 37.5 | D | 27.8 | C | 37.4 | D | 27.8 | C | No |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 30.4 | C | 29.9 | C | 30.7 | C | 29.9 | C | No |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 39.8 | D | 47.3 | D | 39.7 | D | 52.8 | D | No |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.1 | D | 28.6 | C | 38.1 | D | 32.1 | C | No |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 9.1 | A | 11.5 | B | 11.3 | B | 12.1 | B | No |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 26.9 | C | 26.9 | C | 26.9 | C | 27.0 | C | No |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 31.9 | C | 26.8 | C | 32.1 | C | 30.7 | C | No |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.5 | D | 33.8 | C | 38.4 | D | 33.9 | C | No |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 34.9 | C | 39.6 | D | 35.5 | D | 41.9 | D | No |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 23.7 | C | 19.7 | B | 24.1 | C | 20.0 | B | No |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 32.2 | C | 31.5 | C | 32.2 | C | 31.9 | C | No |

## Table 4.14-11
## Existing Intersection Levels of Service

| | | | | | Without Project | | | | With Project | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | **Intersection** | **Jurisdiction** | **Control** | **LOS Standard** | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | **Significant Impact** |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 35.8 | **D*** | 32.5 | C | 35.5 | **D*** | 32.6 | C | **Yes** |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 40.0 | D | 30.4 | C | 45.4 | D | 31.0 | C | No |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 41.3 | D | 35.9 | D | 41.4 | D | 36.4 | D | No |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 43.3 | D | 36.5 | D | 43.9 | D | 37.7 | D | No |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 23.4 | C | 36.3 | D | 24.1 | C | 37.3 | D | No |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 27.4 | C | 21.2 | C | 27.5 | C | 21.6 | C | No |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 10.7 | B | 13.6 | B | 10.7 | B | 13.8 | B | No |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 8.6 | A | 13.4 | B | 8.6 | A | 13.3 | B | No |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 31.9 | C | 31.0 | C | 32.1 | C | 31.3 | C | No |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 33.7 | C | 23.2 | C | 33.8 | C | 23.3 | C | No |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 39.9 | **D*** | 28.1 | C | 41.5 | **D*** | 28.5 | C | **Yes** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | 30.7 | C | 33.4 | C | 31.9 | C | 34.0 | C | No |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | 46.5 | D | 31.7 | C | 48.0 | D | 32.5 | C | No |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 43.2 | **D*** | 33.6 | C | 45.2 | **D*** | 34.0 | C | **Yes** |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 17.0 | B | 9.5 | A | 17.2 | B | 9.6 | A | No |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 32.4 | C | 39.1 | D | 33.7 | C | 41.9 | D | No |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 58.8 | **E*** | 20.4 | C | 57.9 | **E*** | 20.6 | C | **Yes** |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 4.5 | A | 3.8 | A | 4.9 | A | 4.0 | A | No |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 5.1 | A | 3.0 | A | 5.4 | A | 7.7 | A | No |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 4.5 | A | 4.7 | A | 4.7 | A | 4.8 | A | No |

## Table 4.14-11
## Existing Intersection Levels of Service

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 12.6 | B | 5.8 | A | 13.0 | B | 5.9 | A | No |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 50.8 | **D*** | 28.1 | C | 55.1 | **E*** | 32.2 | C | Yes |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | 49.4 | D | 25.5 | C | 50.2 | D | 25.8 | C | No |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 13.8 | B | 22.2 | C | 15.3 | B | 22.8 | C | No |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 15.7 | B | 16.7 | B | 16.0 | B | 16.3 | B | No |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 23.4 | C | 30.4 | C | 24.2 | C | 32.0 | C | No |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 25.7 | C | 21.0 | C | 25.6 | C | 21.2 | C | No |
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 23.8 | C | 24.1 | C | 25.1 | C | 23.9 | C | No |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 35.0 | C | 25.6 | C | 40.3 | D | 26.1 | C | No |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 14.2 | B | 9.7 | A | 17.4 | B | 9.6 | A | No |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 31.1 | C | 27.3 | C | 31.1 | C | 27.1 | C | No |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 32.7 | C | 29.2 | C | 32.8 | C | 30.6 | C | No |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 30.2 | C | 35.7 | **D*** | 38.0 | **D*** | 38.8 | **D*** | **Yes** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | 39.4 | **E*** | 18.9 | C | 45.1 | **E*** | 19.8 | C | Yes |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 35.9 | D | 27.0 | C | 36.1 | D | 27.0 | C | No |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 13.0 | B | 9.0 | A | 14.8 | B | 9.3 | A | No |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 29.0 | C | 32.3 | C | 30.6 | C | 33.1 | C | No |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 20.7 | C | 22.1 | C | 21.1 | C | 21.7 | C | No |

## Table 4.14-11
## Existing Intersection Levels of Service

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 16.9 | B | 11.3 | B | 19.2 | B | 11.7 | B | No |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 30.0 | C | 43.1 | D | 33.1 | C | 44.5 | D | No |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 27.6 | C | 27.2 | C | 27.6 | C | 26.9 | C | No |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 20.5 | C | 15.1 | B | 23.6 | C | 15.3 | B | No |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | 24.8 | C | 34.6 | C | 25.2 | C | 34.7 | C | No |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 20.8 | C | 26.8 | C | 21.5 | C | 26.6 | C | No |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 21.3 | C | 40.8 | D | 21.7 | C | 41.2 | D | No |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 9.6 | A | 10.8 | B | 10.8 | B | 20.8 | C | No |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 33.0 | C | 31.8 | C | 41.6 | D | 32.4 | C | No |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 14.1 | B | 12.3 | B | 14.9 | B | 15.8 | C | No |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

## Table 4.14-12
## Existing Roadway Segment Levels of Service

| Roadway Segment | | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| *Segments on Perris Boulevard* | | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 26,800 | A | 27,300 | A |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 29,300 | A | 29,800 | A |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 29,000 | A | 29,500 | A |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 31,200 | A | 31,700 | A |
| *Segments on Lasselle Street* | | | | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 17,200 | A | 17,800 | A |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 27,200 | C | 28,700 | C |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 25,200 | B | 26,600 | C |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 24,000 | B | 25,300 | B |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 23,700 | B | 24,800 | B |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 23,100 | B | 24,200 | B |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 21,900 | A | 22,800 | B |
| *Segment on Lasselle Street - Evans Road* | | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 23,900 | B | 24,700 | B |
| *Segments on Nason Street* | | | | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 21,700 | A | 23,200 | B |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 24,500 | B | 26,200 | B |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 19,500 | A | 21,100 | A |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 15,000 | A | 18,200 | A |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 11,800 | A | 17,400 | A |

## Table 4.14-12
## Existing Roadway Segment Levels of Service

| Roadway Segment | | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| *Segments on Oliver Street* | | | | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,100 | A | 2,400 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 4,200 | A | 4,700 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 2,600 | A | 3,300 | A |
| *Segments on Moreno Beach Drive* | | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 21,800 | A | 23,200 | B |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 16,700 | A | 18,100 | A |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 16,100 | **D*** | 17,800 | **E*** |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 16,400 | **F*** | 18,400 | **F*** |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 13,700 | A | 16,100 | A |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 14,700 | A | 17,500 | A |
| *Segments on Alessandro Boulevard* | | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 29,700 | B | 30,100 | B |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 29,500 | B | 29,900 | B |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 27,700 | A | 28,100 | A |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 31,700 | B | 32,300 | B |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 32,500 | B | 33,100 | C |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 31,200 | A | 31,900 | A |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 26,600 | A | 27,500 | A |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 21,800 | A | 22,800 | A |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 16,000 | D | 17,100 | **E*** |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 10,400 | D | 11,900 | **E*** |

**Table 4.14-12**
**Existing Roadway Segment Levels of Service**

| Roadway Segment | | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 8,700 | B | 8,900 | C |
| *Segments on Cactus Avenue* | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 47,200 | **F*** | 49,100 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 42,200 | C | 44,100 | C |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 44,500 | C | 46,500 | D |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 39,900 | C | 41,800 | C |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,200 | A | 24,200 | B |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 21,100 | A | 23,100 | B |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 17,000 | A | 19,100 | A |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 13,100 | A | 15,300 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 14,400 | A | 16,700 | A |
| *Segment on John F Kennedy Drive* | | | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,700 | A | 2,800 | A |
| *Segments on Iris Avenue* | | | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 9,400 | A | 9,700 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 12,200 | A | 12,700 | A |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 22,200 | A | 23,400 | B |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 22,200 | A | 23,500 | A |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 28,400 | A | 31,600 | A |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 27,000 | A | 30,400 | A |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 25,100 | A | 28,600 | A |

**Table 4.14-12**
**Existing Roadway Segment Levels of Service**

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 23,400 | A | 26,900 | A |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 19,500 | A | 28,700 | A |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 18,700 | A | 25,500 | A |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 16,100 | A | 19,900 | A |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 15,500 | A | 19,300 | A |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 13,500 | A | 16,400 | A |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

### 4.14.5.2 Phase I Project Completion Year (2023) With Project Level of Service Analysis

The project completion year 2023 traffic volumes were obtained from MVTM and added to the existing traffic volumes to develop volumes for the Phase I Project Completion Year (2023) without Project volumes. Phase I project traffic was added to those volumes to obtain Phase I Project Completion Year (2023) with Project traffic volumes. Figures 4.14.19A and 4.14.19B illustrate the AM and PM peak hour Phase I Project Completion Year (2023) with Project traffic volumes, at the 64 study intersections. In addition, Appendix I, Table 4-D also presents the daily traffic volumes for the Phase I Project Trips and Phase I Project Completion Year (2023) with Project for all the roadway segments.

Phase I Project Completion Year (2023) with Project peak hour and daily traffic volumes were analyzed to provide intersection and roadway segment LOS analysis, respectively.

### *1. Phase I Project Completion Year (2023) with Project Intersection Analysis*

Based on the LOS analysis and the applicable criteria, the 13 intersections forecast to operate at an unacceptable levels of service under Phase I Project Completion Year (2023) with Project conditions are listed below and highlighted in Table 4.14-13. All other study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Phase I Project Completion Year (2023) with Project conditions.

- No. 8 Elsworth Street/Cactus Avenue (PM peak hour only);
- No. 17 Indian Street/Cactus Avenue (AM peak hour only);
- No. 27 Kitching Street/Cactus Avenue (AM peak hour only);
- No. 28 Kitching Street/Iris Avenue (AM and PM peak hours);
- No. 29 Lasselle Street/Alessandro Boulevard (AM and PM peak hours);
- No. 30 Lasselle Street/Cactus Avenue (AM and PM peak hours);
- No. 33 Lasselle Street/Krameria Avenue (AM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM and PM peak hours);
- No. 39 Evans Road/Ramona Expressway (AM peak hour only);
- No. 49 Nason Street-Hillrose Lane/Iris Avenue (PM peak hour only);
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM and PM peak hours);
- No. 56 Moreno Beach Drive/SR-60 Eastbound Ramps (PM peak hour only); and
- No. 59 Moreno Beach Drive/Alessandro Boulevard (PM peak hour only).

All the above intersections operate at an unsatisfactory LOS under Phase I project completion year without project conditions. Since the project contributes traffic to forecast deficiency at these intersections, it is considered to have a cumulative impact. As shown in Table 4.14-32, mitigation measures at the impacted intersections are recommended for the proposed project. However, even with the implementation of the recommended mitigation measures, three of the impacted intersections (Intersection Nos. 27, 30, and 33) would continue to operate at an unacceptable LOS based on the acceptable LOS standards used in the analysis (Table 4.14-24). No improvements are feasible at Intersection Nos. 28 and 38 due to right-of-way constraints. Therefore, the project would have a **significant and unavoidable impact**.

### 2. *Phase I Project Completion Year (2023) with Project Roadway Segment Analysis*

Based on the roadway segment LOS analysis, six of the study roadway segments would operate at an unacceptable LOS. All other key roadway segments would operate at an acceptable LOS. The roadway segments that would at an unacceptable LOS are as follows (see Table 4.14-14):

- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue;
- No. 35 Alessandro Boulevard between Kitching Street and Lasselle Street;
- No. 36 Alessandro Boulevard between Lasselle Street and Nason Street;
- No. 37 Alessandro Boulevard between Nason Street and Moreno Beach Drive; and
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street.

All the above roadway segments operate at an unsatisfactory LOS under Phase I project completion year without project conditions. Since the project contributes traffic to forecast deficiency at these roadway segments, it is considered to have a cumulative impact. As shown in Table 4.14-25, mitigation measures at the impacted roadway segments are recommended for the proposed project.

With the implementation of the recommended mitigation measures, only one failing roadway segment would continue operate at an unacceptable LOS (Table 4.14-25). All other roadway segments would operate at an acceptable LOS with the implementation of mitigation. Therefore, the project would have a **significant and unavoidable impact** at the roadway segment of Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street.

## 4.14.5.3 Phase II Project Completion Year (2032) With Project Level of Service Analysis

The project completion year 2028 traffic volumes were obtained from MVTM and added to the existing traffic volumes to develop volumes for the Phase II Project Completion Year (2032) without Project volumes. Phase II project traffic was added to those volumes to obtain Phase II Project Completion Year (2032) with Project traffic volumes. Figures 4.14.20A and 4.14.20B illustrate the AM and PM peak hour Phase II Project Completion Year (2028) with Project traffic volumes, at the 64 study intersections. In addition, Appendix I, Table 4-E also presents the daily traffic volumes for the Phase I and II Project Trips and Phase II Project Completion Year (2032) with Project for all the roadway segments.

Phase II Project Completion Year (2032) with Project peak hour and daily traffic volumes were analyzed to provide intersection and roadway segment LOS analysis, respectively.

### 1. *Phase II Project Completion Year (2032) with Project Intersection Analysis*

Based on the LOS analysis and the applicable criteria, the 22 intersections forecast to operate at an unacceptable levels of service under Phase II Project Completion Year (2032) with Project conditions are listed below and highlighted in Table 4.14-15. All other study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Phase II Project Completion Year (2032) with Project conditions.

- No. 5 I-215 Northbound Ramps-Old Frontage Road/Cactus Avenue (AM and PM peak hours);
- No. 6 Day Street/Alessandro Boulevard (AM and PM peak hours);
- No. 7 Elsworth Street/Alessandro Boulevard (PM peak hour only);
- No. 8 Elsworth Street/Cactus Avenue (PM peak hour only);
- No. 11 Graham Street/Alessandro Boulevard (PM peak hour only);
- No. 12 Graham Street-Riverside Drive/Cactus Avenue (AM peak hour only);
- No. 17 Indian Street/Cactus Avenue (AM peak hour only);
- No. 19 Perris Boulevard/Alessandro Boulevard (PM peak hour only);
- No. 25 Perris Boulevard/Harley Knox Boulevard (AM peak hour only);
- No. 27 Kitching Street/Cactus Avenue (AM and PM peak hours);
- No. 28 Kitching Street/Iris Avenue (AM and PM peak hours);
- No. 29 Lasselle Street/Alessandro Boulevard (AM and PM peak hours);
- No. 30 Lasselle Street/Cactus Avenue (AM and PM peak hours);
- No. 32 Lasselle Street/Iris Avenue (PM peak hour only);
- No. 33 Lasselle Street/Krameria Avenue (AM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM and PM peak hours);
- No. 39 Evans Road/Ramona Expressway (AM peak hour only);
- No. 45 Nason Street/Eucalyptus Avenue (AM peak hour only);
- No. 49 Nason Street-Hillrose Lane/Iris Avenue (PM peak hour only);
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM and PM peak hours);

- No. 56 Moreno Beach Drive/SR-60 Eastbound Ramps (AM and PM peak hours); and
- No. 59 Moreno Beach Drive/Alessandro Boulevard (AM and PM peak hours).

All the above intersections operate at an unsatisfactory LOS under Phase II project completion year without project conditions. Since the project contributes traffic to forecast deficiency at these intersections, it is considered to have a cumulative impact.

As shown in Table 4.14-32, mitigation measures at the impacted intersections are recommended for the proposed project. However, even with the implementation of the recommended mitigation measures, one of the impacted intersections (Intersection No. 29) would continue to operate at an unacceptable LOS based on the acceptable LOS standards used in the analysis (Table 4.14-26). No improvements are feasible at Intersection Nos. 7, 27, 28, 30, 32, 33 and 38 due to right-of-way constraints. Therefore, the project would have a **significant and unavoidable impact**.

### *2. Phase II Project Completion Year (2032) with Project Roadway Segment Analysis*

Based on the roadway segment LOS analysis, 19 of the study roadway segments would operate at an unacceptable LOS. All other key roadway segments would operate at an acceptable LOS. The roadway segments that would at an unacceptable LOS are as follows (see Table 4.14-16):

- No. 6 Lasselle Street between Iris Avenue and Krameria Avenue;
- No. 7 Lasselle Street, between Krameria Avenue and Via Xavier Lane;
- No. 8 Lasselle Street between Via Xavier Lane and Lasselle Sports Park-Rojo Tierra;
- No. 9 Lasselle Street between Lasselle Sports Park-Rojo Tierra and Cremello Way-Avenida De Plata;
- No. 10 Lasselle Street between Cremello Way-Avenida De Plata and Avenida Classica-Kentucky Derby Drive;
- No. 12 Lasselle Street-Evans Road between Via De Anza-Rancho Verde High School and Ramona Expressway;
- No. 14 Nason Street between Eucalyptus Avenue and Cottonwood Avenue;
- No. 15 Nason Street between Cottonwood Avenue and Alessandro Boulevard;
- No. 21 Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue;
- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue;
- No. 27 Alessandro Boulevard between I-215 Northbound Ramps and Day Street;

- No. 28 Alessandro Boulevard between Day Street and Elsworth Street;
- No. 30 Alessandro Boulevard between Frederick Street and Graham Street;
- No. 31 Alessandro Boulevard between Graham Street and Heacock Street;
- No. 35 Alessandro Boulevard between Kitching Street and Lasselle Street;
- No. 36 Alessandro Boulevard between Lasselle Street and Nason Street;
- No. 37 Alessandro Boulevard between Nason Street and Moreno Beach Drive; and
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street.

All the above roadway segments, with exception of Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue, operate at an unsatisfactory LOS under Phase II project completion year without project conditions. The addition of project traffic would cause Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue to operate at an unsatisfactory LOS from a satisfactory LOS without the project. Since the project contributes traffic to forecast deficiency at these roadway segments, it is considered to have a cumulative impact.

As shown in Table 4.14-27, mitigation measures at the impacted roadway segments are recommended for the proposed project. With the implementation of the recommended mitigation measures, seven of the failing roadway segments would continue to operate at an unacceptable LOS (Table 4.14-27). Therefore, the project would have a **significant and unavoidable impact** at the roadway segments on Lasselle Street, Alessandro Boulevard, and Cactus Avenue.

### 4.14.5.4 Phase III Project Completion Year (2038) With Project Level of Service Analysis

The project completion year 2028 traffic volumes were obtained from MVTM and added to the existing traffic volumes to develop volumes for the Phase III Project Completion Year (2038) without Project volumes. Phase III project traffic was added to those volumes to obtain Phase III Project Completion Year (2038) with Project traffic volumes. Figure 4.14.21A and Figure 4.14.21B illustrate the AM and PM peak hour Phase III Project Completion Year (2038) with Project traffic volumes, at the 64 study intersections. In addition, Appendix I, Table 4-F also presents the daily traffic volumes for Buildout Project Trips and Phase III Project Completion Year (2038) with Project for all the roadway segments.

Phase III Project Completion Year (2038) with Project peak hour and daily traffic volumes were analyzed to provide intersection and roadway segment LOS analysis, respectively.

### *1. Phase III Project Completion Year (2038) with Project Intersection Analysis*

Based on the LOS analysis and the applicable criteria, the 30 intersections forecast to operate at unacceptable levels of service under Phase III Project Completion Year (2038) with Project conditions are listed below and highlighted in Table 4.14-17. All other study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Phase III Project Completion Year (2038) with Project conditions.

- No. 5 I-215 Northbound Ramps-Old Frontage Road/Cactus Avenue (AM and PM peak hours);
- No. 6 Day Street/Alessandro Boulevard (AM and PM peak hours);
- No. 7 Elsworth Street/Alessandro Boulevard (PM peak hour only);
- No. 8 Elsworth Street/Cactus Avenue (PM peak hour only);
- No. 9 Frederick Street/Alessandro Boulevard (PM peak hour only);
- No. 11 Graham Street/Alessandro Boulevard (PM peak hour only);
- No. 12 Graham Street-Riverside Drive/Cactus Avenue (AM and PM peak hours);
- No. 13 Heacock Street/Alessandro Boulevard (PM peak hour only);
- No. 17 Indian Street/Cactus Avenue (AM and PM peak hours);
- No. 19 Perris Boulevard/Alessandro Boulevard (AM and PM peak hours);
- No. 20 Perris Boulevard/Cactus Avenue (PM peak hour only);
- No. 21 Perris Boulevard/Iris Avenue (PM peak hour only);
- No. 25 Perris Boulevard/Harley Knox Boulevard (AM and PM peak hours);
- No. 27 Kitching Street/Cactus Avenue (AM and PM peak hours);
- No. 28 Kitching Street/Iris Avenue (AM and PM peak hours);
- No. 29 Lasselle Street/Alessandro Boulevard (AM and PM peak hours);
- No. 30 Lasselle Street/Cactus Avenue (AM and PM peak hours);
- No. 32 Lasselle Street/Iris Avenue (AM and PM peak hours);
- No. 33 Lasselle Street/Krameria Avenue (AM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM and PM peak hours);
- No. 39 Evans Road/Ramona Expressway (AM and PM peak hours);
- No. 45 Nason Street/Eucalyptus Avenue (AM and PM peak hours);
- No. 47 Nason Street/Alessandro Boulevard (AM and PM peak hours);

- No. 49 Nason Street-Hillrose Lane/Iris Avenue (AM and PM peak hours);
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM and PM peak hours);
- No. 56 Moreno Beach Drive/SR-60 Eastbound Ramps (AM and PM peak hours);
- No. 57 Moreno Beach Drive/Eucalyptus Avenue (PM peak hour only);
- No. 58 Moreno Beach Drive/Cottonwood Avenue (PM peak hour only);
- No. 59 Moreno Beach Drive/Alessandro Boulevard (AM and PM peak hours); and
- No. 62 Driveway 1/Iris Avenue (PM peak hour only).

All the above intersections, except the two intersections of Heacock Street/Alessandro Boulevard and Driveway 1/Iris Avenue, operate at an unsatisfactory LOS under Phase III project completion year without project conditions. The addition of project traffic would cause the Heacock Street/Alessandro Boulevard to operate at an unsatisfactory LOS from a satisfactory LOS without the project. After the implementation of project frontage and site improvements, Driveway 1/Iris Avenue would have no conflicting movements, and thus, would not be impacted. Since the project contributes traffic to forecast deficiency at these 30 intersections, it is considered to have a cumulative impact at these intersections.

As shown in Table 4.14-32, mitigation measures at the impacted intersections are recommended for the proposed project. However, even with the implementation of the recommended mitigation measures, two of the impacted intersections (Intersection Nos. 21 and 39) would continue to operate at an unacceptable LOS based on the acceptable LOS standards used in the analysis (Table 4.14-28). No improvements are feasible at Intersection Nos. 6, 7, 19, 27, 28, 30, 32, 33, and 38) due to right-of-way constraints. Therefore, the project would have a **significant and unavoidable impact**.

### *2. Phase III Project Completion Year (2038) with Project Roadway Segment Analysis*

Based on the roadway segment LOS analysis, 32 of the study roadway segments would operate at an unacceptable LOS. All other roadway segments would operate at an acceptable LOS. The roadway segments that would at an unacceptable LOS are as follows (see Table 4.14-18):

- No. 2 Perris Boulevard between Krameria Avenue and San Michele Road;
- No. 3 Perris Boulevard between San Michele Road and Nandina Avenue;
- No. 4 Perris Boulevard between Nandina Avenue and Harley Knox Boulevard;
- No. 6 Lasselle Street between Iris Avenue and Krameria Avenue;
- No. 7 Lasselle Street between Krameria Avenue and Via Xavier Lane;

- No. 8 Lasselle Street between Via Xavier Lane and Lasselle Sports Park-Rojo Tierra;
- No. 9 Lasselle Street between Lasselle Sports Park-Rojo Tierra and Cremello Way-Avenida De Plata;
- No. 10 Lasselle Street between Cremello Way-Avenida De Plata and Avenida Classica-Kentucky Derby Drive;
- No. 11 Lasselle Street between Avenida Classica-Kentucky Derby Drive and Via De Anza-Rancho Verde High School;
- No. 12 Lasselle Street-Evans Road between Via De Anza-Rancho Verde High School and Ramona Expressway;
- No. 14 Nason Street between Eucalyptus Avenue and Cottonwood Avenue;
- No. 15 Nason Street between Cottonwood Avenue and Alessandro Boulevard;
- No. 21 Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue;
- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue;
- No. 27 Alessandro Boulevard between I-215 Northbound Ramps and Day Street;
- No. 28 Alessandro Boulevard between Day Street and Elsworth Street;
- No. 30 Alessandro Boulevard between Frederick Street and Graham Street;
- No. 31 Alessandro Boulevard between Graham Street and Heacock Street;
- No. 32 Alessandro Boulevard between Heacock Street and Indian Street;
- No. 34 Alessandro Boulevard between Perris Boulevard and Kitching Street;
- No. 35 Alessandro Boulevard between Kitching Street and Lasselle Street;
- No. 36 Alessandro Boulevard between Lasselle Street and Nason Street;
- No. 37 Alessandro Boulevard between Nason Street and Moreno Beach Drive;
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street;
- No. 39 Cactus Avenue between Elsworth Avenue and Frederick Street;
- No. 40 Cactus Avenue between Frederick Street and Graham Street-Riverside Drive;
- No. 50 Iris Avenue between Perris Boulevard and Kitching Street;
- No. 52 Iris Avenue between Lasselle Street and Camino Flores;
- No. 53 Iris Avenue between Camino Flores and Coachlight Court-Avenida De Circo;

- No. 54 Iris Avenue between Coachlight Court-Avenida De Circo and Grande Vista Drive; and
- No. 55 Iris Avenue between Grande Vista Drive and Nason Street-Hillrose Lane.

All the above roadway segments, with exception of Cactus Avenue between Elsworth Street and Frederick Street and the segment of Iris Avenue between Lasselle Street and Camino Flores, operate at an unsatisfactory LOS under Phase III project completion year without project conditions. The addition of project traffic would cause the two roadway segments of Cactus Avenue between Elsworth Street and Frederick Street and the segment of Iris Avenue between Lasselle Street and Camino Flores to operate at an unsatisfactory LOS from a satisfactory LOS without the project. Since the project contributes traffic to forecast deficiency at these 32 roadway segments, it is considered to have a cumulative impact.

As shown in Table 4.14-29, mitigation measures at the impacted roadway segments are recommended for the proposed projcet. With the implementation of the recommended mitigation measures, 21 of the failing roadway segments would continue to operate at an unacceptable LOS (Table 4.14-29). Accordingly, the project would have a **significant and unavoidable impact** at the roadway segments of Perris Boulevard, Lasselle Street, Nason Street, Alessandro Boulevard, Cactus Avenue and Iris Avenue.

### 4.14.5.5 General Plan Buildout (2040) With Project Level of Service Analysis

The General Plan Buildout traffic volumes were obtained from MVTM and by applying the National Cooperative Highway Research Program (NCHRP) post-processing methodologies. Figures 4.14.22A and 4.14.22B illustrate the AM and PM peak hour General Plan Buildout (2040) with Project traffic volumes, at the 64 study intersections.

General Plan Buildout (2040) with Project peak hour and daily traffic volumes were analyzed to provide intersection and roadway segment LOS analysis, respectively.

#### 1. *General Plan Buildout (2040) with Project Intersection Analysis*

Based on the LOS analysis and the applicable criteria, the 31 intersections forecast to operate at unacceptable levels of service under General Plan Buildout (2040) with Project conditions are listed below and highlighted in Table 4.14-19. All other study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Phase III Project Completion Year (2038) with Project conditions.

- No. 5 I-215 Northbound Ramps-Old 215 Frontage Road/Cactus Avenue (AM and PM peak hours);
- No. 6 Day Street/Alessandro Boulevard (AM and PM peak hours);

- No. 7 Elsworth Street/Alessandro Boulevard (PM peak hour only);
- No. 8 Elsworth Street/Cactus Avenue (PM peak hour only);
- No. 9 Frederick Street/Alessandro Boulevard (PM peak hour only);
- No. 11 Graham Street/Alessandro Boulevard (PM peak hour only);
- No. 12 Graham Street-Riverside Drive/Cactus Avenue (AM and PM peak hours);
- No. 13 Heacock Street/Alessandro Boulevard (AM and PM peak hours);
- No. 17 Indian Street/Cactus Avenue (AM and PM peak hours);
- No. 19 Perris Boulevard/Alessandro Boulevard (AM and PM peak hours);
- No. 20 Perris Boulevard/Cactus Avenue (PM peak hour only);
- No. 21 Perris Boulevard/Iris Avenue (PM peak hour only);
- No. 22 Perris Boulevard/Krameria Avenue (PM peak hour only);
- No. 25 Perris Boulevard/Harley Knox Boulevard (AM and PM peak hours);
- No. 27 Kitching Street/Cactus Avenue (AM and PM peak hours);
- No. 28 Kitching Street/Iris Avenue (AM and PM peak hours);
- No. 29 Lasselle Street/Alessandro Boulevard (AM and PM peak hours);
- No. 30 Lasselle Street/Cactus Avenue (AM and PM peak hours);
- No. 32 Lasselle Street/Iris Avenue (AM and PM peak hours);
- No. 33 Lasselle Street/Krameria Avenue (AM and PM peak hour only);
- No. 38 Lasselle Street/Via De Anza-Rancho Verde High School (AM and PM peak hours);
- No. 39 Evans Road/Ramona Expressway (AM and PM peak hours);
- No. 45 Nason Street/Eucalyptus Avenue (AM and PM peak hours);
- No. 47 Nason Street/Alessandro Boulevard (AM and PM peak hours);
- No. 49 Nason Street-Hillrose Lane/Iris Avenue (AM and PM peak hours);
- No. 50 Pearl Lane-Oliver Street/Alessandro Boulevard (AM and PM peak hours);
- No. 56 Moreno Beach Drive/SR-60 Eastbound Ramps (AM and PM peak hours);
- No. 57 Moreno Beach Drive/Eucalyptus Avenue (PM peak hour only);
- No. 58 Moreno Beach Drive/Cottonwood Avenue (PM peak hour only);
- No. 59 Moreno Beach Drive/Alessandro Boulevard (AM and PM peak hours); and
- No. 62 Driveway 1/Iris Avenue (PM peak hour only).

All the above intersections, with the exception of the Driveway 1/Iris Avenue intersection, operate at an unsatisfactory LOS under General Plan build-out without project conditions. Since the project contributes traffic to forecast deficiency at these intersections, it is considered to have a cumulative impact. After the implementation of project frontage and site improvements, Driveway 1/Iris Avenue would have no conflicting movements, and thus, would not be impacted.

As shown in Table 4.14-32, mitigation measures at the impacted intersections are recommended for the proposed project. However, even with the implementation of the recommended mitigation measures or due to no feasible mitigation, 15 of the impacted intersections (Intersection Nos. 6, 7, 8, 13, 19, 21, 27, 28, 30, 32, 33, 38, 39, 45, and 49) would continue to operate at an unacceptable LOS based on the acceptable LOS standards used in the analysis (Table 4.14-30). Therefore, the project would have a **significant and unavoidable impact**.

### *2. General Plan Buildout (2040) with Project Roadway Segment Analysis*

Based on the roadway segment LOS analysis, 35 of the study roadway segments would operate at an unacceptable LOS. All other key roadway segments would operate at an acceptable LOS. The 35 roadway segments that would at an unacceptable LOS are as follows (see Table 4.14-20):

- No. 1 Perris Boulevard between Iris Avenue and Krameria Avenue;
- No. 2 Perris Boulevard between Krameria Avenue and San Michele Road;
- No. 3 Perris Boulevard between San Michele Road and Nandina Avenue;
- No. 4 Perris Boulevard between Nandina Avenue and Harley Knox Boulevard;
- No. 6 Lasselle Street between Iris Avenue and Krameria Avenue;
- No. 7 Lasselle Street between Krameria Avenue and Via Xavier Lane;
- No. 8 Lasselle Street between Via Xavier Lane and Lasselle Sports Park-Rojo Tierra;
- No. 9 Lasselle Street between Lasselle Sports Park-Rojo Tierra and Cremello Way-Avenida De Plata;
- No. 10 Lasselle Street between Cremello Way-Avenida De Plata and Avenida Classica-Kentucky Derby Drive;
- No. 11 Lasselle Street between Avenida Classica-Kentucky Derby Drive and Via De Anza-Rancho Verde High School;
- No. 12 Lasselle Street-Evans Road between Via De Anza-Rancho Verde High School and Ramona Expressway;
- No. 14 Nason Street between Eucalyptus Avenue and Cottonwood Avenue;
- No. 15 Nason Street between Cottonwood Avenue and Alessandro Boulevard;

- No. 21 Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue;
- No. 23 Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard;
- No. 24 Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue;
- No. 27 Alessandro Boulevard between I-215 Northbound Ramps and Day Street;
- No. 28 Alessandro Boulevard between Day Street and Elsworth Street;
- No. 30 Alessandro Boulevard between Frederick Street and Graham Street;
- No. 31 Alessandro Boulevard between Graham Street and Heacock Street;
- No. 32 Alessandro Boulevard between Heacock Street and Indian Street;
- No. 33 Alessandro Boulevard between Indian Street and Perris Boulevard;
- No. 34 Alessandro Boulevard between Perris Boulevard and Kitching Street;
- No. 35 Alessandro Boulevard between Kitching Street and Lasselle Street;
- No. 36 Alessandro Boulevard between Lasselle Street and Nason Street;
- No. 37 Alessandro Boulevard between Nason Street and Moreno Beach Drive;
- No. 38 Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street;
- No. 39 Cactus Avenue between Elsworth Avenue and Frederick Street;
- No. 40 Cactus Avenue between Frederick Street and Graham Street-Riverside Drive;
- No. 50Iris Avenue between Perris Boulevard and Kitching Street;
- No. 52 Iris Avenue between Lasselle Street and Camino Flores;
- No. 53 Iris Avenue between Camino Flores and Coachlight Court-Avenida De Circo;
- No. 54 Iris Avenue between Coachlight Court-Avenida De Circo and Grande Vista Drive;
- No. 55 Iris Avenue between Grande Vista Drive and Nason Street-Hillrose Lane; and
- No. 56 Iris Avenue between Nason Street-Hillrose Lane and Driveway 1.

All the above roadway segments, with the exception of Iris Avenue between Hillrose Lane and Driveway 1, operate at an unsatisfactory LOS under General Plan buildout without project conditions. The addition of project traffic would cause Iris Avenue between Hillrose Lane and Driveway 1 to operate at an unsatisfactory LOS from a satisfactory LOS without the project. Since the project contributes traffic to the forecast deficiency at these 35 roadway segments, it is considered to have a cumulative impact.

As shown in Table 4.14-31, mitigation measures at the impacted roadway segments are recommended for the proposed project. With the implementation of the recommended mitigation measures, 26 of the failing roadway segments would continue to operate at an unacceptable LOS (Table 4.14-31). Accordingly, the project would have a **significant and unavoidable impact** at the roadway segments of Perris Boulevard, Lasselle Street, Nason Street, Alessandro Boulevard, Cactus Avenue and Iris Avenue.

**Table 4.14-13**
**Phase I Project Completion Year (2023) Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 11.1 | B | 12.7 | B | 12.9 | B | 12.7 | B | No |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 22.4 | C | 19.1 | B | 22.4 | C | 19.2 | B | No |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 10.8 | B | 16.5 | B | 11.7 | B | 16.6 | B | No |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - | - | - | - | - | No |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | 42.8 | D | 40.4 | D | 43.0 | D | 40.5 | D | No |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | 40.1 | D | 37.9 | D | 40.1 | D | 37.9 | D | No |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 30.4 | C | 38.5 | D | 30.8 | C | 38.6 | D | No |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 40.8 | D | 69.2 | **E*** | 40.8 | D | 69.7 | **E*** | **Yes** |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 37.7 | D | 41.9 | D | 37.7 | D | 41.9 | D | No |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 12.3 | B | 13.3 | B | 11.3 | B | 12.7 | B | No |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 26.0 | C | 52.0 | D | 26.0 | C | 52.1 | D | No |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 28.9 | C | 33.2 | C | 29.6 | C | 33.4 | C | No |

**Table 4.14-13**
**Phase I Project Completion Year (2023) Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 41.4 | D | 39.2 | D | 41.4 | D | 39.3 | D | No |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 36.7 | D | 41.6 | D | 36.7 | D | 41.7 | D | No |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 24.2 | C | 19.7 | B | 24.9 | C | 20.0 | B | No |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 32.1 | C | 31.9 | C | 32.1 | C | 31.9 | C | No |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 36.3 | **D*** | 33.0 | C | 36.3 | **D*** | 33.0 | C | **Yes** |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 44.4 | D | 31.0 | C | 46.7 | D | 31.1 | C | No |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 43.3 | D | 44.0 | D | 43.2 | D | 44.1 | D | No |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 50.3 | D | 38.9 | D | 44.3 | D | 39.0 | D | No |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 25.6 | C | 42.0 | D | 25.6 | C | 41.8 | D | No |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 28.6 | C | 22.8 | C | 28.8 | C | 23.4 | C | No |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 11.7 | B | 14.1 | B | 12.6 | B | 14.1 | B | No |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 10.8 | B | 14.9 | B | 10.8 | B | 14.9 | B | No |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 39.3 | D | 38.5 | D | 39.3 | D | 38.5 | D | No |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.0 | C | 27.5 | C | 34.0 | C | 27.5 | C | No |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 39.8 | **D*** | 27.5 | C | 42.5 | **D*** | 27.5 | C | **Yes** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | 40.5 | **D*** | 40.6 | **D*** | 40.5 | **D*** | 40.6 | **D*** | **Yes** |

**Table 4.14-13**
**Phase I Project Completion Year (2023) Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | 84.4 | **F*** | 58.9 | **E*** | 85.0 | **F*** | 59.3 | **E*** | **Yes** |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 45.7 | **D*** | 40.4 | **D*** | 45.8 | **D*** | 40.4 | **D*** | **Yes** |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 20.0 | B | 9.9 | A | 20.0 | B | 9.9 | A | No |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 37.3 | D | 47.1 | D | 37.4 | D | 47.3 | D | No |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 66.2 | **E*** | 27.0 | C | 66.2 | **E*** | 27.0 | C | **Yes** |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 4.8 | A | 3.8 | A | 4.8 | A | 3.8 | A | No |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 5.3 | A | 4.6 | A | 5.4 | A | 7.5 | A | No |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 5.0 | A | 3.2 | A | 5.0 | A | 3.2 | A | No |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 13.1 | B | 11.7 | B | 13.1 | B | 11.7 | B | No |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 59.1 | **E*** | 35.9 | **D*** | 59.2 | **E*** | 36.1 | **D*** | **Yes** |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | 64.1 | **E*** | 30.9 | C | 64.1 | **E*** | 30.9 | C | **Yes** |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 15.1 | B | 22.7 | C | 15.7 | B | 22.8 | C | No |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 16.9 | B | 17.4 | B | 16.9 | B | 17.4 | B | No |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 23.8 | C | 25.1 | C | 23.8 | C | 24.8 | C | No |

**Table 4.14-13**
**Phase I Project Completion Year (2023) Intersection Levels of Service**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 25.2 | C | 22.5 | C | 26.7 | C | 22.5 | C | No |
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 24.2 | C | 23.5 | C | 24.1 | C | 23.5 | C | No |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 49.7 | D | 29.8 | C | 50.0 | D | 29.8 | C | No |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 14.4 | B | 12.7 | B | 18.0 | B | 12.7 | B | No |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 33.4 | C | 30.1 | C | 33.4 | C | 30.1 | C | No |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 34.4 | C | 30.5 | C | 34.4 | C | 30.6 | C | No |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 30.2 | C | 36.2 | **D*** | 32.1 | C | 38.9 | **D*** | **Yes** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | >100 | **F*** | 53.6 | **F*** | >100 | **F*** | 53.6 | **F*** | **Yes** |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 36.1 | D | 27.3 | C | 36.1 | D | 27.3 | C | No |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 14.5 | B | 9.9 | A | 14.6 | B | 10.0 | A | No |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 30.5 | C | 32.3 | C | 30.6 | C | 32.3 | C | No |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 21.0 | C | 22.1 | C | 21.0 | C | 22.1 | C | No |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 19.6 | B | 11.4 | B | 19.7 | B | 11.4 | B | No |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 47.3 | D | 63.3 | **E*** | 53.8 | D | 68.0 | **E*** | **Yes** |

## Table 4.14-13
## Phase I Project Completion Year (2023) Intersection Levels of Service

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 29.1 | C | 31.0 | C | 29.1 | C | 31.0 | C | No |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 22.9 | C | 20.9 | C | 23.0 | C | 20.6 | C | No |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | 43.8 | D | 56.6 | **E*** | 44.0 | D | 60.7 | **E*** | **Yes** |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 21.4 | C | 26.3 | C | 21.4 | C | 29.0 | C | No |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 22.3 | C | 40.9 | D | 26.4 | C | 41.0 | D | No |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 10.0 | A | 11.1 | B | 10.0 | B | 11.3 | B | No |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 37.7 | D | 33.4 | C | 37.2 | D | 32.8 | C | No |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 16.6 | C | 13.4 | B | 13.7 | B | 13.6 | B | No |

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

## Table 4.14-14
## Phase I Project Completion Year (2023) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Perris Boulevard* | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 32,400 | A | 32,400 | A |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 34,900 | B | 35,000 | B |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 34,800 | B | 34,800 | B |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 36,700 | B | 36,800 | B |
| | *Segments on Lasselle Street* | | | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 19,100 | A | 19,100 | A |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 29,500 | C | 29,600 | C |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 27,600 | C | 27,600 | C |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 26,500 | C | 26,600 | C |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 26,100 | B | 26,200 | B |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 25,600 | B | 25,700 | B |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 24,400 | B | 24,400 | B |
| | *Segment on Lasselle Street - Evans Road* | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 28,200 | C | 28,200 | C |
| | Segments on Nason Street | | | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 23,800 | B | 23,900 | B |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 29,800 | C | 29,900 | C |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 23,300 | B | 23,400 | B |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 18,000 | A | 18,200 | A |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 14,500 | A | 14,800 | A |

## Table 4.14-14
## Phase I Project Completion Year (2023) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Oliver Street* | | | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,300 | A | 2,300 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 4,700 | A | 4,700 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 2,900 | A | 2,900 | A |
| | *Segments on Moreno Beach Drive* | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 25,800 | B | 25,900 | B |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 18,400 | A | 18,400 | A |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 18,000 | E* | 18,000 | E* |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 19,000 | F* | 19,100 | F* |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 15,400 | A | 15,500 | A |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 18,100 | A | 18,200 | A |
| | *Segments on Alessandro Boulevard* | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 37,500 | D | 37,500 | D |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 34,600 | C | 34,600 | C |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 31,400 | A | 31,400 | A |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 36,100 | C | 36,200 | C |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 37,900 | D | 37,900 | D |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 37,200 | B | 37,200 | B |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 32,200 | A | 32,200 | A |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 27,400 | A | 27,400 | A |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 22,300 | F* | 22,300 | F* |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 15,800 | F* | 15,900 | F* |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 12,700 | F* | 12,700 | F* |

## Table 4.14-14
## Phase I Project Completion Year (2023) Roadway Segment Levels of Service

| | Roadway Segment | Classification¹ | Roadway Capacity² | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Cactus Avenue* | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 51,400 | F* | 51,500 | F* |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 44,200 | C | 44,300 | C |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 46,100 | D | 46,200 | D |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 41,300 | C | 41,400 | C |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,300 | A | 22,400 | A |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 21,600 | A | 21,700 | A |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 17,900 | A | 18,000 | A |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 13,800 | A | 13,900 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 16,500 | A | 16,700 | A |
| | *Segment on John F Kennedy Drive* | | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,700 | A | 2,700 | A |
| | *Segments on Iris Avenue* | | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 10,400 | A | 10,400 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 13,700 | A | 13,800 | A |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 24,500 | B | 24,500 | B |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 26,900 | A | 27,000 | A |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 33,500 | A | 33,700 | A |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 32,100 | A | 32,300 | A |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 30,900 | A | 31,100 | A |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 29,200 | A | 29,400 | A |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 23,400 | A | 23,900 | A |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 22,500 | A | 22,900 | A |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 19,700 | A | 19,800 | A |

## Table 4.14-14
## Phase I Project Completion Year (2023) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 19,100 | A | 19,200 | A |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 16,800 | A | 16,900 | A |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

## Table 4.14-15
## Phase II Project Completion Year (2032) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 11.2 | B | 12.5 | B | 11.9 | B | 12.5 | B | No |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 23.6 | C | 18.6 | B | 23.6 | C | 18.6 | B | No |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 21.5 | C | 16.9 | B | 24.0 | C | 18.1 | B | No |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - | - | - | - | - | No |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | 98.9 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |

## Table 4.14-15
## Phase II Project Completion Year (2032) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.8 | C | 63.9 | **E*** | 34.8 | C | 64.2 | **E*** | **Yes** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 40.4 | D | 71.4 | **E*** | 40.5 | D | 74.6 | **E*** | **Yes** |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.0 | D | 44.2 | D | 37.9 | D | 44.7 | D | No |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley.March JPA | Signal | D | 19.4 | B | 15.8 | B | 19.2 | B | 15.9 | B | No |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 30.6 | C | 80.8 | **F*** | 30.6 | C | 81.4 | **F*** | **Yes** |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 56.6 | **E*** | 34.2 | C | 57.7 | **E*** | 38.1 | D | **Yes** |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 41.7 | D | 43.4 | D | 41.7 | D | 43.5 | D | No |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 43.9 | D | 42.5 | D | 44.2 | D | 44.2 | D | No |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 29.9 | C | 19.7 | B | 30.4 | C | 19.9 | B | No |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 33.9 | C | 32.0 | C | 33.7 | C | 31.9 | C | No |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 42.2 | **D*** | 34.6 | C | 42.0 | **D*** | 34.7 | C | **Yes** |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 47.4 | D | 32.5 | C | 47.8 | D | 32.9 | C | No |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 46.0 | D | 88.6 | **F*** | 46.3 | D | 89.7 | **F*** | **Yes** |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 47.0 | D | 45.4 | D | 47.6 | D | 47.4 | D | No |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 37.6 | D | 48.5 | D | 38.1 | D | 49.8 | D | No |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 38.8 | D | 31.8 | C | 39.1 | D | 31.8 | C | No |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 11.7 | B | 22.6 | C | 11.7 | B | 22.8 | C | No |

**Table 4.14-15**
**Phase II Project Completion Year (2032) Intersection Analysis**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 11.9 | B | 18.1 | B | 11.9 | B | 18.0 | B | No |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 57.3 | **E*** | 50.9 | D | 58.0 | **E*** | 51.5 | D | **Yes** |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.3 | C | 42.1 | D | 34.0 | C | 41.7 | D | No |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 44.9 | **D*** | 36.5 | **D*** | 45.6 | **D*** | 36.9 | **D*** | **Yes** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | 62.6 | **E*** | >100 | **F*** | 65.9 | **E*** | >100 | **F*** | **Yes** |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | 93.7 | **F*** | >100 | **F*** | 95.6 | **F*** | >100 | **F*** | **Yes** |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 45.6 | **D*** | 47.2 | **D*** | 46.5 | **D*** | 47.6 | **D*** | **Yes** |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 19.3 | B | 15.4 | B | 19.5 | B | 15.7 | B | No |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 44.0 | D | 56.4 | **E*** | 45.5 | D | 59.5 | **E*** | **Yes** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 70.5 | **E*** | 27.7 | C | 70.1 | **E*** | 27.5 | C | **Yes** |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 7.1 | A | 6.5 | A | 8.0 | A | 6.9 | A | No |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 10.4 | B | 5.2 | A | 11.9 | B | 8.3 | A | No |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 5.1 | A | 7.9 | A | 5.2 | A | 7.8 | A | No |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 23.7 | C | 11.7 | B | 24.3 | C | 13.0 | B | No |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 58.5 | **E*** | 39.5 | **D*** | 59.3 | **E*** | 40.2 | **D*** | **Yes** |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | 91.5 | **F*** | 53.9 | D | 92.5 | **F*** | 54.2 | D | **Yes** |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 15.6 | B | 30.5 | C | 15.7 | B | 30.0 | C | No |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 18.3 | B | 22.7 | C | 18.5 | B | 22.9 | C | No |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 25.2 | C | 24.1 | C | 27.3 | C | 24.7 | C | No |

## Table 4.14-15
## Phase II Project Completion Year (2032) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 26.7 | C | 23.1 | C | 26.9 | C | 23.9 | C | No |
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 21.8 | C | 29.6 | C | 24.3 | C | 32.5 | C | No |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 57.0 | **E*** | 34.2 | C | 57.9 | **E*** | 35.1 | D | **Yes** |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 18.4 | B | 20.6 | C | 18.2 | B | 20.9 | C | No |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 42.7 | D | 41.6 | D | 43.4 | D | 43.9 | D | No |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 40.1 | D | 41.8 | D | 40.2 | D | 42.7 | D | No |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 31.5 | C | 36.2 | **D*** | 30.5 | C | 39.2 | **D*** | **Yes** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 37.4 | D | 27.6 | C | 37.7 | D | 27.6 | C | No |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 11.6 | B | 10.4 | B | 11.9 | B | 10.6 | B | No |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 32.9 | C | 32.9 | C | 33.8 | C | 37.4 | D | No |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 20.2 | C | 21.1 | C | 20.4 | C | 21.2 | C | No |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 19.7 | B | 14.1 | B | 20.7 | C | 14.4 | B | No |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 94.6 | **F*** | >100 | **F*** | 95.1 | **F*** | >100 | **F*** | **Yes** |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 37.6 | D | 51.0 | D | 37.7 | D | 52.7 | D | No |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 23.0 | C | 28.1 | C | 23.1 | C | 28.3 | C | No |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | 63.5 | **E*** | >100 | **F*** | 69.6 | **E*** | >100 | **F*** | **Yes** |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 22.8 | C | 28.8 | C | 22.8 | C | 28.1 | C | No |

## Table 4.14-15
## Phase II Project Completion Year (2032) Intersection Analysis

| | | | | | Without Project | | | | With Project | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | **Intersection** | **Jurisdiction** | **Control** | **LOS Standard** | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | **Significant Impact** |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 29.6 | C | 43.2 | D | 30.2 | C | 43.7 | D | No |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 10.7 | B | 12.0 | B | 11.5 | B | 16.8 | C | No |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 38.2 | D | 39.4 | D | 38.9 | D | 40.9 | D | No |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 19.0 | C | 13.5 | B | 17.2 | C | 12.0 | B | No |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

## Table 4.14-16
## Phase II Project Completion Year (2032) Roadway Segment Levels of Service

| | | | | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | **Roadway Segment** | **Classification[1]** | **Roadway Capacity[2]** | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Perris Boulevard* | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 42,400 | C | 42,700 | C |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 45,100 | D | 45,400 | D |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 45,200 | D | 45,500 | D |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 46,700 | D | 47,000 | D |
| | *Segments on Lasselle Street* | | | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 22,400 | A | 22,600 | B |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 33,700 | **D*** | 34,500 | **E*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 31,900 | **D*** | 32,600 | **D*** |

## Table 4.14-16
## Phase II Project Completion Year (2032) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 31,000 | **D*** | 31,700 | **D*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 30,600 | **D*** | 31,300 | **D*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 30,100 | **D*** | 30,600 | **D*** |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 28,800 | C | 29,300 | C |
| | *Segment on Lasselle Street - Evans Road* | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 35,800 | **E*** | 36,200 | **F*** |
| | *Segments on Nason Street* | | | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 27,600 | C | 28,500 | C |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 39,400 | **F*** | 40,300 | **F*** |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 30,300 | **D*** | 31,200 | **D*** |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 23,600 | B | 25,300 | B |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 19,300 | A | 22,300 | A |
| | *Segments on Oliver Street* | | | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,600 | A | 2,700 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 5,500 | A | 5,700 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 3,400 | A | 3,800 | A |
| | *Segments on Moreno Beach Drive* | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 33,100 | D | 33,900 | **E*** |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 21,300 | A | 22,100 | A |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 21,200 | **F*** | 22,200 | **F*** |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 23,700 | **F*** | 24,800 | **F*** |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 18,500 | A | 19,900 | A |

## Table 4.14-16
## Phase II Project Completion Year (2032) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 24,200 | A | 25,800 | A |
| | *Segments on Alessandro Boulevard* | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 51,300 | **F*** | 51,600 | **F*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 43,700 | **E*** | 43,900 | **E*** |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 38,000 | B | 38,200 | B |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 44,100 | **E*** | 44,400 | **E*** |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 47,700 | **F*** | 48,100 | **F*** |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 48,000 | D | 48,500 | D |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 42,300 | C | 42,800 | C |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 37,500 | D | 38,000 | D |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 33,500 | **F*** | 34,100 | **F*** |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 25,600 | **F*** | 26,400 | **F*** |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 19,700 | **F*** | 19,800 | **F*** |
| | *Segments on Cactus Avenue* | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 59,000 | **F*** | 60,000 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 47,800 | D | 48,800 | D |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 49,000 | D | 50,100 | D |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 43,800 | C | 44,900 | C |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,500 | B | 23,600 | B |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 22,300 | A | 23,400 | B |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 19,400 | A | 20,500 | A |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 15,200 | A | 16,400 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 20,400 | A | 21,700 | A |
| | *Segment on John F Kennedy Drive* | | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,800 | A | 2,800 | A |

# Table 4.14-16
## Phase II Project Completion Year (2032) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Iris Avenue* | | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 12,200 | A | 12,300 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 16,500 | A | 16,800 | A |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 28,500 | C | 29,200 | C |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 35,500 | B | 36,200 | B |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 42,700 | C | 44,500 | C |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 41,300 | C | 43,100 | C |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 41,300 | C | 43,200 | C |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 39,600 | C | 41,500 | C |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 30,400 | A | 35,300 | B |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 29,500 | A | 33,200 | A |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 26,000 | A | 28,100 | A |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 25,400 | A | 27,400 | A |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 22,700 | A | 24,200 | A |

**Notes:**
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

# Table 4.14-17
# Phase III Project Completion Year (2038) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 16.0 | B | 15.1 | B | 15.6 | B | 15.1 | B | No |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 31.0 | C | 22.0 | C | 31.3 | C | 22.4 | C | No |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 20.6 | C | 17.7 | B | 24.5 | C | 20.5 | C | No |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - | - | - | - | - | No |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.6 | C | >100 | **F*** | 34.6 | C | >100 | **F*** | **Yes** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 40.2 | D | 67.7 | **E*** | 42.1 | D | 70.6 | **E*** | **Yes** |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 37.9 | D | 69.7 | **E*** | 37.9 | D | 70.7 | **E*** | **Yes** |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 20.2 | C | 17.0 | B | 19.9 | B | 17.8 | B | No |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 30.3 | C | >100 | **F*** | 30.4 | C | >100 | **F*** | **Yes** |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 73.6 | **E*** | 49.1 | D | 75.8 | **E*** | 58.6 | **E*** | **Yes** |

**Table 4.14-17**
**Phase III Project Completion Year (2038) Intersection Analysis**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project: AM Peak Hour Delay (sec.) | Without Project: AM Peak Hour LOS | Without Project: PM Peak Hour Delay (sec.) | Without Project: PM Peak Hour LOS | With Project: AM Peak Hour Delay (sec.) | With Project: AM Peak Hour LOS | With Project: PM Peak Hour Delay (sec.) | With Project: PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 50.9 | D | 54.0 | D | 51.4 | D | 56.5 | **E*** | **Yes** |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 45.8 | D | 47.2 | D | 46.5 | D | 50.5 | D | No |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 29.6 | C | 23.7 | C | 30.6 | C | 24.0 | C | No |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.9 | C | 37.5 | D | 34.9 | C | 38.3 | D | No |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 42.5 | **D*** | 35.5 | **D*** | 42.0 | **D*** | 36.0 | **D*** | **Yes** |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 50.7 | D | 36.4 | D | 51.4 | D | 37.2 | D | No |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 62.9 | **E*** | >100 | **F*** | 64.8 | **E*** | >100 | **F*** | **Yes** |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 49.8 | D | 57.4 | **E*** | 51.4 | D | 61.4 | **E*** | **Yes** |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 40.5 | D | 66.4 | **E*** | 42.3 | D | 70.3 | **E*** | **Yes** |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 47.4 | D | 49.8 | D | 48.9 | D | 50.5 | D | No |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 12.9 | B | 36.5 | D | 12.9 | B | 38.8 | D | No |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 14.3 | B | 19.9 | B | 14.4 | B | 19.8 | B | No |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 86.1 | **F*** | 83.3 | **F*** | 88.1 | **F*** | 85.8 | **F*** | **Yes** |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 35.4 | D | 46.7 | D | 35.3 | D | 46.2 | D | No |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 46.0 | **D*** | 36.8 | **D*** | 48.1 | **D*** | 37.8 | **D*** | **Yes** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |

**Table 4.14-17**
**Phase III Project Completion Year (2038) Intersection Analysis**

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 47.4 | **D*** | 50.4 | **D*** | 49.3 | **D*** | 52.3 | **D*** | **Yes** |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 19.7 | B | 17.4 | B | 20.0 | B | 18.4 | B | No |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 52.9 | **D*** | 76.4 | **E*** | 57.0 | **E*** | 85.1 | **F*** | **Yes** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 78.8 | **E*** | 33.7 | C | 78.0 | **E*** | 33.7 | C | **Yes** |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 9.4 | A | 7.5 | A | 12.6 | B | 8.6 | A | No |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 15.3 | B | 8.7 | A | 20.5 | C | 8.9 | A | No |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 5.6 | A | 8.7 | A | 5.7 | A | 8.9 | A | No |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 26.5 | C | 17.1 | B | 29.5 | C | 22.4 | C | No |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 55.4 | **E*** | 44.0 | **D*** | 57.9 | **E*** | 46.4 | **D*** | **Yes** |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | >100 | **F*** | 84.8 | **F*** | >100 | **F*** | 86.0 | **F*** | **Yes** |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 16.8 | B | 35.9 | D | 17.1 | B | 38.3 | D | No |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 20.2 | C | 27.0 | C | 20.7 | C | 28.5 | C | No |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 26.3 | C | 24.3 | C | 28.3 | C | 25.2 | C | No |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 29.4 | C | 27.7 | C | 30.0 | C | 30.7 | C | No |

## Table 4.14-17
## Phase III Project Completion Year (2038) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project AM Peak Hour Delay (sec.) | Without Project AM Peak Hour LOS | Without Project PM Peak Hour Delay (sec.) | Without Project PM Peak Hour LOS | With Project AM Peak Hour Delay (sec.) | With Project AM Peak Hour LOS | With Project PM Peak Hour Delay (sec.) | With Project PM Peak Hour LOS | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 24.4 | C | 29.4 | C | 32.8 | C | 34.5 | C | No |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 72.6 | **E*** | 53.7 | D | 77.5 | **E*** | 59.6 | **E*** | **Yes** |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 21.5 | C | 22.6 | C | 20.9 | C | 23.9 | C | No |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 51.1 | D | 56.2 | **E*** | 56.3 | **E*** | 67.3 | **E*** | **Yes** |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 42.6 | D | 47.4 | D | 43.6 | D | 50.2 | D | No |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 34.8 | C | 40.5 | **D*** | 40.6 | **D*** | 63.3 | **E*** | **Yes** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 38.3 | D | 28.6 | C | 39.2 | D | 28.8 | C | No |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 12.3 | B | 11.9 | B | 13.3 | B | 12.4 | B | No |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 34.8 | C | 32.9 | C | 37.4 | D | 40.7 | D | No |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 21.7 | C | 23.3 | C | 23.3 | C | 24.3 | C | No |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 20.6 | C | 15.5 | B | 28.8 | C | 16.4 | B | No |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 42.3 | D | 74.5 | **E*** | 41.8 | D | 76.6 | **E*** | **Yes** |

## Table 4.14-17
## Phase III Project Completion Year (2038) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 25.7 | C | 47.6 | **D*** | 26.5 | C | 64.7 | **E*** | **Yes** |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 23.0 | C | 29.0 | C | 23.3 | C | 28.1 | C | No |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 32.0 | C | 44.7 | D | 34.1 | C | 45.9 | D | No |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 11.3 | B | 13.0 | B | 13.2 | B | 44.6 | **E*** | **Yes** |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 39.8 | D | 39.5 | D | 46.7 | D | 43.0 | D | No |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 25.1 | D | 13.7 | B | 22.8 | C | 14.1 | B | No |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

## Table 4.14-18
## Phase III Project Completion Year (2038) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Perris Boulevard* | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 49,000 | D | 49,600 | D |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 51,900 | **E*** | 52,500 | **E*** |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 52,100 | **E*** | 52,600 | **E*** |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 53,400 | **E*** | 53,900 | **E*** |
| | *Segments on Lasselle Street* | | | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 24,600 | B | 25,100 | B |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 36,500 | **E*** | 37,900 | **F*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 34,800 | **E*** | 36,200 | **E*** |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 34,000 | **E*** | 35,300 | **E*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 33,600 | **D*** | 34,800 | **E*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 33,100 | **D*** | 34,100 | **E*** |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 31,800 | **D*** | 32,700 | **D*** |
| | *Segment on Lasselle Street - Evans Road* | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 40,900 | **F*** | 41,700 | **F*** |
| | *Segments on Nason Street* | | | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 30,200 | D | 31,700 | D |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 45,800 | **F*** | 47,400 | **F*** |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 35,000 | **E*** | 36,600 | **E*** |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 27,300 | C | 30,500 | D |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 22,400 | A | 28,000 | C |

## Table 4.14-18
## Phase III Project Completion Year (2038) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Oliver Street* | | | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,700 | A | 3,000 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 6,000 | A | 6,500 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 3,800 | A | 4,400 | A |
| | *Segments on Moreno Beach Drive* | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 38,000 | **F*** | 39,400 | **F*** |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 23,300 | B | 24,700 | B |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 23,400 | **F*** | 25,100 | **F*** |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 26,900 | **F*** | 28,900 | **F*** |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 20,600 | A | 23,100 | A |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 28,300 | A | 31,200 | A |
| | *Segments on Alessandro Boulevard* | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 60,600 | **F*** | 61,000 | **F*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 49,800 | **F*** | 50,200 | **F*** |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 42,400 | C | 42,800 | C |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 49,400 | **F*** | 49,900 | **F*** |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 54,300 | **F*** | 54,900 | **F*** |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 55,300 | **E*** | 56,000 | **E*** |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 49,100 | D | 50,000 | D |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 44,200 | **E*** | 45,300 | **E*** |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 41,000 | **F*** | 42,000 | **F*** |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 32,100 | **F*** | 33,700 | **F*** |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 24,400 | **F*** | 24,600 | **F*** |

## Table 4.14-18
## Phase III Project Completion Year (2038) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Cactus Avenue* | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 64,100 | **F*** | 66,000 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 50,200 | D | 52,100 | **E*** |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 51,000 | **E*** | 52,900 | **E*** |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 45,500 | D | 47,500 | D |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,700 | B | 24,600 | B |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 22,800 | B | 24,800 | B |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 20,400 | A | 22,500 | B |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 16,100 | A | 18,300 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 23,000 | B | 25,300 | B |
| | *Segment on John F Kennedy Drive* | | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,800 | A | 2,900 | A |
| | *Segments on Iris Avenue* | | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 13,400 | A | 13,600 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 18,300 | B | 18,800 | B |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 31,300 | **D*** | 32,400 | **D*** |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 41,200 | C | 42,500 | C |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 48,800 | D | 52,100 | **E*** |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 47,400 | **D*** | 50,800 | **E*** |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 48,200 | **D*** | 51,700 | **E*** |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 46,600 | **D*** | 50,000 | **D*** |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 35,000 | B | 44,200 | C |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 34,200 | B | 41,000 | C |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 30,200 | A | 34,000 | B |

## Table 4.14-18
## Phase III Project Completion Year (2038) Roadway Segment Levels of Service

| Roadway Segment | | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | Daily Volume | LOS | Daily Volume | LOS |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 29,600 | A | 33,400 | A |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 26,600 | A | 29,400 | A |

**Notes:**
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

## Table 4.14-19
## General Plan Build-out (2040) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | |
| | | | | | Delay (sec.) | LOS | Delay (sec.) | LOS | Delay (sec.) | LOS | Delay (sec.) | LOS | |
| 1 | I-215 Southbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 17.2 | B | 17.0 | B | 17.8 | B | 17.1 | B | No |
| 2 | I-215 Northbound Ramps/Alessandro Boulevard | Caltrans | Signal | 45 sec | 37.0 | D | 25.4 | C | 37.3 | D | 26.1 | C | No |
| 3 | I-215 Southbound Ramps/Cactus Avenue | Caltrans | Signal | 45 sec | 20.3 | C | 18.4 | B | 24.2 | C | 21.4 | C | No |
| 4 | I-215 Northbound Ramps/Cactus Avenue[1] | Caltrans | - | - | - | - | - | - | - | - | - | - | No |

## Table 4.14-19
## General Plan Build-out (2040) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | Signal | 45 sec | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | Signal | D | 34.5 | C | >100 | **F*** | 34.6 | C | >100 | **F*** | **Yes** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 43.7 | D | 77.5 | **E*** | 46.1 | D | 80.8 | **F*** | **Yes** |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | Signal | D | 39.1 | D | 79.1 | **E*** | 39.4 | D | 80.2 | **F*** | **Yes** |
| 10 | Frederick Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 20.6 | C | 18.6 | B | 20.4 | C | 22.1 | C | No |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | Signal | D | 33.0 | C | >100 | **F*** | 34.0 | C | >100 | **F*** | **Yes** |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 81.7 | **F*** | 58.3 | **E*** | 83.8 | **F*** | 68.0 | **E*** | **Yes** |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | Signal | D | 58.8 | **E*** | 66.3 | **E*** | 59.8 | **E*** | 69.8 | **E*** | **Yes** |
| 14 | Heacock Street/Cactus Avenue | Moreno Valley/ March JPA | Signal | D | 46.7 | D | 48.9 | D | 47.6 | D | 52.6 | D | No |
| 15 | Heacock Street/Iris Avenue | Moreno Valley | Signal | D | 29.5 | C | 26.7 | C | 30.4 | C | 27.0 | C | No |
| 16 | Indian Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.0 | D | 44.9 | D | 38.6 | D | 46.7 | D | No |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | Signal | C | 42.6 | **D*** | 35.8 | **D*** | 42.1 | **D*** | 36.4 | **D*** | **Yes** |
| 18 | Indian Street/Iris Avenue | Moreno Valley | Signal | D | 51.8 | D | 37.7 | D | 52.6 | D | 38.5 | D | No |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | Signal | D | 71.7 | **E*** | >100 | **F*** | 73.8 | **E*** | >100 | **F*** | **Yes** |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | Signal | D | 51.1 | D | 65.3 | **E*** | 52.6 | D | 69.1 | **E*** | **Yes** |

# Table 4.14-19
## General Plan Build-out (2040) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | Signal | D | 42.5 | D | 80.8 | **F*** | 45.0 | D | 85.2 | **F*** | **Yes** |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | Signal | D | 52.2 | D | 60.3 | **E*** | 54.0 | D | 61.2 | **E*** | **Yes** |
| 23 | Perris Boulevard/San Michele Road | Moreno Valley | Signal | D | 13.3 | B | 47.8 | D | 13.3 | B | 50.7 | D | No |
| 24 | Perris Boulevard/Nandina Avenue | Moreno Valley | Signal | D | 15.3 | B | 21.0 | C | 15.4 | B | 21.0 | C | No |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | Signal | D | 97.9 | **F*** | 98.8 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 26 | Kitching Street/Alessandro Boulevard | Moreno Valley | Signal | D | 38.7 | D | 49.1 | D | 39.1 | D | 49.7 | D | No |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | Signal | C | 46.5 | **D*** | 37.1 | **D*** | 49.3 | **D*** | 38.1 | **D*** | **Yes** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | Signal | C | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | Signal | C | 48.1 | **D*** | 52.3 | **C** | 50.0 | **D*** | 55.1 | **E*** | **Yes** |
| 31 | Lasselle Street/John F Kennedy Drive | Moreno Valley | Signal | C | 19.9 | B | 18.4 | B | 20.2 | C | 19.6 | B | No |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | Signal | D | 56.7 | **E*** | 85.7 | **F*** | 61.1 | **E*** | 95.1 | **F*** | **Yes** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | Signal | C | 81.9 | **F*** | 36.2 | D* | 81.1 | **F*** | 36.1 | D* | **Yes** |
| 34 | Lasselle Street/Via Xavier Lane | Moreno Valley | Signal | C | 10.5 | B | 7.9 | A | 14.3 | B | 9.1 | A | No |
| 35 | Lasselle Street/Lasselle Sports Park - Rojo Tierra | Moreno Valley | Signal | C | 17.5 | B | 8.9 | A | 23.4 | C | 9.2 | A | No |
| 36 | Lasselle Street/Cremello Way - Avenida De Plata | Moreno Valley | Signal | C | 5.7 | A | 9.0 | A | 5.9 | A | 9.2 | A | No |
| 37 | Lasselle Street/Avenida Classica - Kentucky Derby Drive | Moreno Valley | Signal | C | 28.2 | C | 20.0 | B | 32.0 | C | 26.2 | C | No |

## Table 4.14-19
## General Plan Build-out (2040) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | Signal | C | 57.2 | **E*** | 46.1 | **D*** | 60.0 | **E*** | 49.1 | **D*** | **Yes** |
| 39 | Evans Road/Ramona Expressway | Perris | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 40 | Camino Flores/Iris Avenue | Moreno Valley | Signal | D | 17.3 | B | 39.6 | D | 17.7 | B | 43.3 | D | No |
| 41 | Coachlight Court - Avenida De Circo/Iris Avenue | Moreno Valley | Signal | C | 21.1 | C | 29.2 | C | 21.8 | C | 32.0 | C | No |
| 42 | Grande Vista Drive/Iris Avenue | Moreno Valley | Signal | C | 26.0 | C | 30.6 | C | 28.5 | C | 32.2 | C | No |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 30.4 | C | 29.4 | C | 30.9 | C | 32.9 | C | No |
| 44 | Nason Street/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | 25.7 | C | 29.4 | C | 34.8 | C | 34.3 | C | No |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | Signal | D | 80.2 | **F*** | 66.9 | **E*** | 85.7 | **F*** | 73.8 | **E*** | **Yes** |
| 46 | Nason Street/Cottonwood Avenue | Moreno Valley | Signal | C | 22.6 | C | 23.5 | C | 22.1 | C | 25.2 | C | No |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | Signal | D | 57.7 | **E*** | 65.6 | **E*** | 63.9 | **E*** | 78.6 | **E*** | **Yes** |
| 48 | Nason Street/Cactus Avenue | Moreno Valley | Signal | D | 43.9 | D | 51.1 | D | 45.1 | D | 54.2 | D | No |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | Signal | C | 37.1 | **D*** | 43.1 | **D*** | 46.4 | **D*** | 69.9 | **E*** | **Yes** |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | TWSC | C | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 51 | Oliver Street/Cactus Avenue | Moreno Valley | Signal | D | 38.7 | D | 29.2 | C | 39.7 | D | 29.4 | C | No |
| 52 | Oliver Street/John F Kennedy Drive | Moreno Valley | AWSC | C | 12.7 | B | 12.5 | B | 13.6 | B | 13.1 | B | No |
| 53 | Oliver Street/Iris Avenue | Moreno Valley | Signal | D | 35.6 | D | 32.8 | C | 38.4 | D | 44.4 | D | No |
| 54 | Via Del Lago/Iris Avenue - Moreno Beach Drive | Moreno Valley | Signal | C | 22.5 | C | 24.6 | C | 24.5 | C | 26.0 | C | No |

## Table 4.14-19
## General Plan Build-out (2040) Intersection Analysis

| | Intersection | Jurisdiction | Control | LOS Standard | Without Project | | | | With Project | | | | Significant Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | *AM Peak Hour* | | *PM Peak Hour* | | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | |
| 55 | Moreno Beach Drive/SR-60 Westbound Ramps | Caltrans | Signal | 45 sec | 21.6 | C | 16.1 | B | 30.5 | C | 17.1 | B | No |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | Signal | 45 sec | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | Signal | D | 45.1 | D | 84.0 | **F*** | 45.4 | D | 86.2 | **F*** | **Yes** |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | Signal | C | 27.4 | C | 58.6 | **E*** | 29.4 | C | 80.7 | **F*** | **Yes** |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | Signal | D | >100 | **F*** | >100 | **F*** | >100 | **F*** | >100 | **F*** | **Yes** |
| 60 | Moreno Beach Drive/Cactus Avenue | Moreno Valley | Signal | C | 23.1 | C | 29.3 | **C** | 23.4 | C | 28.4 | C | No |
| 61 | Moreno Beach Drive/John F Kennedy Drive | Moreno Valley | Signal | D | 32.9 | C | 45.2 | D | 35.4 | D | 46.5 | D | No |
| 62 | Driveway 1/Iris Avenue | Moreno Valley | OWSC | D | 11.3 | B | 13.0 | B | 13.7 | B | 52.8 | **F*** | **Yes** |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | Signal | D | 41.5 | D | 39.6 | D | 51.6 | D | 42.9 | D | No |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | OWSC | D | 26.4 | D | 14.3 | B | 24.2 | C | 14.1 | B | No |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] This intersection has no conflicting movements. Hence, Synchro did not report a queue for this intersection.

**Table 4.14-20**
**General Plan Build-out (2040) Roadway Segment Levels of Service**

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| *Segments on Perris Boulevard* | | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 51,300 | **E*** | 51,800 | **E*** |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 54,200 | **E*** | 54,700 | **E*** |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 54,400 | **E*** | 54,900 | **E*** |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 55,600 | **E*** | 56,200 | **E*** |
| *Segments on Lasselle Street* | | | | | | | |
| 5 | between John F Kennedy Drive and Iris Avenue | Four Lane Divided Arterial | 37,500 | 25,300 | B | 25,800 | B |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 37,400 | **E*** | 38,800 | **F*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 35,700 | **E*** | 37,100 | **E*** |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 35,000 | **E*** | 36,200 | **E*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 34,600 | **E*** | 35,800 | **E*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 34,100 | **E*** | 35,100 | **E*** |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 32,800 | **D*** | 33,700 | **D*** |
| *Segment on Lasselle Street - Evans Road* | | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 42,600 | **F*** | 43,400 | **F*** |
| *Segments on Nason Street* | | | | | | | |
| 13 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 31,000 | D | 32,600 | D |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 47,900 | **F*** | 49,600 | **F*** |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 36,500 | **E*** | 38,200 | **F*** |
| 16 | between Alessandro Boulevard and Cactus Avenue | Four Lane Divided Arterial | 37,500 | 28,500 | C | 31,700 | D |
| 17 | between Cactus Avenue and Iris Avenue | Four Lane Divided Arterial | 37,500 | 23,500 | B | 29,000 | C |

## Table 4.14-20
## General Plan Build-out (2040) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Oliver Street* | | | | | | |
| 18 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 2,800 | A | 3,100 | A |
| 19 | between Cactus Avenue and John F Kennedy Drive | Four Lane Divided Arterial | 37,500 | 6,200 | A | 6,700 | A |
| 20 | between John F Kennedy Drive and Iris Avenue | Three Lane Undivided Arterial | 18,800 | 3,900 | A | 4,500 | A |
| | *Segments on Moreno Beach Drive* | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 39,600 | **F*** | 41,000 | **F*** |
| 22 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 23,900 | B | 25,400 | B |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 24,200 | **F*** | 25,900 | **F*** |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 27,900 | **F*** | 30,000 | **F*** |
| 25 | between Cactus Avenue and John F Kennedy Drive | Six Lane Divided Arterial | 56,300 | 21,300 | A | 23,800 | A |
| 26 | between John F Kennedy Drive and Via Del Lago | Six Lane Divided Arterial | 56,300 | 29,700 | A | 32,500 | A |
| | *Segments on Alessandro Boulevard* | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 63,700 | **F*** | 64,100 | **F*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 51,900 | **F*** | 52,300 | **F*** |
| 29 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 43,900 | C | 44,300 | C |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 51,200 | **F*** | 51,700 | **F*** |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 56,500 | **F*** | 57,100 | **F*** |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 57,700 | **F*** | 58,400 | **F*** |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 51,400 | **E*** | 52,300 | **E*** |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 46,500 | **E*** | 47,500 | **F*** |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 43,500 | **F*** | 44,500 | **F*** |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 34,300 | **F*** | 35,900 | **F*** |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 26,000 | **F*** | 26,100 | **F*** |

## Table 4.14-20
## General Plan Build-out (2040) Roadway Segment Levels of Service

| | Roadway Segment | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| | *Segments on Cactus Avenue* | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 65,700 | **F*** | 67,700 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 50,900 | **E*** | 52,900 | **E*** |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 51,600 | **E*** | 53,600 | **E*** |
| 41 | between Graham Street -Riverside Drive and Heacock Street | Six Lane Divided Arterial | 56,300 | 46,100 | D | 48,000 | D |
| 42 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 22,700 | B | 24,700 | B |
| 43 | between Indian Street and Perris Boulevard | Four Lane Divided Arterial | 37,500 | 23,000 | B | 25,000 | B |
| 44 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 20,700 | A | 22,800 | B |
| 45 | between Kitching Street and Lasselle Street | Four Lane Divided Arterial | 37,500 | 16,400 | A | 18,600 | A |
| 46 | between Lasselle Street and Nason Street | Four Lane Divided Arterial | 37,500 | 23,900 | B | 26,200 | B |
| | *Segment on John F Kennedy Drive* | | | | | | |
| 47 | between Oliver Street and Moreno Beach Drive | Two Lane Divided Arterial | 18,800 | 2,800 | A | 2,900 | A |
| | *Segments on Iris Avenue* | | | | | | |
| 48 | between Heacock Street and Indian Street | Four Lane Divided Arterial | 37,500 | 13,800 | A | 14,000 | A |
| 49 | between Indian Street and Perris Boulevard | Three Lane Divided Arterial | 28,200 | 18,900 | B | 19,400 | B |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 32,200 | **D*** | 33,300 | **D*** |
| 51 | between Kitching Street and Lasselle Street | Six Lane Divided Arterial | 56,300 | 43,100 | C | 44,400 | C |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 50,900 | **E*** | 54,100 | **E*** |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 49,500 | **D*** | 52,800 | **E*** |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 50,500 | **D*** | 54,000 | **E*** |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 48,900 | **D*** | 52,400 | **E*** |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 36,600 | B | 45,700 | **D*** |
| 57 | between Driveway 1 and Driveway 2 | Six Lane Divided Arterial | 56,300 | 35,700 | B | 42,500 | C |
| 58 | between Driveway 2 and Driveway 3 | Six Lane Divided Arterial | 56,300 | 31,600 | A | 35,500 | B |

## Table 4.14-20
## General Plan Build-out (2040) Roadway Segment Levels of Service

| Roadway Segment | | Classification[1] | Roadway Capacity[2] | Without Project | | With Project | |
|---|---|---|---|---|---|---|---|
| | | | | *Daily Volume* | *LOS* | *Daily Volume* | *LOS* |
| 59 | between Driveway 3 and Oliver Street | Six Lane Divided Arterial | 56,300 | 31,000 | A | 34,800 | B |
| 60 | between Oliver Street and Via Del Lago | Six Lane Divided Arterial | 56,300 | 27,900 | A | 30,700 | A |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

In conclusion, the proposed project would impact a number of study intersections and roadway segments. The mitigation identified in Section 4.14.6, Mitigation Measures, would reduce or eliminate impacts at some study intersections and roadway segments, however some impacts would remain following the implementation of mitigation.

The project shall comply with the mitigation measures specified, which require payment of a fair share contribution and/or TUMF fee towards the implementation of the specified improvements necessary for the impacted intersections to operate with an acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy is obtained. Therefore, the project's impacts would remain **significant and unavoidable**.

***Impacts to Transit, Bicycle and Pedestrian Facilities***

The project site would be accessible for bicycles and pedestrians. The project would be designed to encourage pedestrian activity to and from the Medical Center, as well as internally between buildings. Separation of pedestrians from vehicular and bicycle traffic would be accomplished through several elements on site, such as the installation of sidewalks and incorporation of pedestrian walking paths within landscape buffers. These pathways would create a network that allows patients, visitors, and employees the ability to quickly and efficiently travel on foot to any destination on the hospital campus. Planting adjacent to walkways would be maintained at a reasonable height to ensure the safety and security of pedestrians. Sidewalks and walkways would range in widths between 6 feet and 10 feet. Pedestrian-level lighting would be provided on all walkways to eliminate poorly lit areas to ensure safety and comfort for pedestrians after dark. In addition, bicycle parking would be provided throughout the Medical Center.

The design of project driveways and other project frontage and site improvements would not impair any bicycle lanes, sidewalks, wheelchair ramps, crosswalks on adjacent public streets and rights-of-way such as those on Iris Avenue. Impacts to those facilities on Iris Avenue during project construction would be minimized by the required coordination with the City through the City's encroachment permit process which would require traffic control plans.

Since the project would provide for safe accessibility and safety of transit, bicycle, and pedestrian facilities on and around the Medical Center, nor would the project conflict with, or impair, the City's Bicycle Master Plan (2014), it would not conflict with adopted policies, plans, or programs regarding these transportation modes. Therefore, impacts are considered **less than significant**.

***Threshold TRA-2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?***

CEQA Guidelines Section 15064.3, subdivision (b) focuses on newly adopted criteria (vehicle miles traveled – VMT) adopted pursuant to SB 743 for determining the significance of transportation impacts. As discussed above in sub-section 4.13.2, Relevant Plans, Policies and Ordinances, pursuant to SB743, the focus of transportation analysis changes from vehicle delay to VMT. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. As stated in CEQA Guidelines Section 15064.3(c), the provisions of Section 15064.3 shall apply statewide on July 1, 2020, although a lead agency may elect to be governed by the provision of Section 15064.3 immediately.

The City has not yet adopted local VMT criteria and therefore this Draft EIR evaluates the significance of transportation impacts based upon a delay based level of service analysis for the proposed project as discussed in Section 4.14.5, Impact Analysis, above. Accordingly, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) as the City has not adopted local VMT significance criteria, and therefore, impacts are **less than significant**.

However, for informational purposes, a VMT analysis was conducted using the Moreno Valley Transportation Analysis Model (MVTAM), a sub-area model developed using the Riverside County Traffic Analysis Model (RivTAM). The VMT analysis memorandum prepared by LSA is included in Appendix I.

A separate Traffic Analysis Zone (TAZ) that converted the project land uses into socio economic data was used to conduct select zone model run. The model's base year (2007) and future year (2035) forecasts were interpolated/extrapolated to provide daily VMT per employee for the base year 2018 and build-out year 2040 of the proposed project.

- Base year 2018: VMT per employee = 30.8 VMT
- Buildout year 2040: VMT per employee = 29.3 VMT

Based on the project's TAZ VMT data, VMT is forecast to decrease by 1.5 miles in the 2040 buildout year.

***Threshold TRA-3. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

***Project Access***

Project access will not substantially increase hazards due to design features or incompatible uses. Primary site access is provided by three existing driveways located on Iris Avenue. The existing signalized driveway (Driveway 2) will continue to operate as a full-access driveway. The driveway farthest west (Driveway 1) would remain operating as right-in/right-out (RIRO) only. Phase I proposes the modification of the driveway farthest east (Driveway 3) to operate as a right-in-right-out only driveway from its existing full-access configuration. the project design would allow for additional project access to Oliver Street if the adjacent property owner were to provide a reciprocal access agreement. However, because no such access agreement is currently in place, the traffic analysis, has not considered access to Oliver Street from the project.

The City requires a site access analysis to evaluate project access driveways to identify LOS and queuing issues at the driveways. The purpose of this analysis is to identify any improvements that will help the driveways operate at satisfactory LOS (see LOS analysis results in Section 4.14.4 above) and meet the vehicle queuing requirements (analysis results shown below). As such, a driveway analysis was conducted for all analysis scenarios (Existing Phase I, Phase II, Phase III, and General Plan Buildout with project) and the improvements discussed below were identified to address circulation needs at these locations. Table 4.14-21 illustrates the queues at these driveways without and with these proposed improvements.

**Table 4.14-21**
**Project Access Driveway Queuing Analysis**

| | Intersection | Movement | Storage Length[1] (ft/ln) | With Project[2] | | Storage Length[3] (ft/ln) | With Project With Improvements[2] | |
|---|---|---|---|---|---|---|---|---|
| | | | | *AM* | *PM* | | *AM* | *PM* |
| *Driveway Queuing Analysis - Existing Conditions* | | | | | | | | |
| 62 | Driveway 1/Iris Avenue (OWSC) | SBR | 230 | 70 | 265 | 230 | - | - |
| 63 | Driveway 2/Iris Avenue (Signal) | EBL | 195 | **665** | 325 | 375 | 285 | 165 |
| | | SBL | 110 | 110 | **265** | 200 | 105 | **235** |
| | | SBR | 110 | 40 | 50 | 200 | 35 | 45 |
| 64 | Driveway 3/Iris Avenue (OWSC) | SBR | 230 | 50 | 80 | 230 | 45 | 75 |
| *Driveway Queuing Analysis - Phase I Project Completion Year (2023) Conditions* | | | | | | | | |
| 62 | Driveway 1/Iris Avenue (OWSC) | SBR | 230 | 40 | 70 | 230 | - | - |
| 63 | Driveway 2/Iris Avenue (Signal) | EBL | 195 | **210** | 150 | 375 | 110 | 80 |
| | | SBL | 110 | 30 | **80** | 200 | 30 | 70 |
| | | SBR | 110 | 15 | 30 | 200 | 15 | 25 |
| 64 | Driveway 3/Iris Avenue (OWSC) | SBR | 230 | 45 | 50 | 230 | 40 | 55 |
| *Driveway Queuing Analysis - Phase II Project Completion Year (2032) Conditions* | | | | | | | | |
| 62 | Driveway 1/Iris Avenue (OWSC) | SBR | 230 | 65 | 205 | 230 | - | - |
| 63 | Driveway 2/Iris Avenue (Signal) | EBL | 195 | **470** | 255 | 375 | 240 | 140 |
| | | SBL | 110 | 90 | **190** | 200 | 80 | 200 |
| | | SBR | 110 | 35 | 45 | 200 | 30 | 45 |
| 64 | Driveway 3/Iris Avenue (OWSC) | SBR | 230 | 50 | 80 | 230 | 50 | 85 |
| *Driveway Queuing Analysis - Phase III Project Completion Year (2038) Conditions* | | | | | | | | |
| 62 | Driveway 1/Iris Avenue (OWSC) | SBR | 230 | 80 | 310 | 230 | - | - |
| 63 | Driveway 2/Iris Avenue (Signal) | EBL | 195 | **795** | 525 | 375 | 375 | 180 |
| | | SBL | 110 | **130** | **320** | 200 | 130 | **315** |
| | | SBR | 110 | 45 | 60 | 200 | 45 | 55 |
| 64 | Driveway 3/Iris Avenue (OWSC) | SBR | 230 | 60 | 110 | 230 | 60 | 110 |

## Table 4.14-21
## Project Access Driveway Queuing Analysis

| | Intersection | Movement | Storage Length[1] (ft/ln) | With Project[2] | | Storage Length[3] (ft/ln) | With Project With Improvements[2] | |
|---|---|---|---|---|---|---|---|---|
| | | | | *AM* | *PM* | | *AM* | *PM* |
| *Driveway Queuing Analysis - General Plan Build-out (2040) Conditions* | | | | | | | | |
| 62 | Driveway 1/Iris Avenue (OWSC) | SBR | 230 | 95 | 345 | 230 | - | - |
| 63 | Driveway 2/Iris Avenue (Signal) | EBL | 195 | **795** | 515 | 375 | 375 | 175 |
| | | SBL | 110 | **130** | **320** | 200 | 130 | **315** |
| | | SBR | 110 | 45 | 60 | 200 | 45 | 55 |
| 64 | Driveway 3/Iris Avenue (OWSC) | SBR | 230 | 65 | 90 | 230 | 95 | 90 |

**Notes**:
ft/ln = feet per lane
OWSC = One-Way Stop Control
EB = Eastbound; SB = Southbound
L = Left; R = Right
Bold = Queue exceeds available storage.

[1] Storage length for all movements for with project conditions obtained from Google Earth measurements.

[2] All queues reported are 95th percentile queues. Queues for signalized intersections have been reported from Synchro, while queues for unsignalized intersections have been reported from SimTraffic.

[3] Storage lengths for all movements at the intersections of Driveway 1/Iris Avenue and Driveway 3/Iris Avenue for with project with improvements conditions have been obtained from Google Earth measurements. Storage lengths for the different movements at the intersection of Driveway 2/Iris Avenue have been obtained based on the recommended improvements at the intersection.

[4] This intersection does not have any conflicting movements after implementation of the recommended improvements. Hence, SimTraffic did not report a queue for this intersection under with project with improvements conditions.

Based on the analysis of these driveways, the following improvements are recommended for satisfactory operations at these locations and are included as mitigation measures in Section 4.14.6 below:

**Project Driveway 1:** No feasible improvements have been identified at this project driveway due to right-of-way constraints. The Driveway 1/ Iris Avenue intersection would operate at deficient LOS. Therefore, the project would have a **significant and unavoidable** impact at the Project Driveway 1/Iris Avenue intersection.

**Project Driveway 2:** Under Phase I project completion conditions, extend the existing eastbound left-turn storage by 30 feet. Under Phase II project completion conditions, remove existing raised median on Iris Avenue for the eastbound approach, restripe eastbound approach to accommodate a second eastbound left-turn lane, and extend the dual left-turn pocket up to 375 feet. Additionally, the existing southbound left-turn lane storage needs to be extended to 200 feet (back to the existing roundabout) under Phase II project completion conditions.

Figure 4.14-23 is a conceptual striping plan illustrating the proposed driveway improvements. As shown in Tables 4.14-21, with implementation of the proposed improvements, the driveways are forecast to operate at a satisfactory LOS and meet the queuing requirements at these locations.

The proposed project includes a circulation network that would serve the project site. Proposed project driveways and internal circulation elements have been designed to reflect the specific opportunities and constraints within the project site. All intersection and circulation improvements, and access to the site would be designed consistent with City roadway standards and would not create a hazard for vehicles, bicycles, or pedestrians entering or exiting the site. The proposed project does not include any other project elements that could potentially create a hazard to the public.

Modifications to existing project access driveways to the site have been proposed to improve LOS and vehicle queuing. Those would be designed according to City standards and would not create sharp curves or dangerous intersections.

For reasons described above, the proposed project would not increase hazards due to a design feature or incompatible uses, with the exception of Project Driveway 1/Iris Avenue intersection. Since no feasible improvements have been identified, the Project Driveway 1 would continue to operate at deficient LOS. Therefore impacts would be **significant**.

***Threshold TRA-4. Would the project result in inadequate emergency access?***

The proposed project would result in the redevelopment and expansion of a currently existing facility, and modification of site access. Access to the project site will be provided via existing driveways located iris Avenue. As previously discussed, all three of the project driveways are forecast to operate at acceptable LOS after the implementation of the planned and/or recommended improvements for all the analysis scenarios. Access to the site would be designed according to City standards and all applicable emergency access standards that would facilitate emergency vehicle access. Additionally, the proposed project would not create sharp curves or dangerous intersections. Driveway 2 would be signalized and all three would operate at an efficient LOS during peak hours with full development of the project and proposed mitigation.

The proposed project would provide adequate access to the project site, including access for emergency vehicles. Construction activities during all phases that may temporarily restrict vehicular traffic would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures in accordance with the City's Emergency Operations Plan (EOP) (**PDF-TRA-1**). Operation of the project would not interfere with the City's EOP as driveways off Iris Avenue would be made accessible for emergency vehicles. The project applicant would be required to design, construct, and maintain structures, roadways, and facilities to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. The proposed site plan, including the access driveways, will be reviewed and approved by the fire department during plan check review. Adherence to these requirements would ensure that potential impacts related to this issue remain **below a level of significance**.

## 4.14.6 Mitigation Measures

For some roadway segments and intersections where future traffic volumes are expected to result in or contribute to operation at an unsatisfactory LOS, improvements have been identified to increase the roadway width and/or change the intersection control and/or geometry to increase capacity. Many capacity improvements involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a study intersection. In some cases, the proposed improvements are expected to offset the impact of project and future traffic, and improve levels of service to an acceptable range. In other cases the proposed improvements are expected to reduce project impacts by improving capacity, but would not result in an acceptable LOS. For some impacted intersections and roadway segments no feasible mitigation is available. Where feasible improvements have been identified to avoid or reduce potential impacts, mitigation measures require payment of the County's Transportation Uniform Mitigation Fee (TUMF) and/or fair-share fees for the identified improvements, prior to issuance of a final certificate of occupancy for the phase in which the corresponding impact(s) would occur. However, necessary improvements to existing driveways within the project site itself will be constructed by the applicant. The applicant will also be responsible for any project specific improvements required as conditions of approval for each phase as required under the Moreno Valley Municipal Code (collectively "Project Required Improvements"). These improvements may include, but not be limited to, street frontage improvements along the project site such as necessary street widening, curb, gutter, and sidewalk.

A combination of funding sources are utilized for the construction of roadways and intersection improvements. For streets that are affected by the proposed project, a fee or fair-share amount is typically contributed by the project applicant to the City's roadway program through either the TUMF for facilities covered under that fee, or fair-share payment coordinated with the City for those impacted facilities not included in the TUMF.

As shown in Tables 4.14-33 and 4.14-34, several intersections and roadway segments have no feasible mitigations possible due to right-of-way constraints. To mitigate the project cumulative impacts at these locations, the project shall pay a fair share contribution for the development of trip reduction and / or trip redistribution strategies on the City's roadway network. The fair share contribution for this purpose will be based on the percentages shown in 4.14-33 and 4.14-34. A fair share cost calculation table will be required prior to construction of the project. The following section identifies the feasible traffic improvements that change the intersection and/or roadway segments geometry to increase capacity for intersections and roadway segments where projected traffic volumes are expected to result in significant impacts. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments or installation/modification of traffic signals. In order to fully mitigate potential impacts feasible improvements are expected to:

- Address the impact of existing traffic, project traffic and project completion year (derived from MVTAM model) traffic, and
- Improve LOS to an acceptable level.

For some intersections and roadway segments feasible improvements would reduce project impacts, but would not be sufficient to improve LOS to an acceptable level. In addition, for some intersections and roadway segments, no feasible traffic improvements are available. All feasible improvements are included in the required mitigation measures, but only those improvements that result in an acceptable LOS level provide sufficient mitigation to reduce impacts to less than significant.

**Existing with Project Traffic Conditions**

This scenario provides an analysis of traffic conditions on the existing environment with the addition of project trips from full buildout of the proposed project. Under this scenario, the proposed project's buildout traffic volumes are added to the existing traffic volumes and roadway configuration, and impacts are assessed. This scenario is regarded by traffic engineers as a hypothetical scenario when used in connection with long-range development projects such as the proposed Kaiser Permanente Moreno Valley Medical Center project, which is not anticipated to reach full buildout until approximately 2038. The scenario is hypothetical and ultimately misleading because it assumes that a proposed project would be fully built out immediately and the corresponding full buildout traffic volumes added to existing roadway volumes and infrastructure. Such a scenario would not occur because the project is a long-range development project proposed to be constructed incrementally in identified phases, and by the time full buildout is realized in the future, intervening changes will have occurred.

An Existing with Project Traffic Conditions analysis is provided in Section 4.14.4.1 for the proposed project, and is included for disclosure, information, and comparison purposes. The improvements identified for the Existing plus Project conditions are identified as mitigation measures under Phase 1 Project Completion (2023) with Project conditions below.

***Intersections***

The following improvements listed below have been identified to improve the significant traffic impacts of the proposed project under Existing plus Project traffic conditions at the following impacted intersections. Payment of TUMF and/or fair-share fees towards implementation of these improvements would result in an acceptable LOS at the identified intersections, resulting in project impacts that would be **less than significant.**

- Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Construct a second southbound left (SBL) turn lane. Add right-turn overlap phasing for westbound right (WBR) turn lane.
- Intersection No. 50 – Pearl Lane - Oliver Street/Alessandro Boulevard: Install a traffic signal.

The following impacted intersections have adequate right-of-way to implement the improvements identified below, which would result in increased capacity at the specified intersections. However, the identified improvements would not be sufficient to achieve an acceptable LOS at these intersections. Additional improvements are required but are not feasible due to right-of-way constraints. Therefore, these intersections are forecast to continue to operate at a deficient LOS after implementation of the recommended improvements, and project impacts at the specified intersections would be **significant and unavoidable**.

- Intersection No. 27 – Kitching Street/Cactus Avenue: Construct a second northbound left (NBL) turn lane.
- Intersection No. 30 – Lasselle Street/Cactus Avenue: Modify the traffic signal to include a right-turn overlap phase for westbound right (WBR).

No improvements are feasible at the following intersection due to right-of-way constraints. Therefore, this intersection would continue to operate at a deficient LOS, and project impacts at this intersection would be **significant and unavoidable**.

- Intersection No. 17 – Indian Street/Cactus Avenue

- Intersection No. 33 – Lasselle Street/Cactus Avenue
- Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School

Table 4.14-22 provides a comparison under Existing with Project and Existing with Project with Improvements for the above mentioned intersections that operate at an unacceptable LOS. Figures 4.14-24A and 4.14-24B illustrate the Existing with Project with Improvements Study Intersection Geometrics and Traffic Control.

Thus, under Existing with Project Traffic Conditions, with the feasible improvements identified above, impacts would be significant and unavoidable at four study intersections.

# Table 4.14-22
## Existing with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | C | Signal | 35.5 | **D*** | 32.6 | C | Signal | | | | No Mitigations Feasible |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | C | Signal | 41.5 | **D*** | 28.5 | C | Signal | | * | | No Mitigations Feasible |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | C | Signal | 45.2 | **D*** | 34.0 | C | Signal | 45.1 | **D*** | 34.0 | C |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | C | Signal | 57.9 | **E*** | 20.6 | C | Signal | | | | No Mitigations Feasible |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | C | Signal | 55.1 | **E*** | 32.2 | C | | | | 2 | No Mitigations Feasible |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | C | Signal | 38.0 | **D*** | 38.8 | **D*** | Signal | 30.9 | C | 41.9 | D* |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | C | TWSC | 45.1 | **E*** | 19.8 | C | Signal | 6.5 | A | 12.4 | B |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | D | Signal | 41.6 | D | 32.4 | C | Signal | 28.8 | C | 28.0 | C |

**Notes:**
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] After the implementation of the project improvements, there is no conflicting movement at this intersection. Hence, Synchro does not report an LOS at this intersection.

### *Roadway Segments*

The results of the roadway segment analyses for Existing with Project and Existing with Project with Improvements are summarized in Table 4.14-23. Construction of the following feasible improvements would result in an acceptable LOS at the identified roadway segments, resulting in project impacts that would be **less than significant.**

- Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard: Improve the roadway segment to the classification of four-lane divided arterial.
- Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue: Improve the roadway segment to the classification of four-lane divided arterial.
- Alessandro Boulevard between Kitching Street and Lasselle Street: Improve the roadway segment to the classification of four-lane divided arterial.
- Alessandro Boulevard between Lasselle Street and Nason Street: Improve the roadway segment to the classification of four-lane divided arterial.
- Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street: Improve the roadway segment to the classification of six-lane divided arterial.

Thus, under Existing with Project Traffic Conditions, with the feasible improvements identified above, impacts would be less than significant at all study roadway segments.

## Table 4.14-23
## Existing with Project with Improvements Roadway Segment Levels of Service

| Roadway Segment | | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| *Segments on Moreno Beach Drive* | | | | | | | | | |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 17,800 | **E*** | Four Lane Divided Arterial | 37,500 | 17,800 | A |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 18,400 | **F*** | Four Lane Divided Arterial | 37,500 | 18,400 | A |
| *Segments on Alessandro Boulevard* | | | | | | | | | |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 17,100 | **E*** | Four Lane Divided Arterial | 37,500 | 17,100 | A |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 11,900 | **E*** | Four Lane Divided Arterial | 37,500 | 11,900 | A |
| *Segments on Cactus Avenue* | | | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 49,100 | **F*** | Six Lane Divided Arterial | 56,300 | 49,100 | D |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007.
2 Roadway capacities for all segments have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007.
3 Improvements have been recommended based on the City's General Plan classification or the Transportation Uniform Mitigation Fee Program and based on the availability of right-of-way.

### Phase I Completion Year (2023) with Project Traffic Conditions

#### *Intersections*

The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the Phase I Completion Year (2023) with Project traffic conditions at the following significantly impacted intersections.

Prior to obtaining a Certificate of Occupancy for Phase I, the project shall comply with the mitigation measures specified below, which require payment of a fair share contribution and/or TUMF fee towards the implementation of the specified improvements necessary for the impacted intersections to operate with an acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase I is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**

**MM-TRA-1** Intersection No. 29 – Lasselle Street/Alessandro Boulevard: Pay TUMF fee for the following improvements: add eastbound through (EBT) and westbound through (WBT) lanes.

**MM-TRA-2** Intersection No. 39 – Evans Road/Ramona Expressway: Pay fair-share (1.6%) for the following improvements: add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) turn lanes.

**MM-TRA-3** Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Pay fair-share (26.8%) for the following improvements: add southbound left (SBL) turn lane.

**MM-TRA-4** Intersection No. 50 – Pearl Lane-Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the following improvement: install traffic signal.

**MM-TRA-5** Intersection No. 56 – Pearl Lane-Moreno Beach Drive/SR-60 Eastbound Ramps: Pay TUMF fee for the following improvements: add second southbound through (SBT) lane and eastbound right (EBR) turn lane.

**MM-TRA-6** Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay fair-share (8.0%) for the following improvements: add second southbound through (SBT) lane and northbound through (NBT) lane.

Prior to obtaining a Certificate of Occupancy for Phase I, the project shall comply with the mitigation measures specified below, which require payment of a fair share contribution and/or TUMF fee towards the implementation of the specified improvements. The following feasible mitigation measures would reduce project impacts by increasing capacity at the specified intersections, however, they would not be sufficient to achieve an acceptable LOS at these intersections. Additional improvements are required but are not feasible due to right-of-way constraints. Accordingly, these intersections are forecast to continue to operate at a deficient LOS following mitigation, and therefore, project impacts at these intersections would be **significant and unavoidable**.

**MM-TRA-7** Intersection No. 30 – Lasselle Street/Cactus Avenue: Pay fair-share (16.3%) for the following improvement: add right-turn overlap phasing for westbound right (WBR) turn lane.

**MM-TRA-8** Intersection No. 33 – Lasselle Street/Cactus Avenue: Pay fair-share (9.2%) for the following improvement: add westbound right (WBR) turn lane.

For the following significantly impacted intersections, no feasible mitigation measures are available due to right-of-way constraints. Therefore, these intersections would continue to operate at a deficient LOS, and project impacts at these intersections would be **significant and unavoidable**.

- Intersection No. 8 – Elsworth Street Street/Cactus Avenue:
- Intersection No. 17 – Indian Street/Cactus Avenue:
- Intersection No. 27 – Kitching Street/Cactus Avenue:
- Intersection No. 28 – Kitching Street/Iris Avenue
- Intersection No. 33 – Lasselle Street/Cactus Avenue: Pay fair-share (9.2%) for the following improvement: add westbound right (WBR) turn lane.
- Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School

Table 4.14-24 provides a comparison under Phase I Project Completion Year (2023) with Project and Phase I Project Completion Year (2023) with Project with Improvements for the above mentioned intersections that operate at an unacceptable LOS. Figures 4.14-25A and 4.14-25B illustrate the Phase I Project Completion Year (2023) with Project with Improvements Study Intersection Geometrics and Traffic Control.

Thus, under Phase I Project Completion Year (2023) with Project with Improvements, impacts would be **significant and unavoidable** at eight study intersections.

# Table 4.14-24
## Phase I Project Completion Year (2023) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley | D | Signal | 40.8 | D | 69.7 | **E*** | Signal | | | | No Mitigation Feasible |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | C | Signal | 36.3 | **D*** | 33.0 | C | Signal | | | | No Mitigation feasible |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | C | Signal | 42.5 | **D*** | 27.5 | C | Signal | | | | No Mitigation feasible |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | C | Signal | 40.5 | **D*** | 40.6 | **D*** | Signal | | | | No Mitigation feasible |
| 29 | Lasselle Street/ Alessandro Boulevard | Moreno Valley | D | Signal | 85.0 | **F*** | 59.3 | **E*** | Signal | 44.4 | D | 31.8 | C |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | C | Signal | 45.8 | **D*** | 40.4 | **D*** | Signal | 45.6 | **D*** | 40.4 | **D*** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | C | Signal | 43.0 | **D*** | 20.7 | C | Signal | | | | No Mitigation feasible |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | C | Signal | 59.2 | **E*** | 36.1 | **D*** | Signal | | | | No Mitigation feasible |
| 39 | Evans Road/Ramona Expressway | Perris | D | Signal | 64.1 | **E*** | 30.9 | C | Signal | 47.4 | D | 28.9 | C |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | C | Signal | 32.1 | C | 38.9 | **D*** | Signal | 34.3 | C | 32.6 | C |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | C | TWSC | >100 | **F*** | 53.6 | **F*** | Signal | 6.8 | A | 13.9 | B |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | 45 sec | Signal | 53.8 | D | 68.0 | **E*** | Signal | 16.2 | B | 38.3 | D |

## Table 4.14-24
## Phase I Project Completion Year (2023) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | D | Signal | 44.0 | D | 60.7 | **E*** | Signal | 32.6 | C | 46.5 | D |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | D | Signal | 37.2 | D | 32.8 | C | Signal | 27.3 | C | 26.0 | C |

**Notes:**
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] After the implementation of the project improvements, there is no conflicting movement at this intersection. Hence, Synchro does not report an LOS at this intersection.

### *Roadway Segments*

The results of the roadway segment analyses for Phase I Project Completion Year (2023) with Project and Phase I Project Completion Year (2023) with Project with Improvements are summarized in Table 4.14-25. The following mitigation measures have been recommended for the roadway segment impacts:

Prior to obtaining a Certificate of Occupancy for Phase I, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution and/or TUMF fee towards the implementation of the specified improvements necessary for the impacted roadway segments to operate with an acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase I is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.**

**MM-TRA-9** Moreno Beach Drive between Cottonwood Avenue and Alessandro Boulevard: Pay fair-share (17.3%) to improve the roadway segment to the classification of four-lane divided arterial.

**MM-TRA-10** Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue: Pay fair-share (15.2%) to improve the roadway segment to the classification of four-lane divided arterial.

**MM-TRA-11** Alessandro Boulevard between Kitching Street and Lasselle Street: Pay TUMF fee to improve the roadway segment to the classification of four-lane divided arterial.

**MM-TRA-12** Alessandro Boulevard between Lasselle Street and Nason Street: Pay TUMF fee to improve the roadway segment to the classification of four-lane divided arterial.

**MM-TRA-13** Alessandro Boulevard between Nason Street and Moreno Beach Drive: Pay TUMF fee to improve the roadway segment to the classification of a four-lane divided arterial.

Prior to obtaining a Certificate of Occupancy for Phase I, the project shall comply with the mitigation measure specified below, which requires payment of a TUMF fee towards the implementation of the specified improvements. The following mitigation measure would reduce project impacts by increasing capacity at the specified roadway segment, however, the identified improvement would not be sufficient to achieve an acceptable LOS. Additional improvements are required but are not feasible due to right-of-way constraints. Therefore, this roadway segment is forecast to continue to operate at a deficient LOS following mitigation, and the project impact at this roadway segment would be **significant and unavoidable**.

**MM-TRA-14** Cactus Avenue between I-215 Northbound Ramps-Old Frontage Road and Elsworth Street: Pay TUMF fee to improve the roadway segment to the classification of six-lane divided arterial.

Thus, under Phase I Project Completion Year (2023) with Project with Improvements, impacts would be significant and unavoidable at one study roadway segment.

# Table 4.14-25
## Phase I Project Completion Year (2023) with Project with Improvements Roadway Segment Levels of Service

| Roadway Segment | | With Project | | | | With Project With Improvements3 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification*[1] | *Roadway Capacity*[2] | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity*[2] | *Daily Volume* | *LOS* |
| *Segments on Moreno Beach Drive* | | | | | | | | | |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 18,000 | E* | Four Lane Divided Arterial | 37,500 | 18,000 | A |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 19,100 | F* | Four Lane Divided Arterial | 37,500 | 19,100 | A |
| *Segments on Alessandro Boulevard* | | | | | | | | | |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 22,300 | F* | Four Lane Divided Arterial | 37,500 | 22,300 | A |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 15,900 | F* | Four Lane Divided Arterial | 37,500 | 15,900 | A |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 12,700 | F* | Four Lane Undivided Arterial | 25,000 | 12,700 | A |
| *Segments on Cactus Avenue* | | | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 51,500 | F* | Six Lane Divided Arterial | 56,300 | 51,500 | E* |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007.
2 Roadway capacities for all segments have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007.
3 Improvements have been recommended based on the City's General Plan classification or the Transportation Uniform Mitigation Fee Program and based on the availability of right-of-way. For some segments, adequate right-of-way is not available or they have been built out to their General Plan classification. As such, these segments will continue to operate at a deficient LOS.

**Phase II Completion Year (2032) with Project Traffic Conditions**

***Intersections***

The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the Phase II Completion Year (2032) with Project traffic conditions at the following significantly impacted intersections.

Prior to obtaining a Certificate of Occupancy for Phase II, the project shall comply with the mitigation measures specified below, which require payment of a fair share contribution and/or TUMF fee towards the implementation of the specified improvements necessary for the impacted intersections to operate with an acceptable LOS However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase II is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**

**MM-TRA-15** Intersection No. 5 – I-215 northbound ramps - Old 215 Frontage Road/Cactus Avenue: Pay TUMF fee for the following improvements: interchange redesign and widening of the bridge to 6 lanes. Add second northbound left (NBL) and northbound through (NBT), second southbound left (SBL), dedicated southbound right (SBR) with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing.

**MM-TRA-16** Intersection No. 6 – Day Street/Alessandro Boulevard: Pay TUMF fee for the addition of a westbound through (WBT) lane. Pay fair-share (1.0%) for the following improvements: convert north-south movement to protected phasing, add second southbound left (SBL), southbound right (SBR) with overlap phasing, second eastbound left (EBL) turn lane, add overlap phasing to westbound right (WBR).

**MM-TRA-17** Intersection No. 11 – Graham Street/Alessandro Boulevard: Pay TUMF fee for the addition of an eastbound through (EBT) lane.

**MM-TRA-18** Intersection No. 25 – Perris Boulevard/Harley Knox Boulevard: Pay fair-share (1.3%) for the following improvements: add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) movements.

**MM-TRA-19** Intersection No. 29 – Lasselle Street/Alessandro Boulevard: Pay fair-share (4.3%) for the addition of a southbound through (SBT) lane.

**MM-TRA-20** Intersection No. 45 – Nason Street/Eucalyptus Avenue: Pay fair-share (6.1%) for the following improvements: add eastbound right (EBR) turn lane, northbound right (NBR) turn lane, and southbound right (SBR) turn lanes. Add right-turn overlap phasing for eastbound right (EBR), northbound right (NBR), and southbound right (SBR) movements.

**MM-TRA-21** Intersection No. 56 – Pearl Lane – Moreno Beach Drive/SR-60 Eastbound Ramps: Pay TUMF fee for the following improvements: add second northbound through (NBT), add second southbound through (SBT), restripe southbound through left to southbound left and restripe eastbound left through to eastbound left-through-right.

**MM-TRA-22** Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay TUMF fee for the addition of second eastbound through (EBT) lane, second westbound through (WBT) lane, second northbound through (NBT) lane, second southbound through (SBT) lane and northbound right (NBR) lane. Pay fair-share (8.0%) for northbound right overlap phasing.

Prior to obtaining a Certificate of Occupancy for Phase II, the project shall comply with the mitigation measures specified below, which require payment of a fair share towards the implementation of the specified improvements. The following impacted intersection has adequate right-of-way to implement the improvements identified below, which would result in increased capacity at the specified intersections. However, the identified improvements would not be sufficient to achieve an acceptable LOS at this intersection. Additional improvements are required but are not feasible due to right-of-way constraints. Therefore, this intersection is forecast to continue to operate at a deficient LOS after mitigation, and the project impact would be **significant and unavoidable**.

**MM-TRA-23** Intersection No. 19 – Perris Boulevard/Alessandro Boulevard: Pay fair-share (2.7%) for the following improvements: add eastbound through (EBT) by removing the center median along both east and west leg approaches and shifting the left-turn lanes to accommodate the through lane. Add right-turn overlap phasing for the NBR, SBR, and EBR. No further mitigations feasible due to right-of-way constraints.

**MM-TRA-24** Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Pay fair-share (26.8%) for the following improvements: a second southbound right (SBR). No further mitigations feasible due to right-of-way constraints.

For the following significantly impacted intersections, no feasible mitigation is available due to right-of-way constraints. Therefore, these intersections would continue to operate at a deficient LOS, and project impacts at these intersection would be **significant and unavoidable**.

- Intersection No. 7 – Elsworth Street/Alessandro Boulevard
- Intersection No. 8 – Elsworth Street Street/Cactus Avenue

- <u>Intersection No. 12 – Graham Street - Riverside Drive/Cactus Avenue</u>
- <u>Intersection No. 17 – Indian Street/Cactus Avenue</u>
- <u>Intersection No. 27 – Kitching Street/ Cactus Avenue</u>
- <u>Intersection No. 28 – Kitching Street/Iris Avenue</u>
- <u>Intersection No. 30 – Lasselle Street/Cactus Avenue</u>
- <u>Intersection No. 32 – Lasselle Street/Iris Avenue</u>
- <u>Intersection No. 33 – Lasselle Street/Krameria Avenue</u>
- <u>Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School</u>

Table 4.14-26 provides a comparison under Phase II Project Completion Year (2032) with Project and Phase II Project Completion Year (2032) with Project with Improvements for the above mentioned intersections that operate at an unacceptable LOS. Figures 4.14-26A and 4.14-26B illustrate the Phase II Project Completion Year (2032) with Project with Improvements Study Intersection Geometrics and Traffic Control.

Thus, under Phase II Project Completion Year (2032) with Project with Improvements, impacts would be significant and unavoidable at twelve study intersections.

## Table 4.14-26
## Phase II Project Completion Year (2032) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | | AM Peak Hour | | PM Peak Hour | |
| | Intersection | Jurisdiction | LOS Standard | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | 45 sec | Signal | >100 | **F** | >100 | **F** | Signal | 23.3 | C | 28.7 | C |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F** | >100 | **F** | Signal | 37.0 | D | 45.5 | D |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | D | Signal | 34.8 | C | 64.2 | **E** | Signal | | | | **No Mitigations Feasible** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley | D | Signal | 40.5 | D | 74.6 | **E** | Signal | | | | **No Mitigations Feasible** |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | D | Signal | 30.6 | C | 81.4 | **F** | Signal | 28.4 | C | 44.8 | D |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley | D | Signal | 57.7 | **E** | 38.1 | D | Signal | | | | **No Mitigations Feasible** |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | C | Signal | 42.0 | **D** | 34.7 | C | Signal | | | | **No Mitigations Feasible** |
| 19 | Perris Boulevard/ Alessandro Boulevard | Moreno Valley | D | Signal | 46.3 | D | 89.7 | **F** | Signal | 47.5 | D | 68.4 | **E** |
| 20. | Perris Boulevard/Cactus Avenue | Moreno Valley | D | Signal | 47.6 | D | 47.4 | **D** | Signal | **No Mitigations Feasible** | | | |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | D | Signal | 58.0 | **E** | 51.5 | D | Signal | 53.4 | D | 50.3 | D |
| 27 | Kitching Street/ Cactus Avenue | Moreno Valley | C | Signal | 45.6 | **D** | 36.9 | **D** | Signal | | | | **No Mitigations Feasible** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | C | Signal | 65.9 | **E** | >100 | **F** | Signal | | | | **No Mitigations Feasible** |

**Table 4.14-26**
**Phase II Project Completion Year (2032) with Project with Improvements Intersection Levels of Service**

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | | AM Peak Hour | | PM Peak Hour | |
| | Intersection | Jurisdiction | LOS Standard | Control | Delay (sec.) | LOS | Delay (sec.) | LOS | Control | Delay (sec.) | LOS | Delay (sec.) | LOS |
| 29 | Lasselle Street/ Alessandro Boulevard | Moreno Valley | D | Signal | 95.6 | **F** | >100 | **F** | Signal | 45.0 | D | 44.3 | D |
| 30 | Lasselle Street/ Cactus Avenue | Moreno Valley | C | Signal | 46.5 | **D** | 47.6 | **D** | Signal | 43.4 | **D** | 42.6 | **D** |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | D | Signal | 45.5 | D | 59.5 | **E** | Signal | 46.5 | D | 62.2 | **E** |
| 33 | Lasselle Street/ Krameria Avenue | Moreno Valley | C | Signal | 70.1 | **E** | 27.5 | C | Signal | | | | **No Mitigations Feasible** |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | C | Signal | 59.3 | **E** | 40.2 | **D** | Signal | | | | **No Mitigations Feasible** |
| 39 | Evans Road/Ramona Expressway | Perris | D | Signal | 92.5 | **F** | 54.2 | D | Signal | 54.2 | D | 41.9 | D |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | D | Signal | 57.9 | **E** | 35.1 | D | Signal | 54.9 | D | 28.9 | C |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | C | Signal | 30.5 | C | 39.2 | **D** | Signal | 26.0 | C | 33.4 | C |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | C | TWSC | >100 | **F** | >100 | **F** | Signal | 19.3 | B | 18.1 | B |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | 45 sec | Signal | 95.1 | **F** | >100 | **F** | Signal | 26.2 | C | 29.0 | C |

**Table 4.14-26**
**Phase II Project Completion Year (2032) with Project with Improvements Intersection Levels of Service**

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | | AM Peak Hour | | PM Peak Hour | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 59 | Moreno Beach Drive/ Alessandro Boulevard | Moreno Valley | D | Signal | 69.6 | **E** | >100 | **F** | Signal | 33.4 | C | 48.5 | D |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | D | Signal | 38.9 | D | 40.9 | D | Signal | 38.5 | D | 27.2 | C |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] After the implementation of the project improvements, there is no conflicting movement at this intersection. Hence, Synchro does not report an LOS at this intersection.

### *Roadway Segments*

The results of the roadway segment analyses for Phase II Project Completion Year (2032) with Project and Phase II Project Completion Year (2032) with Project with Improvements are summarized in Table 4.14-27. The following feasible mitigation measures have been recommended for the roadway segment impacts.

Prior to obtaining a Certificate of Occupancy for Phase II, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution and/or TUMF fee towards the implementation of the specified improvements necessary in order for the impacted roadway segment to operate with acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase II is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.** :

**MM-TRA-25** Lasselle Street-Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway: Pay fair-share (4.0%) to improve the roadway segment to the classification of a six-lane arterial.

**MM-TRA-26** Nason Street-Evans Road between Eucalyptus Avenue and Cottonwood Avenue: Pay fair-share (6.7%) to improve the roadway segment to the classification of a six-lane arterial.

**MM-TRA-27** Nason Street-Evans Road between Cottonwood Avenue and Alessandro Boulevard: Pay fair-share (9.0%) to improve the roadway segment to the classification of a six-lane arterial.

**MM-TRA-28** Moreno Beach Drive between SR-60 Eastbound Ramps and Eucalyptus Avenue: Pay fair-share (7.4%) to improve the roadway segment to the classification of a six-lane divided arterial.

**MM-TRA-29** Alessandro Boulevard between Day Street and Elsworth Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

**MM-TRA-30** Alessandro Boulevard between Frederick Street and Graham Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

**MM-TRA-31** Alessandro Boulevard between Graham Street and Heacock Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

**MM-TRA-32** Alessandro Boulevard between Kitching Street and Lasselle Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

Prior to obtaining a Certificate of Occupancy for Phase II, the project shall comply with the mitigation measures specified below, which require payment of a TUMF fee towards the implementation of the specified improvements. The following impacted roadway segment has adequate right-of-way to implement the improvements identified below, which would reduce project impacts by increasing capacity at the specified roadway segment. However, the identified improvements would not be sufficient to achieve an acceptable LOS at this roadway segment. Additional improvements are required but are not feasible due to right-of-way constraints. Therefore, this roadway segment is forecast to continue to operate at a deficient LOS after implementation of the recommended improvement, and the project impact at this roadway segment would be **significant and unavoidable**.

**MM-TRA-33** Alessandro Boulevard between I-215 northbound ramps and Day Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

For the following significantly impacted roadway segments, no feasible mitigation is available due to right-of-way constraints. Therefore, these roadway segments would continue to operate at a deficient LOS, and project impacts at these roadway segments would be **significant and unavoidable**.

- Lasselle Street between Iris Avenue and Krameria Avenue
- Lasselle Street between Krameria Avenue and Via Xavier Lane
- Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra
- Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata
- Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive
- Cactus Avenue between I-215 northbound ramps – Old Frontage Road and Elsworth Street

Thus, under Phase II Project Completion Year (2032) with Project with Improvements, impacts would be **significant and unavoidable** at seven study roadway segments.

## Table 4.14-27
## Phase II Project Completion Year (2032) with Project with Improvements Roadway Segment Levels of Service

| | **Roadway Segment** | **With Project** | | | | **With Project With Improvements[3]** | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| | *Segments on Lasselle Street* | | | | | | | | |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 34,500 | **E*** | Four Lane Divided Arterial | 37,500 | 34,500 | **E*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 32,600 | **D*** | Four Lane Divided Arterial | 37,500 | 32,600 | **D*** |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 31,700 | **D*** | Four Lane Divided Arterial | 37,500 | 31,700 | **D*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 31,300 | **D*** | Four Lane Divided Arterial | 37,500 | 31,300 | **D*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 30,600 | **D*** | Four Lane Divided Arterial | 37,500 | 30,600 | **D*** |
| | *Segment on Lasselle Street - Evans Road* | | | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 36,200 | **F*** | Arterial (Six Lanes) | 53,900 | 36,200 | B |
| | *Segments on Nason Street* | | | | | | | | |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 40,300 | **F*** | Six Lane Divided Arterial | 56,300 | 40,300 | C |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 31,200 | **D*** | Six Lane Divided Arterial | 56,300 | 31,200 | A |
| | *Segments on Moreno Beach Drive* | | | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 33,900 | **E*** | Six Lane Divided Arterial | 56,300 | 33,900 | B |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 22,200 | **F*** | Four Lane Divided Arterial | 37,500 | 22,200 | A |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 24,800 | **F*** | Four Lane Divided Arterial | 37,500 | 24,800 | B |

## Table 4.14-27
## Phase II Project Completion Year (2032) with Project with Improvements Roadway Segment Levels of Service

| Roadway Segment | | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| *Segments on Alessandro Boulevard* | | | | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 51,600 | **F*** | Six Lane Divided Arterial | 56,300 | 51,600 | **E*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 43,900 | **E*** | Six Lane Divided Arterial | 56,300 | 43,900 | C |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 44,400 | **E*** | Six Lane Divided Arterial | 56,300 | 44,400 | C |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 48,100 | **F*** | Six Lane Divided Arterial | 56,300 | 48,100 | D |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 34,100 | **F*** | Six Lane Divided Arterial | 56,300 | 34,100 | B |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 26,400 | **F*** | Four Lane Divided Arterial | 37,500 | 26,400 | C |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 19,800 | **F*** | Four Lane Undivided Arterial | 25,000 | 19,800 | C |
| *Segments on Cactus Avenue* | | | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 60,000 | **F*** | Six Lane Divided Arterial | 56,300 | 60,000 | **F*** |

**Notes:**
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
3 Improvements have been recommended based on the City's General Plan classification or the Transportation Uniform Mitigation Fee Program and based on the availability of right-of-way. For some segments, adequate right-of-way is not available or they have been built out to their General Plan classification. As such, these segments will continue to operate at a deficient LOS.

## Phase III Completion Year (2038) with Project Traffic Conditions

### *Intersections*

The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the Phase III Completion Year (2038) with Project traffic conditions at the following significantly impacted intersections.

Prior to obtaining a Certificate of Occupancy for Phase III, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution and/or TUMF fee towards the implementation of the specified improvements necessary for the impacted intersections to operate with an acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable**

**MM-TRA-34** Intersection No. 9: Frederick Street/Alessandro Boulevard: Pay TUMF fee for the addition of an eastbound through (EBT) lane.

**MM-TRA-35** Intersection No. 11 – Graham Street/Alessandro Boulevard: Pay TUMF fee for the addition of a second eastbound through (EBT) lane and a second westbound through (WBT) lane.

**MM-TRA-36** Intersection No. 13: Heacock Street/Alessandro Boulevard: Pay fair-share (2.6%) for the following improvements: add second eastbound left (EBL) turn lane.

**MM-TRA-37** Intersection No. 22: Perris Boulevard/Krameria Avenue: Pay fair-share (1.5%) to restripe westbound approach to westbound left (WBL) and shared westbound through-right (WBTR).

**MM-TRA-38** Intersection No. 25: Perris Boulevard/Harley Knox Boulevard: Pay fair-share (1.3%) for the addition of an eastbound left (EBL) turn lane and add right-turn overlap phasing for westbound right (WBR) and southbound right (SBR) movements.

**MM-TRA-39** Intersection No. 29: Lasselle Street/Alessandro Boulevard: Pay TUMF fee for the addition of a second westbound through (WBT) and a second eastbound through (EBT) lane.

**MM-TRA-40** Intersection No. 47: Nason Street/Alessandro Boulevard: Pay TUMF fee for the addition of a westbound through (WBT) lane.

**MM-TRA-41** Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue: Pay fair-share (26.8%) for the addition of a southbound right (SBR) turn lane.

**MM-TRA-42** Intersection No. 50: Peal Lane-Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the addition of an eastbound left (EBL) turn lane.

**MM-TRA-43** Intersection No. 58: Moreno Beach Drive/Cottonwood Avenue: Pay fair-share (9.4%) for the following improvements: add westbound left (WBL), and restripe westbound approach as westbound left (WBL) and shared westbound through-right (WBTR). Change the split phasing for the east-west approach to permitted phasing.

**MM-TRA-44** Intersection No. 59 – Moreno Beach Drive/Alessandro Boulevard: Pay fair-share (8.0%) for addition of second westbound left (WBL) turn-lane.

Prior to obtaining a Certificate of Occupancy for Phase III, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution and/or TUMF fee towards the implementation of the specified improvements. The following impacted intersections have adequate right-of-way to implement the improvements identified below, which would reduce the project impacts by increasing capacity at the specified intersections. However, the identified improvements would not be sufficient to achieve an acceptable LOS at these intersections. Additional improvements are required but are not feasible due to right-of-way constraints. Therefore, these intersections are forecast to continue to operate at a deficient LOS after implementation of the recommended improvements, and the project impacts at these intersections would be **significant and unavoidable**.

**MM-TRA-45** Intersection No. 21: Perris Boulevard/Iris Avenue: Pay fair-share (3.1%) to add overlap phasing to northbound right (NBR).

**MM-TRA-46** Intersection No. 39 – Evans Road/Ramona Expressway: Pay TUMF fee for addition of westbound through (WBT) lane.

For the following significantly impacted intersections, no feasible mitigation is available due to right-of-way constraints. Therefore, those intersections would continue to operate at a deficient LOS, and project impacts at these intersections would be **significant and unavoidable**.

- Intersection No. 6 – Day Street/Alessandro Boulevard
- Intersection No. 7 – Elsworth Street/Alessandro Boulevard
- Intersection No. 8 – Elsworth Street Street/Cactus Avenue
- Intersection No. 12 – Graham Street - Riverside Drive/Cactus Avenue
- Intersection No. 17 – Indian Street/Cactus Avenue
- Intersection No. 19 – Perris Boulevard/Alessandro Boulevard
- Intersection No. 27 – Kitching Street/ Cactus Avenue

- Intersection No. 28 – Kitching Street/Iris Avenue
- Intersection No. 30 – Lasselle Street/Cactus Avenue
- Intersection No. 32 – Lasselle Street/Iris Avenue
- Intersection No. 33 – Lasselle Street/Krameria Avenue
- Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School
- Intersection No. 57: Moreno Beach Drive/Eucalyptus Avenue

Table 4.14-28 provides a comparison under Phase III Project Completion Year (2038) with Project and Phase III Project Completion Year (2038) with Project with Improvements for the above mentioned intersections that operate at an unacceptable LOS. Figures 4.14-27A and 4.14-27B illustrate the Phase III Project Completion Year (2038) with Project with Improvements Study Intersection Geometrics and Traffic Control.

Thus, under Phase III Project Completion Year (2038) with Project with Improvements, impacts would be **significant and unavoidable** at eleven study intersections.

# Table 4.14-28
## Phase III Project Completion Year (2038) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | 45 sec | Signal | >100 | **F*** | >100 | **F*** | Signal | 31.6 | C | 38.2 | D |
| 6 | Day Street/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | >100 | **F*** | >100 | **F*** **No Mitigations Feasible** |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | D | Signal | 34.6 | C | >100 | **F*** | Signal | | | | **No Mitigations Feasible** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley | D | Signal | 42.1 | D | 70.6 | **E*** | Signal | 36.4 | D | 43.8 | D |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | D | Signal | 37.9 | D | 70.7 | **E*** | Signal | 27.5 | C | 41.1 | D |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | D | Signal | 30.4 | C | >100 | **F*** | Signal | 27.5 | C | 41.1 | D |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley | D | Signal | 75.8 | **E*** | 58.6 | **E*** | Signal | | | | **No Mitigations Feasible** |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | D | Signal | 51.4 | D | 56.5 | **E*** | Signal | 45.0 | D | 49.0 | D |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | C | Signal | 42.0 | **D*** | 36.0 | **D*** | Signal | | | | **No Mitigations Feasible** |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | D | Signal | 64.8 | **E*** | >100 | **F*** | Signal | 63.2 | **E*** | >100 | **F*** |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | D | Signal | 51.4 | D | 61.4 | **E*** | Signal | | | | **No Mitigations Feasible** |

## Table 4.14-28
## Phase III Project Completion Year (2038) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *AM Peak Hour* | | *PM Peak Hour* | | | *AM Peak Hour* | | *PM Peak Hour* | |
| | **Intersection** | **Jurisdiction** | **LOS Standard** | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | D | Signal | 42.3 | D | 70.3 | **E*** | Signal | 43.5 | D | 72.6 | **E*** |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | D | Signal | 48.9 | **D** | 50.5 | **D** | Signal | 39.2 | D | 39.2 | D |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | D | Signal | 88.1 | **F*** | 85.8 | **F*** | Signal | 45.5 | D | 38.2 | D |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | C | Signal | 48.1 | **D*** | 37.8 | **D*** | Signal | | | | **No Mitigations Feasible** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | C | Signal | >100 | **F*** | >100 | **F*** | Signal | | | | **No Mitigations Feasible** |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 42.0 | D | 41.9 | D |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | C | Signal | 49.3 | **D*** | 52.3 | **D*** | Signal | 45.9 | **D*** | 47.9 | **D*** |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | D | Signal | 57.0 | **E*** | 85.1 | **F*** | Signal | 54.8 | D | 85.0 | **F*** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | C | Signal | 78.0 | **E*** | 33.7 | C | I | | | | |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | C | Signal | 57.9 | **E*** | 46.4 | **D*** | | | | | |
| 39 | Evans Road/Ramona Expressway | Perris | D | Signal | >100 | **F*** | 86.0 | **F*** | Signal | 81.9 | **F*** | 65.3 | **E*** |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | D | Signal | 77.5 | **E*** | 59.6 | **E*** | Signal | 73.4 | E | 45.6 | D |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | D | Signal | 56.3 | **E*** | 67.3 | **E*** | Signal | 38.5 | D | 49.6 | D |

## Table 4.14-28
## Phase III Project Completion Year (2038) with Project with Improvements Intersection Levels of Service

| | Intersection | Jurisdiction | LOS Standard | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Control | AM Peak Hour | | PM Peak Hour | | Control | AM Peak Hour | | PM Peak Hour | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | C | Signal | 40.6 | **D*** | 63.3 | **E*** | Signal | 26.5 | C | 37.4 | D |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | C | TWSC | >100 | **F*** | >100 | **F*** | Signal | 18.4 | B | 19.6 | B |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | 45 sec | Signal | >100 | **F*** | >100 | **F*** | Signal | 29.4 | C | 37.5 | D |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | D | Signal | 41.8 | D | 76.6 | **E*** | Signal | | | | No Mitigation Feasible |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | C | Signal | 26.5 | C | 64.7 | **E*** | Signal | 20.1 | C | 30.5 | C |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 33.4 | C | 51.1 | D |
| 62 | Driveway 1/Iris Avenue[1] | Moreno Valley | D | OWSC | 13.2 | B | 44.6 | **E*** | OWSC | - | - | - | No Mitigation Feasible |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | D | Signal | 46.7 | D | 43.0 | D | Signal | 38.5 | D | 25.8 | C |

**Notes**:
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
[1] After the implementation of the project improvements, there is no conflicting movement at this intersection. Hence, Synchro does not report an LOS at this intersection.

***Roadway Segments***

The results of the roadway segment analyses for Phase III Project Completion Year (2038) with Project and Phase III Project Completion Year (2038) with Project with Improvements are summarized in Table 4.14-29. The following mitigation measures are recommended for the roadway segment impacts.

Prior to obtaining a Certificate of Occupancy for Phase III, the project shall comply with the mitigation measure specified below, which requires payment of a TUMF fee towards the implementation of the specified improvements necessary in order for the impacted roadway segment to operate with acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.**

**MM-TRA-47** Alessandro Boulevard between Perris Boulevard and Kitching Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

For the following significantly impacted roadway segments, no feasible mitigation is available due to right-of-way constraints. Therefore, those roadway segments would continue to operate at a deficient LOS, and project impacts at these roadway segments would be **significant and unavoidable**.

- Perris Boulevard between Krameria Avenue to San Michele Road
- Perris Boulevard between San Michele Road to Nandina Avenue
- Perris Boulevard between Nandina Avenue to Harley Knox Boulevard
- Lasselle Street between Iris Avenue and Krameria Avenue
- Lasselle Street between Krameria Avenue and Via Xavier Lane
- Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra
- Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata
- Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive
- Lasselle Street between Avenida Classica – Kentucky Derby Drive and Via De Anza-Rancho Verde High School
- Nason Street between Eucalyptus Avenue and Cottonwood Avenue
- Alessandro Boulevard between I-215 northbound ramps and Day Street

- Alessandro Boulevard between Graham Street and Heacock Street
- Alessandro Boulevard between Heacock Street and Indian Street
- Cactus Avenue between I-215 northbound ramps – Old Frontage Road and Elsworth Street
- Cactus Avenue between Elsworth Street and Frederick Street
- Cactus Avenue between Frederick Street and Graham Street – Riverside Drive
- Iris Avenue between Perris Boulevard and Kitching Street
- Iris Avenue between Lasselle Street and Camino Flores
- Iris Avenue between Camino Flores and Coachlight Court – Avenida De Circo
- Iris Avenue between Coachlight Court – Avenida De Circo and Grade Vista Drive
- Iris Avenue between Grande Vista Drive and Nason Street – Hillrose Lane

Thus, under Phase III Project Completion Year (2038) with Project with Improvements, impacts would be **significant and unavoidable** at twenty-one study roadway segments.

## Table 4.14-29
## Phase III Project Completion Year (2038) with Project with Improvements Roadway Segment Levels of Service

| Roadway Segment | | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| *Segments on Perris Boulevard* | | | | | | | | | |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 52,500 | **E*** | Six Lane Divided Arterial | 56,300 | 52,500 | **E*** |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 52,600 | **E*** | Six Lane Divided Arterial | 56,300 | 52,600 | **E*** |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 53,900 | **E*** | Six Lane Divided Arterial | 56,300 | 53,900 | **E*** |
| *Segments on Lasselle Street* | | | | | | | | | |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 37,900 | **F*** | Four Lane Divided Arterial | 37,500 | 37,900 | **F*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 36,200 | **E*** | Four Lane Divided Arterial | 37,500 | 36,200 | **E*** |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 35,300 | **E*** | Four Lane Divided Arterial | 37,500 | 35,300 | **E*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 34,800 | **E*** | Four Lane Divided Arterial | 37,500 | 34,800 | **E*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 34,100 | **E*** | Four Lane Divided Arterial | 37,500 | 34,100 | **E*** |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 32,700 | **D*** | Four Lane Divided Arterial | 37,500 | 32,700 | **D*** |
| *Segment on Lasselle Street - Evans Road* | | | | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 41,700 | **F*** | Arterial (Six Lanes) | 53,900 | 41,700 | C |
| *Segments on Nason Street* | | | | | | | | | |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 47,400 | **F*** | Six Lane Divided Arterial | 56,300 | 47,400 | **D*** |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 36,600 | **E*** | Six Lane Divided Arterial | 56,300 | 36,600 | B |

## Table 4.14-29
## Phase III Project Completion Year (2038) with Project with Improvements Roadway Segment Levels of Service

| | Roadway Segment | With Project Classification[1] | With Project Roadway Capacity[2] | With Project Daily Volume | With Project LOS | With Project With Improvements[3] Classification | With Project With Improvements[3] Roadway Capacity[2] | With Project With Improvements[3] Daily Volume | With Project With Improvements[3] LOS |
|---|---|---|---|---|---|---|---|---|---|
| | *Segments on Moreno Beach Drive* | | | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 39,400 | **F*** | Six Lane Divided Arterial | 56,300 | 39,400 | C |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 25,100 | **F*** | Four Lane Divided Arterial | 37,500 | 25,100 | B |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 28,900 | **F*** | Four Lane Divided Arterial | 37,500 | 28,900 | C |
| | *Segments on Alessandro Boulevard* | | | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 61,000 | **F*** | Six Lane Divided Arterial | 56,300 | 61,000 | **F*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 50,200 | **F*** | Six Lane Divided Arterial | 56,300 | 50,200 | D |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 49,900 | **F*** | Six Lane Divided Arterial | 56,300 | 49,900 | D |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 54,900 | **F*** | Six Lane Divided Arterial | 56,300 | 54,900 | **E*** |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 56,000 | **E*** | Six Lane Divided Arterial | 56,300 | 56,000 | **E*** |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 45,300 | **E*** | Six Lane Divided Arterial | 56,300 | 45,300 | D |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 42,000 | **F*** | Six Lane Divided Arterial | 56,300 | 42,000 | C |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 33,700 | **F*** | Four Lane Divided Arterial | 37,500 | 33,700 | D |

## Table 4.14-29
## Phase III Project Completion Year (2038) with Project with Improvements Roadway Segment Levels of Service

| | Roadway Segment | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 24,600 | **F*** | Four Lane Divided Arterial | 37,500 | 24,600 | B |
| | *Segments on Cactus Avenue* | | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 66,000 | **F*** | Six Lane Divided Arterial | 56,300 | 66,000 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 52,100 | **E*** | Six Lane Divided Arterial | 56,300 | 52,100 | **E*** |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 52,900 | **E*** | Six Lane Divided Arterial | 56,300 | 52,900 | **E*** |
| | *Segments on Iris Avenue* | | | | | | | | |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 32,400 | **D*** | Four Lane Divided Arterial | 37,500 | 32,400 | **D*** |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 52,100 | **E*** | Six Lane Divided Arterial | 56,300 | 52,100 | **E*** |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 50,800 | **E*** | Six Lane Divided Arterial | 56,300 | 50,800 | **E*** |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 51,700 | **E*** | Six Lane Divided Arterial | 56,300 | 51,700 | **E*** |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 50,000 | **D*** | Six Lane Divided Arterial | 56,300 | 50,000 | **D*** |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
[1] Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

[2] Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

[3] Improvements have been recommended based on the City's General Plan classification or the Transportation Uniform Mitigation Fee Program and based on the availability of right-of-way. For some segments, adequate right-of-way is not available or they have been built out to their General Plan classification. As such, these segments will continue to operate at a deficient LOS.

## General Plan Buildout (2040) with Project Traffic Conditions

### *Intersections*

The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the General Plan Build-out (2040) with Project traffic conditions at the following significantly impacted intersections.

Prior to obtaining a Certificate of Occupancy, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution towards the implementation of the specified improvements necessary for the impacted intersection to operate with an acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**

**MM-TRA-48** Intersection No. 47: Nason Street/Alessandro Boulevard: Pay fair-share (9.6%) fee for the addition of a northbound left (NBL) turn-lane.

**MM-TRA-49** Intersection No. 50: Pearl Lane-Oliver Street/Alessandro Boulevard: Pay fair-share (1.9%) for the addition of a westbound left (WBL) turn lane.

For the following significantly impacted intersections, no feasible mitigation is available due to right-of-way constraints. Therefore, those intersections would continue to operate at a deficient LOS, and project impacts at these intersections would be **significant and unavoidable**.

- Intersection No. 6: Day Street/Alessandro Boulevard:
- Intersection No. 7 – Elsworth Street/Alessandro Boulevard
- Intersection No. 8 – Elsworth Street/Cactus Avenue
- Intersection No. 12 – Graham Street-Riverside Drive/Cactus Avenue
- Intersection No. 13: Heacock Street/Alessandro Boulevard
- Intersection No. 17 – Indian Street/Cactus Avenue
- Intersection No. 19 – Perris Boulevard/Alessandro Boulevard
- Intersection 20: Perris Boulevard/Cactus Avenue

- Intersection No. 21- Perris Boulevard/Iris Avenue
- Intersection No. 27 – Kitching Street/ Cactus Avenue
- Intersection No. 28 – Kitching Street/Iris Avenue
- Intersection No. 30 – Lasselle Street/Cactus Avenue
- Intersection No. 32 – Lasselle Street/Iris Avenue
- Intersection No. 33 – Lasselle Street/Krameria Avenue
- Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School
- Intersection No. 39 – Evans Road/Ramona Expressway
- Intersection No. 45: Nason Street/Eucalyptus Avenue
- Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue
- Intersection No. 57: Moreno Beach Drive/Eucalyptus Avenue

Table 4.14-30 provides a comparison under General Plan Buildout (2040) with Project and General Plan Buildout (2040) with Project with Improvements for the above mentioned intersections that operate at an unacceptable LOS. Figures 4.14-28A and 4.14-28B illustrate the General Plan Buildout (2040) with Project with Improvements Study Intersection Geometrics and Traffic Control.

Thus, under General Plan Build-out (2040) with Project with Improvements, impacts would be **significant and unavoidable** at fifteen study intersections.

**Table 4.14-30**
**General Plan Build-out (2040) with Project with Improvements Intersection Levels of Service**

| | Intersection | Jurisdiction | LOS Standard | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Control | AM Peak Hour | | PM Peak Hour | | Control | AM Peak Hour | | PM Peak Hour | |
| | | | | | Delay (sec.) | LOS | Delay (sec.) | LOS | | Delay (sec.) | LOS | Delay (sec.) | LOS |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Caltrans | 45 sec | Signal | >100 | **F*** | >100 | **F*** | Signal | 35.5 | D | 43.6 | D |
| 6 | Day Street/ Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | >100 | **F*** | >100 | **F*** |
| 7 | Elsworth Street/Alessandro Boulevard | Moreno Valley | D | Signal | 34.6 | C | >100 | **F*** | Signal | | | | **No Mitigation Feasible** |
| 8 | Elsworth Street/Cactus Avenue | Moreno Valley | D | Signal | 46.1 | D | 80.8 | **F*** | Signal | | | | **No Mitigation Feasible** |
| 9 | Frederick Street/Alessandro Boulevard | Moreno Valley | D | Signal | 39.4 | D | 80.2 | **F*** | Signal | 36.9 | D | 47.5 | D |
| 11 | Graham Street/Alessandro Boulevard | Moreno Valley | D | Signal | 34.0 | C | >100 | **F*** | Signal | 26.9 | C | 48.1 | D |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | Moreno Valley | D | Signal | 83.8 | **F*** | 68.0 | **E*** | Signal | | | | **No Mitigation Feasible** |
| 13 | Heacock Street/Alessandro Boulevard | Moreno Valley | D | Signal | 59.8 | **E*** | 69.8 | **E*** | Signal | 49.7 | D | 56.6 | **E*** |
| 17 | Indian Street/Cactus Avenue | Moreno Valley | C | Signal | 42.1 | **D*** | 36.4 | **D*** | Signal | | | | **No Mitigation Feasible** |
| 19 | Perris Boulevard/Alessandro Boulevard | Moreno Valley | D | Signal | 73.8 | **E*** | >100 | **F*** | Signal | 71.8 | **E*** | >100 | **F*** |
| 20 | Perris Boulevard/Cactus Avenue | Moreno Valley | D | Signal | 52.6 | D | 69.1 | **E*** | Signal | | | | **No Mitigation Feasible** |
| 21 | Perris Boulevard/Iris Avenue | Moreno Valley | D | Signal | 45.0 | D | 85.2 | **F*** | Signal | 45.9 | D | 87.7 | **F*** |
| 22 | Perris Boulevard/Krameria Avenue | Moreno Valley | D | Signal | 54.0 | D | 61.2 | **E*** | Signal | 41.3 | D | 47.4 | D |

## Table 4.14-30
## General Plan Build-out (2040) with Project with Improvements Intersection Levels of Service

| | | | | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AM Peak Hour | | PM Peak Hour | | | AM Peak Hour | | PM Peak Hour | |
| | Intersection | Jurisdiction | LOS Standard | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | *Control* | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 25 | Perris Boulevard/Harley Knox Boulevard | Perris | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 50.4 | D | 39.8 | D |
| 27 | Kitching Street/Cactus Avenue | Moreno Valley | C | Signal | 49.3 | **D*** | 38.1 | **D*** | Signal | | | | **No Mitigation Feasible** |
| 28 | Kitching Street/Iris Avenue | Moreno Valley | C | Signal | >100 | **F*** | >100 | **F*** | Signal | | | | **No Mitigation Feasible** |
| 29 | Lasselle Street/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 43.2 | D | 44.2 | D |
| 30 | Lasselle Street/Cactus Avenue | Moreno Valley | C | Signal | 50.0 | **D*** | 55.1 | **E*** | Signal | 46.5 | **D*** | 51.0 | **D*** |
| 32 | Lasselle Street/Iris Avenue | Moreno Valley | D | Signal | 61.1 | **E*** | 95.1 | **F*** | Signal | 58.3 | **E*** | 94.6 | **F*** |
| 33 | Lasselle Street/Krameria Avenue | Moreno Valley | C | Signal | 81.1 | **F*** | 36.1 | D | Signal | | | | **No Mitigation Feasible** |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | Moreno Valley | C | Signal | 60.0 | **E*** | 49.1 | **D*** | Signal | | | | **No Mitigation Feasible** |
| 39 | Evans Road/Ramona Expressway | Perris | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 93.9 | **F*** | 77.4 | **E*** |
| 45 | Nason Street/Eucalyptus Avenue | Moreno Valley | D | Signal | 85.7 | **F*** | 73.8 | **E*** | Signal | 81.0 | **F*** | 54.9 | D |
| 47 | Nason Street/Alessandro Boulevard | Moreno Valley | D | Signal | 63.9 | **E*** | 78.6 | **E*** | Signal | 38.6 | D | 44.0 | D |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Moreno Valley | C | Signal | 46.4 | **D*** | 69.9 | **E*** | Signal | 27.1 | C | 38.4 | D |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Moreno Valley | C | TWSC | >100 | **F*** | >100 | **F*** | Signal | 19.5 | B | 21.8 | C |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Caltrans | 45 sec | Signal | >100 | **F*** | >100 | **F*** | Signal | 31.8 | C | 41.8 | D |

## Table 4.14-30
## General Plan Build-out (2040) with Project with Improvements Intersection Levels of Service

| | Intersection | Jurisdiction | LOS Standard | With Project | | | | | With Project With Improvements | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Control | AM Peak Hour | | PM Peak Hour | | Control | AM Peak Hour | | PM Peak Hour | |
| | | | | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* | | *Delay (sec.)* | *LOS* | *Delay (sec.)* | *LOS* |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | Moreno Valley | D | Signal | 45.4 | D | 86.2 | **F*** | Signal | | | | No Mitigation Feasible |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Moreno Valley | C | Signal | 29.4 | C | 80.7 | **F*** | Signal | 20.5 | C | 34.7 | C |
| 59 | Moreno Beach Drive/Alessandro Boulevard | Moreno Valley | D | Signal | >100 | **F*** | >100 | **F*** | Signal | 34.2 | C | 53.8 | D |
| 62 | Driveway 1/Iris Avenue[1] | Moreno Valley | D | OWSC | 13.7 | B | 52.8 | **F*** | OWSC | - | - | - | No Mitigation Feasible |
| 63 | Driveway 2/Iris Avenue | Moreno Valley | D | Signal | 51.6 | D | 42.9 | D | Signal | 38.7 | D | 25.6 | C |
| 64 | Driveway 3/Iris Avenue | Moreno Valley | D | OWSC | 24.2 | C | 14.1 | B | OWSC | 12.6 | B | 14.1 | B |

**Notes:**
OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service
Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).
* Exceeds LOS Standard
1 After the implementation of the project improvements, there is no conflicting movement at this intersection. Hence, Synchro does not report an LOS at this intersection.

***Roadway Segments***

The results of the roadway segment analyses for General Plan Buildout (2040) with Project and General Plan Buildout (2040) with Project with Improvements are summarized in Table 4.14-31. The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the General Plan Build-out (2040) with Project traffic conditions at the following significantly impacted roadway segments.

Prior to obtaining a Certificate of Occupancy, the project shall comply with the mitigation measures specified below, which require payment of a fair-share contribution and/or TUMF fee towards the implementation of the specified improvements necessary in order for the impacted roadway segment to operate with acceptable LOS. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.**

**MM-TRA-50** Moreno Beach Drive between Alessandro Boulevard and Cactus Avenue: Pay fair-share (15.18%) to improve the roadway segment to the classification of a six-lane divided arterial.

**MM-TRA-51** Alessandro Boulevard between Lasselle Street and Nason Street: Pay TUMF fee to improve the roadway segment to the classification of a six-lane divided arterial.

For the following significantly impacted roadway segments, no feasible mitigation is available due to right-of-way constraints. Therefore, those roadway segments would continue to operate at a deficient LOS, and project impacts at these roadway segments would be **significant and unavoidable**.

- Perris Boulevard between Iris Avenue and Krameria Avenue
- Perris Boulevard between Krameria Avenue to San Michele Road
- Perris Boulevard between San Michele Road to Nandina Avenue
- Perris Boulevard between Nandina Avenue to Harley Knox Boulevard
- Lasselle Street between Iris Avenue and Krameria Avenue
- Lasselle Street between Krameria Avenue and Via Xavier Lane
- Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra
- Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata
- Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive

- Lasselle Street between Avenida Classica – Kentucky Derby Drive and Via De Anza-Rancho Verde High School
- Nason Street between Eucalyptus Avenue and Cottonwood Avenue
- Alessandro Boulevard between I-215 northbound ramps and Day Street
- Alessandro Boulevard between Day Street and Elsworth Street
- Alessandro Boulevard between Frederick Street and Graham Street
- Alessandro Boulevard between Graham Street and Heacock Street
- Alessandro Boulevard between Heacock Street and Indian Street
- Alessandro Boulevard between Indian Street and Perris Boulevard
- Cactus Avenue between I-215 northbound ramps – Old
- Cactus Avenue between Elsworth Street and Frederick Street
- Cactus Avenue between Frederick Street and Graham Street – Riverside Drive
- Iris Avenue between Perris Boulevard and Kitching Street
- Iris Avenue between Lasselle Street and Camino Flores
- Iris Avenue between Camino Flores and Coachlight Court – Avenida De Circo
- Iris Avenue between Coachlight Court – Avenida De Circo and Grade Vista Drive
- Iris Avenue between Grande Vista Drive and Nason Street – Hillrose Lane
- Iris Avenue between Nason Street-Hillrose Lane and Driveway 1

Thus, under General Plan Build-out (2040) with Project with Improvements, impacts would be significant and unavoidable at twenty-six study roadway segments.

## Table 4.14-31
## General Plan Build-out (2040) with Project with Improvements Roadway Segment Levels of Service

| Roadway Segment | | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| *Segments on Perris Boulevard* | | | | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | Six Lane Divided Arterial | 56,300 | 51,800 | **E*** | Six Lane Divided Arterial | 56,300 | 51,800 | **E*** |
| 2 | between Krameria Avenue and San Michele Road | Six Lane Divided Arterial | 56,300 | 54,700 | **E*** | Six Lane Divided Arterial | 56,300 | 54,700 | **E*** |
| 3 | between San Michele Road and Nandina Avenue | Six Lane Divided Arterial | 56,300 | 54,900 | **E*** | Six Lane Divided Arterial | 56,300 | 54,900 | **E*** |
| 4 | between Nandina Avenue and Harley Knox Boulevard | Six Lane Divided Arterial | 56,300 | 56,200 | **E*** | Six Lane Divided Arterial | 56,300 | 56,200 | **E*** |
| *Segments on Lasselle Street* | | | | | | | | | |
| 6 | between Iris Avenue and Krameria Avenue | Four Lane Divided Arterial | 37,500 | 38,800 | **F*** | Four Lane Divided Arterial | 37,500 | 38,800 | **F*** |
| 7 | between Krameria Avenue and Via Xavier Lane | Four Lane Divided Arterial | 37,500 | 37,100 | **E*** | Four Lane Divided Arterial | 37,500 | 37,100 | **E*** |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | Four Lane Divided Arterial | 37,500 | 36,200 | **E*** | Four Lane Divided Arterial | 37,500 | 36,200 | **E*** |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | Four Lane Divided Arterial | 37,500 | 35,800 | **E*** | Four Lane Divided Arterial | 37,500 | 35,800 | **E*** |
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | Four Lane Divided Arterial | 37,500 | 35,100 | **E*** | Four Lane Divided Arterial | 37,500 | 35,100 | **E*** |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | Four Lane Divided Arterial | 37,500 | 33,700 | **D*** | Four Lane Divided Arterial | 37,500 | 33,700 | **D*** |
| *Segment on Lasselle Street - Evans Road* | | | | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Arterial (Four Lanes) | 35,900 | 43,400 | **F*** | Arterial (Six Lanes) | 53,900 | 43,400 | D |

## Table 4.14-31
## General Plan Build-out (2040) with Project with Improvements Roadway Segment Levels of Service

| | Roadway Segment | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification*[1] | *Roadway Capacity*[2] | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity*[2] | *Daily Volume* | *LOS* |
| | *Segments on Nason Street* | | | | | | | | |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Four Lane Divided Arterial | 37,500 | 49,600 | **F*** | Six Lane Divided Arterial | 56,300 | 49,600 | **D*** |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Four Lane Divided Arterial | 37,500 | 38,200 | **F*** | Six Lane Divided Arterial | 56,300 | 38,200 | B |
| | *Segments on Moreno Beach Drive* | | | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Four Lane Divided Arterial | 37,500 | 41,000 | **F*** | Six Lane Divided Arterial | 56,300 | 41,000 | C |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Two Lane Divided Arterial | 18,800 | 25,900 | **F*** | Four Lane Divided Arterial | 37,500 | 25,900 | B |
| 24 | between Alessandro Boulevard and Cactus Avenue | Two Lane Undivided Arterial | 12,500 | 30,000 | **F*** | Six Lane Divided Arterial | 56,300 | 30,000 | A |
| | *Segments on Alessandro Boulevard* | | | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Five Lane Divided Arterial | 47,000 | 64,100 | **F*** | Six Lane Divided Arterial | 56,300 | 64,100 | **F*** |
| 28 | between Day Street and Elsworth Street | Five Lane Divided Arterial | 47,000 | 52,300 | **F*** | Six Lane Divided Arterial | 56,300 | 52,300 | **E*** |
| 30 | between Frederick Street and Graham Street | Five Lane Divided Arterial | 47,000 | 51,700 | **F*** | Six Lane Divided Arterial | 56,300 | 51,700 | **E*** |
| 31 | between Graham Street and Heacock Street | Five Lane Divided Arterial | 47,000 | 57,100 | **F*** | Six Lane Divided Arterial | 56,300 | 57,100 | **F*** |
| 32 | between Heacock Street and Indian Street | Six Lane Divided Arterial | 56,300 | 58,400 | **F*** | Six Lane Divided Arterial | 56,300 | 58,400 | **F*** |
| 33 | between Indian Street and Perris Boulevard | Six Lane Divided Arterial | 56,300 | 52,300 | **E*** | Six Lane Divided Arterial | 56,300 | 52,300 | **E*** |

## Table 4.14-31
## General Plan Build-out (2040) with Project with Improvements Roadway Segment Levels of Service

| | Roadway Segment | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| 34 | between Perris Boulevard and Kitching Street | Five Lane Divided Arterial | 47,000 | 47,500 | **F*** | Six Lane Divided Arterial | 56,300 | 47,500 | D |
| 35 | between Kitching Street and Lasselle Street | Two Lane Divided Arterial | 18,800 | 44,500 | **F*** | Six Lane Divided Arterial | 56,300 | 44,500 | C |
| 36 | between Lasselle Street and Nason Street | Two Lane Undivided Arterial | 12,500 | 35,900 | **F*** | Six Lane Divided Arterial | 56,300 | 35,900 | B |
| 37 | between Nason Street and Moreno Beach Drive | Two Lane Undivided Arterial | 12,500 | 26,100 | **F*** | Four Lane Divided Arterial | 37,500 | 26,100 | B |
| | *Segments on Cactus Avenue* | | | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Four Lane Divided Arterial | 37,500 | 67,700 | **F*** | Six Lane Divided Arterial | 56,300 | 67,700 | **F*** |
| 39 | between Elsworth Street and Frederick Street | Six Lane Divided Arterial | 56,300 | 52,900 | **E*** | Six Lane Divided Arterial | 56,300 | 52,900 | **E*** |
| 40 | between Frederick Street and Graham Street - Riverside Drive | Six Lane Divided Arterial | 56,300 | 53,600 | **E*** | Six Lane Divided Arterial | 56,300 | 53,600 | **E*** |
| | *Segments on Iris Avenue* | | | | | | | | |
| 50 | between Perris Boulevard and Kitching Street | Four Lane Divided Arterial | 37,500 | 33,300 | **D*** | Four Lane Divided Arterial | 37,500 | 33,300 | **D*** |
| 52 | between Lasselle Street and Camino Flores | Six Lane Divided Arterial | 56,300 | 54,100 | **E*** | Six Lane Divided Arterial | 56,300 | 54,100 | **E*** |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | Six Lane Divided Arterial | 56,300 | 52,800 | **E*** | Six Lane Divided Arterial | 56,300 | 52,800 | **E*** |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | Six Lane Divided Arterial | 56,300 | 54,000 | **E*** | Six Lane Divided Arterial | 56,300 | 54,000 | **E*** |

## Table 4.14-31
## General Plan Build-out (2040) with Project with Improvements Roadway Segment Levels of Service

| | Roadway Segment | With Project | | | | With Project With Improvements[3] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Classification[1]* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* | *Classification* | *Roadway Capacity[2]* | *Daily Volume* | *LOS* |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | Six Lane Divided Arterial | 56,300 | 52,400 | **E*** | Six Lane Divided Arterial | 56,300 | 52,400 | **E*** |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | Six Lane Divided Arterial | 56,300 | 45,700 | **D*** | Six Lane Divided Arterial | 56,300 | 45,700 | **D*** |

**Notes**:
LOS = Level of Service
* Exceeds LOS Standard
1 Classifications for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. Classification for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.
2 Roadway capacities for all segments except for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway have been obtained from the City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide, dated August 2007. The capacity for the segment of Lasselle Street - Evans Road between Via De Anza - Rancho Verde High School and Ramona Expressway has been obtained from the City of Perris General Plan.

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 3 | I-215 Southbound Ramps/Cactus Avenue | | | Interchange Redesign, widen bridge to 6 lanes. | Interchange Redesign, widen bridge to 6 lanes. | Interchange Redesign, widen bridge to 6 lanes. |
| 4 | I-215 Northbound Ramps/Cactus Avenue | | | Interchange Redesign, widen bridge to 6 lanes. | Interchange Redesign, widen bridge to 6 lanes. | Interchange Redesign, widen bridge to 6 lanes. |

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | | | Interchange Redesign, widen bridge to 6 lanes. Add 2nd NBL & NBT, 2nd SBL, dedicated SBR with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing | Interchange Redesign, widen bridge to 6 lanes. Add 2nd NBL & NBT, 2nd SBL, dedicated SBR with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing | Interchange Redesign, widen bridge to 6 lanes. Add 2nd NBL & NBT, 2nd SBL, dedicated SBR with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing |
| 6 | Day Street/Alessandro Boulevard | | | Convert N-S to protected phasingAdd SBR 2nd EBL, WBL WBT, add overlap phasing to WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Convert N-S to protected phasing, Add SBR 2nd EBL, WBL, WBT, add overlap phasing to WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Convert N-S to protected phasing, Add SBR 2nd EBL, WBL, WBT, add overlap phasing to WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 7 | Elsworth Street/Alessandro Boulevard | | | No mitigations feasible due to right-of-way constraints. | No mitigations feasible due to right-of-way constraints. | No mitigations feasible due to right-of-way constraints. |

**Table 4.14-32**
**Recommended Improvements for Intersections**

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 8 | Elsworth Street/Cactus Avenue | | No mitigations feasible in the south leg as it is under the jurisdiction of March Air Reserve Base. No mitigations feasible in the other three legs due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible in the south leg as it is under the jurisdiction of March Air Reserve Base. No mitigations feasible in the other three legs due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible in the south leg as it is under the jurisdiction of March Air Reserve Base. No mitigations feasible in the other three legs due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible in the south leg as it is under the jurisdiction of March Air Reserve Base. No mitigations feasible in the other three legs due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 9 | Frederick Street/Alessandro Boulevard | | | | Add EBT. | Add EBT. |
| 11 | Graham Street/Alessandro Boulevard | | | Add EBT, | Add EBT, Add a 2nd EBL. Add a 2nd WBL. | Add EBT, Add a 2nd EBL. Add a 2nd WBL. |
| 12 | Graham Street - Riverside Drive/Cactus Avenue | | | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 13 | Heacock Street/Alessandro Boulevard | | | | Add 2nd EBL. Add 2nd WBL. | Add 2nd WBL. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |

**Table 4.14-32**
**Recommended Improvements for Intersections**

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 17 | Indian Street/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 19 | Perris Boulevard/Alessandro Boulevard | | | Add EBT by removing the center median along both east and west leg approaches and shifting the left-turn lanes to accommodate the through lane. Add right-turn overlap phasing for the NBR, SBR, and EBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add EBT by removing the center median along both east and west leg approaches and shifting the left-turn lanes to accommodate the through lane. Add right-turn overlap phasing for the NBR, SBR, and EBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add EBT by removing the center median along both east and west leg approaches and shifting the left-turn lanes to accommodate the through lane. Add right-turn overlap phasing for the NBR, SBR, and EBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 20 | Perris Boulevard/Cactus Avenue | | | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |

# Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 21 | Perris Boulevard/Iris Avenue | | | | Add EBR with overlap phasing, add overlap phasing to NBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add EBR with overlap phasing, add overlap phasing to NBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 22 | Perris Boulevard/Krameria Avenue | | | | Restripe westbound approach to WBL and WBTR. | Restripe westbound approach to WBL and WBTR. |
| 25 | Perris Boulevard/Harley Knox Boulevard | | | Add right-turn overlap phasing for WBR and SBR. | Add one EBL. Add right-turn overlap phasing for WBR and SBR. | Add one EBL. Add right-turn overlap phasing for WBR and SBR. |
| 27 | Kitching Street/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 28 | Kitching Street/Iris Avenue | | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 29 | Lasselle Street/Alessandro Boulevard | | Add one EBT and WBT. | Add one SBT, one EBT, and one WBT. | Add one SBT, two EBT, and two WBT. | Add one SBT, two EBT, and two WBT. |
| 30 | Lasselle Street/Cactus Avenue | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 32 | Lasselle Street/Iris Avenue | | | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 33 | Lasselle Street/Krameria Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS.. |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 39 | Evans Road/Ramona Expressway | | Add right-turn overlap phasing for WBR and SBR. | Add right-turn overlap phasing for WBR and SBR. | Add WBT. Add right-turn overlap phasing for WBR and SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add WBT. Add right-turn overlap phasing for WBR and SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 45 | Nason Street/Eucalyptus Avenue | | | Add EBR, NBR, and SBR. Add right-turn overlap phasing for EBR, NBR, and SBR. | Add EBR, NBR, and SBR. Add right-turn overlap phasing for EBR, NBR, and SBR. | Add EBR, NBR, and SBR. Add right-turn overlap phasing for EBR, NBR, and SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 47 | Nason Street/Alessandro Boulevard | | | | Add WBT. Right-of-way for the WBT can be taken from the northerly sidewalk along the east leg. | Add NBL and WBT. Right-of-way for the WBT can be taken from the northerly sidewalk along the east leg. |

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Add second SBL. | Add second SBL. | Add second SBL, second SBR, No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add a second SBL, second SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Add second SBL, second SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Install a signal. | Install a signal. | Install a signal. | Add EBL. Install a Signal. | Add EBL. Add WBL. Install a Signal. |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | | Add second SBT Restripe SBTL to SBL. Restripe EBTL to EBLTR.[3] | Add second NBT, second SBT, Restripe SBTL to SBL. Restripe EBTL to EBLTR. | Add NBT, SBT , Restripe SBTL to SBL. Restripe EBTL to EBLTR. | Add NBT, SBT , Restripe SBTL to SBL. Restripe EBTL to EBLTR. |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | | | | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. |
| 58 | Moreno Beach Drive/Cottonwood Avenue | | | | Add WBL, and restripe westbound approach as WBL and WBTR. Change the split phasing for the east-west approach to permitted phasing. | Add WBL, and restripe westbound approach as WBL and WBTR. Change the split phasing for the east-west approach to permitted phasing. |

## Table 4.14-32
## Recommended Improvements for Intersections

| | Intersection | Existing with Project Mitigations[1] | Phase I Completion Year (2023) with Project Mitigations[2] | Phase II Completion Year (2032) with Project Mitigations[2] | Phase III Completion Year (2038) with Project Mitigations[2] | Year 2040 Mitigations[2] |
|---|---|---|---|---|---|---|
| 59 | Moreno Beach Drive/Alessandro Boulevard | | Add second SBT and NBT. | Add second EBT, second WBT, second NBT, second SBT, and NBR | Add second EBL, Add second WBL, second EBT, second WBT, second NBT, second SBT, and NBR | Add second EBL ,Add second WBL,second EBT, second WBT, second NBT, second SBT, and NBR |

**Notes:**
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
L = Left, T = Through, R = Right
1 Recommended mitigation for Existing with Project is for informational purposes only. As such, the project shall only implement the recommended mitigations for Phase I and beyond.
2 Recommended improvements covered through the Transportation Uniform Mitigation Fee (TUMF) program are not considered adequate mitigation measures. This is because there is no guaranteed timeline for implementation of these improvements through the
3 Improvements recommended for this interchange are included in the TUMF program. There is no guaranteed timeline or adequate funding available for implementation of the proposed improvements. Therefore, impacts at this intersection should be considered significant and unavoidable.

## 4.14.7 Level of Significance After Mitigation

As discussed above in Section 4.14.6, mitigation has been identified that would eliminate or reduce impacts at certain intersections and roadway segments. The proposed mitigation requires the payment of fair share contributions and/or TUMF fees towards specified improvements. For mitigation that consists of a TUMF fee payment, the amount to be paid shall be paid per the fee structure in the Transportation Uniform Mitigation Fee Calculation Handbook (Western Riverside Council of Governments, 2019). For mitigation that consists of a fair-share payment, the amount to be paid shall be determined by an analysis of the anticipated cost of the improvement and application of the percentages identified in Tables 4.14-33 and 4.14-34 (the “Fair Share” contribution).

As indicated above, the project applicant shall pay its TUMF fees and/or fair-share of the costs of these measures before the City issues a final certificate of occupancy for each of the project phases. As previously discussed because the City does not have control whether or when the mitigation measures would be constructed or whether there is insufficient right-of-way and therefore, impacts to those specific intersections and roadway segments (specified below) are considered significant and unavoidable.

As shown in Tables 4.14-33 and 4.14-34, several intersections and roadway segments have no feasible mitigations possible due to right-of-way constraints. To mitigate the project cumulative impacts at these locations, the project shall pay a fair share contribution for the development of trip reduction and / or trip redistribution strategies on the City’s roadway network. The fair share contribution for this purpose will be based on the percentages shown in 4.14-33 and 4.14-34. A fair share cost calculation table will be required prior to construction of the project.

**TRA-1 Study Intersections**

***Phase I Completion Year (2023) with Project Traffic Conditions***

- Implementation of **MM-TRA-1** through **MM-TRA-6** for the impacted intersections (Intersection Nos. 29, 39, 49, 50, 56, and 59) would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase I is obtained. Therefore, the project’s impacts at these intersections would be **significant and unavoidable.**
- With payment of the project’s TUMF and/or fair-share towards the implementation of **MM-TRA-7** and **MM-TRA-8**, the impacted intersections (Intersection Nos. 27, 30, and 33) would result in increased capacity, however, the proposed improvements would not

achieve acceptable LOS standards. Therefore, the project's impact at these intersections would be **significant and unavoidable**.

- It has been determined that no feasible mitigation measures can be implemented at Intersection Nos. 8, 17, 27, 28, 33 and 38. Therefore, the project's impact at these locations would be **significant and unavoidable.**

*Phase II Completion Year (2028) with Project Traffic Conditions*

- Implementation of **MM-TRA-15** through **MM-TRA-22** for the impacted intersections (Intersection Nos. 5, 6, 11, 25, 29, 45, 56 and 59) would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase II is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**
- With payment of the project's TUMF and/or fair-share towards the implementation of **MM-TRA-23 and MM-TRA-24**, the impacted Intersection No. 19 and 49 would result in increased capacity, however, the proposed improvements would not achieve acceptable LOS standards. Therefore, the project's impact at these intersection would be **significant and unavoidable**.
- It has been determined that no feasible mitigation measures can be implemented at Intersection Nos. 7, 8, 12, 17, 27, 28, 30 32, 33 and 38. Therefore, the project's impact at these locations would be **significant and unavoidable.**

*Phase III Completion Year (2038) with Project Traffic Conditions*

- Implementation of **MM-TRA-34** through **MM-TRA-44** for the impacted intersections (Intersection Nos. 9, 11, 13, 22, 25, 29, 47, 49, 50, 58, and 59) would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**
- With payment of the project's TUMF and/or fair-share towards the implementation of **MM-TRA-45 and MM-TRA-46**, the impacted Intersection No. 21 and No. 39 would result in increased capacity, however, the proposed improvements would not achieve acceptable LOS standards. Therefore, the project's impact at these intersection would be **significant and unavoidable**.

- It has been determined that no feasible mitigation measures can be implemented at Intersection Nos. 6, 7, 8, 12, 17, 19, 27, 28, 30 32, 33, 38, and 57. Therefore, the project's impact at these locations would be **significant and unavoidable.**

*General Plan Buildout (2040) with Project Traffic Conditions*

- Implementation of **MM-TRA-48** and **MM-TRA-49** for the impacted intersections (Intersection Nos. 47 and 50) would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impacts at these intersections would be **significant and unavoidable.**
- It has been determined that no feasible mitigation measures can be implemented at Intersection Nos. 6, 7, 8, 12, 13, 17, 19, 20, 21, 27, 28, 30 32, 33, 38, 39, 45, 49 and 57. Therefore, the project's impact at these locations would be **significant and unavoidable.**

**TRA-1 Roadway segments**

*Phase I Completion Year (2023) with Project Traffic Conditions*

- Implementation of **MM-TRA-9 through MM-TRA-13** for the impacted roadway segments would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase I is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.**
- With payment of the project's TUMF and/or fair-share towards the implementation of **MM-TRA-14**, the impacted roadway segment would result in increased capacity, however, the proposed improvements would not achieve an acceptable LOS standards. Therefore, the project's impact would be **significant and unavoidable**.

*Phase II Completion Year (2032) with Project Traffic Conditions*

- Implementation of **MM-TRA-25 through MM-TRA-32** for the impacted roadway segments would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase II is obtained. Therefore, the project's impacts at these roadway segments would be **significant and unavoidable.**

- With payment of the project's TUMF and/or fair-share towards the implementation of **MM-TRA-33**, the impacted roadway segment would result in increased capacity, however, the proposed improvements would not achieve an acceptable LOS standards. Therefore, the project's impact would be **significant and unavoidable**.
- It has been determined that no feasible mitigation measures can be implemented on roadway segments of Lasselle Street and Cactus Avenue. Therefore, the project's impact would be **significant and unavoidable.**

***Phase III Completion Year (2038) with Project Traffic Conditions***

- Implementation of **MM-TRA-47** for the impacted roadway segment would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, the project's impact at this roadway segment would be **significant and unavoidable.**
- It has been determined that no feasible mitigation measures can be implemented on 21 roadway segments of Perris Boulevard, Lasselle Street, Nason Street, Alessandro Boulevard, Cactus Avenue, and Iris Avenue. Therefore, the project's impact would be **significant and unavoidable.**

***General Plan Buildout (2040) with Project Traffic Conditions***

- Implementation of **MM-TRA-50 and MM-TRA-51** for the impacted roadway segments would improve the level of service standards at these locations to be less than significant. The project would be required to pay TUMF and/or its fair-share towards these improvements. However, payment of the required fees does not guarantee that these improvements would be in place before the Certificate of Occupancy for Phase III is obtained. Therefore, project's impacts at this roadway segment would be **significant and unavoidable.**
- It has been determined that no feasible mitigation measures can be implemented on 21 roadway segments of Perris Boulevard, Lasselle Street, Nason Street, Alessandro Boulevard, Cactus Avenue, and Iris Avenue. Therefore, the project's impact would be **significant and unavoidable.**

**Table 4.14-33**
**Intersection Improvement Funding Mechanism and Fair Share**

| | Intersection | Mitigations | Funding Mechanism | Improvements Covered by TUMF[1] | Improvements Covered Under Fair Share | Fair Share Percentage[2] |
|---|---|---|---|---|---|---|
| 3 | I-215 Southbound Ramps/Cactus Avenue | Interchange Redesign, widen bridge to 6 lanes. | TUMF | Interchange Redesign, widen bridge to 6 lanes. | | N/A |
| 4 | I-215 Northbound Ramps/Cactus Avenue | Interchange Redesign, widen bridge to 6 lanes. | TUMF | Interchange Redesign, widen bridge to 6 lanes. | | N/A |
| 5 | I-215 Northbound Ramps - Old 215 Frontage Road/Cactus Avenue | Interchange Redesign, widen bridge to 6 lanes. Add 2nd NBL & NBT, 2nd SBL, dedicated SBR with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing | TUMF | Interchange Redesign, widen bridge to 6 lanes. Add 2nd NBL & NBT, 2nd SBL, dedicated SBR with overlap phasing, EBT, EBR, WBT and WBR with overlap phasing | | N/A |
| 6 | Day Street/Alessandro Boulevard | Convert N-S to protected phasing, , SBR, 2nd EBL and 2nd WBL, WBT, add overlap phasing to WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | TUMF/Fair Share | Add WBT. | Convert N-S to protected phasing, SBR 2nd EBL and 2nd WBL, add overlap phasing to WBR | 1.00% |
| 7 | Elsworth Street/Alessandro Boulevard | No mitigations feasible due to right-of-way constraints. | Fair Share | | | 1.42% |
| 8 | Elsworth Street/Cactus Avenue | No mitigations feasible in the south leg as it is under the jurisdiction of March Air Reserve Base. No mitigations feasible in the other three legs due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 6.24% |
| 9 | Frederick Street/Alessandro Boulevard | Add EBT. | TUMF | Add EBT. | | N/A |
| 11 | Graham Street/Alessandro Boulevard | Add EBT, add a 2nd EBL and add a 2nd WBL. | TUMF/Fair Share | Add EBT. | Add 2nd EBL and 2nd WBL | 1.65% |

## Table 4.14-33
## Intersection Improvement Funding Mechanism and Fair Share

| | Intersection | Mitigations | Funding Mechanism | Improvements Covered by TUMF[1] | Improvements Covered Under Fair Share | Fair Share Percentage[2] |
|---|---|---|---|---|---|---|
| 12 | Graham Street - Riverside Drive/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 10.67% |
| 13 | Heacock Street/Alessandro Boulevard | Add 2nd EBL and a 2nd WBL. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Fair Share | | Add 2nd EBL and 2nd WBL | 2.57% |
| 17 | Indian Street/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 26.73% |
| 19 | Perris Boulevard/Alessandro Boulevard | Add EBT No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | TUMF | Add EBT. | | 2.69% |
| 20 | Perris Boulevard/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | Add EBR. | 6.98% |
| 21 | Perris Boulevard/Iris Avenue | Add overlap phasing to NBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Fair Share | | Add overlap phasing to NBR. | 3.11% |
| 22 | Perris Boulevard/Krameria Avenue | Restripe westbound approach to WBL and WBTR. | Fair Share | | Restripe westbound approach to WBL and WBTR. | 1.50% |
| 25 | Perris Boulevard/Harley Knox Boulevard | Add one EBL. Add right-turn overlap phasing for WBR and SBR. | Fair Share | | Add one EBL. Add right-turn overlap phasing for WBR and SBR. | 1.30% |

**Table 4.14-33**
**Intersection Improvement Funding Mechanism and Fair Share**

| | Intersection | Mitigations | Funding Mechanism | Improvements Covered by TUMF[1] | Improvements Covered Under Fair Share | Fair Share Percentage[2] |
|---|---|---|---|---|---|---|
| 27 | Kitching Street/Cactus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 29.62% |
| 28 | Kitching Street/Iris Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 4.83% |
| 29 | Lasselle Street/Alessandro Boulevard | Add one SBT, two EBT, and two WBT. | TUMF/Fair Share | Add two EBT and two WBT. | Add one SBT. | 4.31% |
| 30 | Lasselle Street/Cactus Avenue | Add right-turn overlap phasing for WBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Fair Share | | Add right-turn overlap phasing for WBR. | 16.30% |
| 32 | Lasselle Street/Iris Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 10.44% |
| 33 | Lasselle Street/Krameria Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 9.20% |
| 38 | Lasselle Street/Via De Anza - Rancho Verde High School | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | | 8.50% |
| 39 | Evans Road/Ramona Expressway | Add WBT. Add right-turn overlap phasing for WBR and SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | TUMF/Fair Share | Add WBT. | Add right-turn overlap phasing for WBR and SBR. | 1.61% |
| 43 | Nason Street/Elder Avenue - SR-60 Westbound Ramps | Optimize cycle length and splits. | | | | |

## Table 4.14-33
## Intersection Improvement Funding Mechanism and Fair Share

| | Intersection | Mitigations | Funding Mechanism | Improvements Covered by TUMF[1] | Improvements Covered Under Fair Share | Fair Share Percentage[2] |
|---|---|---|---|---|---|---|
| 45 | Nason Street/Eucalyptus Avenue | Add EBR, NBR, and SBR. Add right-turn overlap phasing for NBR, and SBR. No further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Fair Share | | Add EBR, NBR, and SBR. Add right-turn overlap phasing for NBR, and SBR. | 6.13% |
| 47 | Nason Street/Alessandro Boulevard | Add second NBL and WBT. | TUMF/Fair Share | Add WBT. | Add second NBL. | 9.60% |
| 49 | Nason Street-Hillrose Lane/Iris Avenue | Add second SBL, second SBRNo further mitigations feasible due to right-of-way constraints. Intersection is forecasted to operate at a deficient LOS after implementation of the recommended improvements. | Fair Share | | Add SBL, SBR. | 26.81% |
| 50 | Pearl Lane - Oliver Street/Alessandro Boulevard | Add EBL. Add WBL. Install a Signal. | Fair Share | | Add EBL. Add WBL. Install a Signal. | 1.87% |
| 56 | Moreno Beach Drive/SR-60 Eastbound Ramps | Add second NBT, second SBT and restripe SBTL to SBL. Restripe EBTL to EBLTR. | TUMF | Add second NBT, second SBT and second EBR. Restripe SBTL to SBL. Restripe EBTL to EBLTR. | | N/A |
| 57 | Moreno Beach Drive/Eucalyptus Avenue | No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Fair Share | | . | 5.40% |
| 58 | Moreno Beach Drive/Cottonwood Avenue | Add WBL, and restripe westbound approach as WBL and WBTR. Change the split phasing for the east-west approach to permitted phasing. | Fair Share | | Add WBL, and restripe westbound approach as WBL and WBTR. Change the split phasing for the east-west approach to permitted phasing. | 9.37% |

## Table 4.14-33
## Intersection Improvement Funding Mechanism and Fair Share

| | Intersection | Mitigations | Funding Mechanism | Improvements Covered by TUMF[1] | Improvements Covered Under Fair Share | Fair Share Percentage[2] |
|---|---|---|---|---|---|---|
| 59 | Moreno Beach Drive/Alessandro Boulevard | Add second EBL, WBL, EBT, WBT, NBT, SBT, and NBR | TUMF/Fair Share | Add EBT and WBT. | Add second WBL, NBT, SBT, and NBR | 8.03% |
| *Recommended Improvements for Intersections - Project Responsibility* | | | | | | |
| 62 | Driveway 1/Iris Avenue | No mitigation required under Phase I and II. No mitigations feasible due to right-of-way constraints. Intersection will continue to operate at a deficient LOS. | Project Responsibility | | | 100.00% |
| 63 | Driveway 2/Iris Avenue | Under Phase I project completion conditions, extend the existing eastbound left-turn storage by 30 feet. Under Phase II project completion conditions, remove existing raised median on the eastbound approach, restripe eastbound approach to accommodate a second eastbound left-turn lane, and extend the dual left-turn pocket up to 375 feet. Additionally, the existing southbound left-turn lane storage needs to be extended to 200 feet (back to the existing roundabout) under Phase II project completion conditions. | Project Responsibility | | | 100.00% |

**Notes**:
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
L = Left, T = Through, R = Right
TUMF refers to the Transportation Uniform Mitigation Fee program.

1 Recommended improvements covered through the Transportation Uniform Mitigation Fee (TUMF) program are not considered adequate mitigation measures. This is because there is no guaranteed timeline for implementation of these improvements through the TUMF program.

2 Project Fair Share Percentage is the highest fair share value of the AM and PM peak hour when both peak hours are impacted by the project, or only in the peak hour where the project has an impact.

## Table 4.14-34
## Roadway Segment Improvement Funding Mechanism and Fair Share

| | Roadway Segment | Mitigations | Funding Mechanism | Improvements Covered by TUMF | Improvements Covered Under Fair Share | Fair Share Percentage |
|---|---|---|---|---|---|---|
| *Segments on Perris Boulevard* | | | | | | |
| 1 | between Iris Avenue and Krameria Avenue | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 2.06% |
| 2 | between Krameria Avenue and San Michele Road | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 2.03% |
| 3 | between San Michele Road and Nandina Avenue | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 1.99% |
| 4 | between Nandina Avenue and Harley Knox Boulevard | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 2.06% |
| *Segments on Lasselle Street* | | | | | | |
| 6 | between Iris Avenue and Krameria Avenue | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 12.25% |
| 7 | between Krameria Avenue and Via Xavier Lane | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 11.88% |
| 8 | between Via Xavier Lane and Lasselle Sports Park - Rojo Tierra | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 10.55% |
| 9 | between Lasselle Sports Park - Rojo Tierra and Cremello Way - Avenida De Plata | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 9.61% |

**Table 4.14-34**
**Roadway Segment Improvement Funding Mechanism and Fair Share**

| | Roadway Segment | Mitigations | Funding Mechanism | Improvements Covered by TUMF | Improvements Covered Under Fair Share | Fair Share Percentage |
|---|---|---|---|---|---|---|
| 10 | between Cremello Way - Avenida De Plata and Avenida Classica - Kentucky Derby Drive | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 8.63% |
| 11 | between Avenida Classica - Kentucky Derby Drive and Via De Anza - Rancho Verde High School | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 7.64% |
| *Segment on Lasselle Street - Evans Road* | | | | | | |
| 12 | between Via De Anza - Rancho Verde High School and Ramona Expressway | Widen from 4 to 6 lanes. | Fair Share | | Widen from 4 to 6 lanes. | 3.99% |
| *Segments on Nason Street* | | | | | | |
| 14 | between Eucalyptus Avenue and Cottonwood Avenue | Widen from 4 lanes to 6 lanes. No further mitigations feasible due to right-of-way constraints. The roadway segment will continue to operate at a deficient LOS. | Fair Share | | Widen from 4 lanes to 6 lanes. | 6.71% |
| 15 | between Cottonwood Avenue and Alessandro Boulevard | Widen from 4 lanes to 6 lanes. | Fair Share | | Widen from 4 lanes to 6 lanes. | 8.97% |
| *Segments on Moreno Beach Drive* | | | | | | |
| 21 | between SR-60 Eastbound Ramps and Eucalyptus Avenue | Widen from 4 lanes to 6 lanes. | Fair Share | | Widen from 4 lanes to 6 lanes. | 7.40% |
| 23 | between Cottonwood Avenue and Alessandro Boulevard | Widen from 2 lanes to 4 lanes. | Fair Share | | Widen from 2 lanes to 4 lanes. | 17.28% |
| 24 | between Alessandro Boulevard and Cactus Avenue | Widen from 2 lanes to 6 lanes. | Fair Share | | Widen from 2 lanes to 6 lanes. | 15.18% |
| *Segments on Alessandro Boulevard* | | | | | | |
| 27 | between I-215 Northbound Ramps and Day Street | Widen from 5 lanes to 6 lanes. No futher mitigations feasible due to right-of-way constraints. The roadway segment will continue to operate at a deficient LOS. | TUMF/Fair Share | Widen from 5 lanes to 6 lanes. | | 1.13% |

## Table 4.14-34
## Roadway Segment Improvement Funding Mechanism and Fair Share

| | Roadway Segment | Mitigations | Funding Mechanism | Improvements Covered by TUMF | Improvements Covered Under Fair Share | Fair Share Percentage |
|---|---|---|---|---|---|---|
| 28 | between Day Street and Elsworth Street | Widen from 5 lanes to 6 lanes. No futher mitigations feasible due to right-of-way constraints. The roadway segment will continue to operate at a deficient LOS. | TUMF/Fair Share | Widen from 5 lanes to 6 lanes. | | 1.70% |
| 30 | between Frederick Street and Graham Street | Widen from 5 lanes to 6 lanes. No futher mitigations feasible due to right-of-way constraints. The roadway segment will continue to operate at a deficient LOS. | TUMF/Fair Share | Widen from 5 lanes to 6 lanes. | | 2.59% |
| 31 | between Graham Street and Heacock Street | Widen from 5 lanes to 6 lanes. No futher mitigations feasible due to right-of-way constraints. The roadway segment will continue to operate at a deficient LOS. | TUMF/Fair Share | Widen from 5 lanes to 6 lanes. | | 2.62% |
| 32 | between Heacock Street and Indian Street | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 2.84% |
| 33 | between Indian Street and Perris Boulevard | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 3.52% |
| 34 | between Perris Boulevard and Kitching Street | Widen from 5 lanes to 6 lanes. | TUMF | Widen from 5 lanes to 6 lanes. | | N/A |
| 35 | between Kitching Street and Lasselle Street | Widen from 2 lanes to 6 lanes. | TUMF | Widen from 2 lanes to 6 lanes. | | N/A |
| 36 | between Lasselle Street and Nason Street | Widen from 2 lanes undivided to 6 lanes divided. | TUMF | Widen from 2 lanes undivided to 6 lanes divided. | | N/A |
| 37 | between Nason Street and Moreno Beach Drive | Widen from 2 lanes undivided to 4 lanes divided. | TUMF | Widen from 2 lanes undivided to 4 lanes divided. | | N/A |
| *Segments on Cactus Avenue* | | | | | | |
| 38 | between I-215 Northbound Ramps – Old Frontage Road and Elsworth Street | Widen from 4 lanes to 6 lanes. | TUMF | Widen from 4 lanes to 6 lanes. | | N/A |

## Table 4.14-34
## Roadway Segment Improvement Funding Mechanism and Fair Share

| | Roadway Segment | Mitigations | Funding Mechanism | Improvements Covered by TUMF | Improvements Covered Under Fair Share | Fair Share Percentage |
|---|---|---|---|---|---|---|
| 39 | between Elsworth Street and Frederick Street | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 18.15% |
| 40 | between Frederick Street and Graham Street - Riverside Drive | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 21.42% |
| *Segments on Iris Avenue* | | | | | | |
| 50 | between Perris Boulevard and Kitching Street | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 10.46% |
| 52 | between Lasselle Street and Camino Flores | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 12.57% |
| 53 | between Camino Flores and Coachlight Court - Avenida De Circo | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 13.01% |
| 54 | between Coachlight Court - Avenida De Circo and Grande Vista Drive | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 12.06% |
| 55 | between Grande Vista Drive and Nason Street – Hillrose Lane | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 12.06% |
| 56 | between Nason Street – Hillrose Lane and Driveway 1 | No mitigations feasible due to right-of-way constraints. Roadway segment will continue to operate at a deficient LOS. | Fair Share | | | 34.99% |

**Notes**:
TUMF = Transportation Uniform Mitigation Fee

## 4.14.8 References Cited

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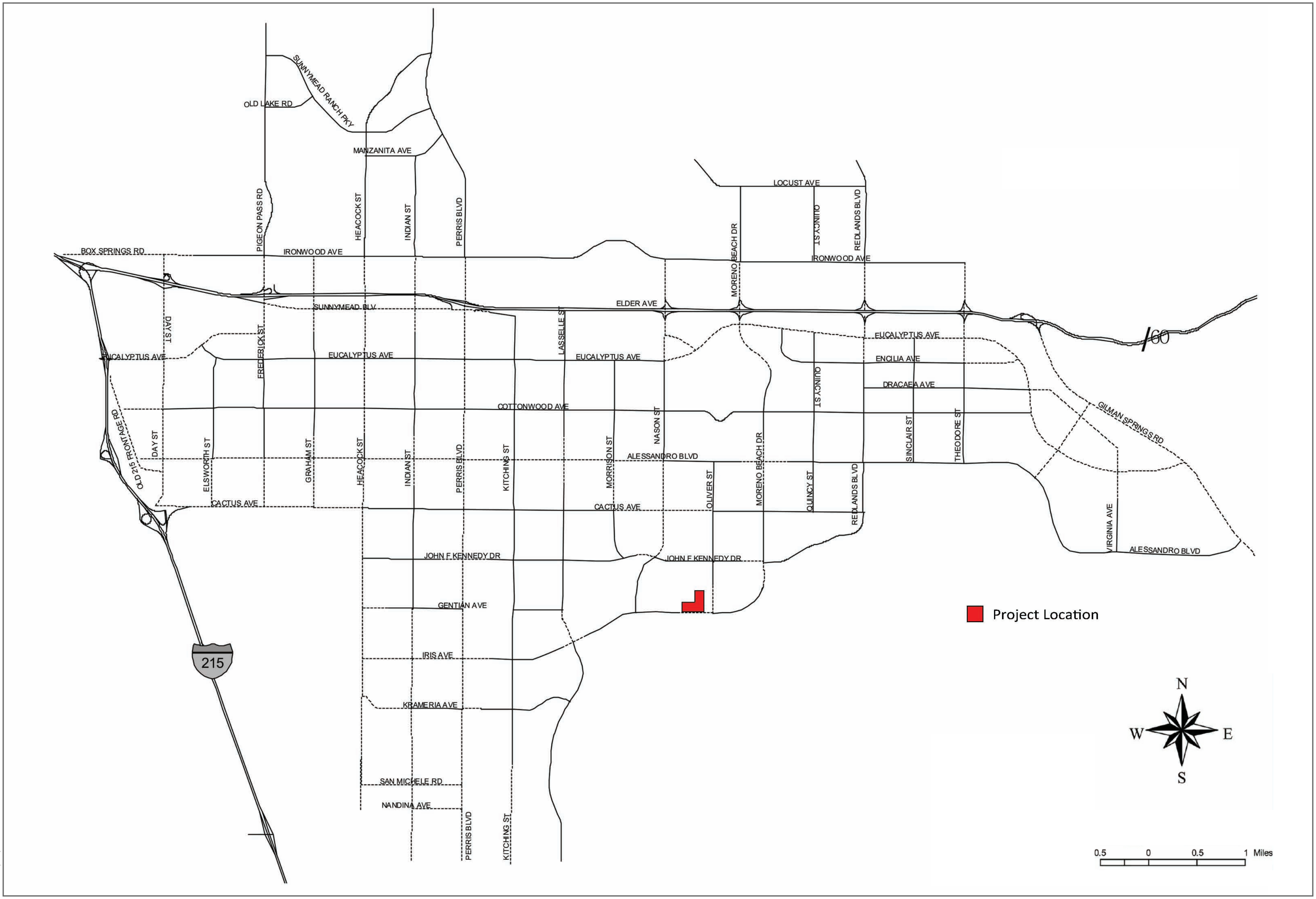


SOURCE: LSA

**DUDEK**

**FIGURE 4.14-1**

Project Location

Kaiser Permanente Moreno Valley Medical Center Project EIR

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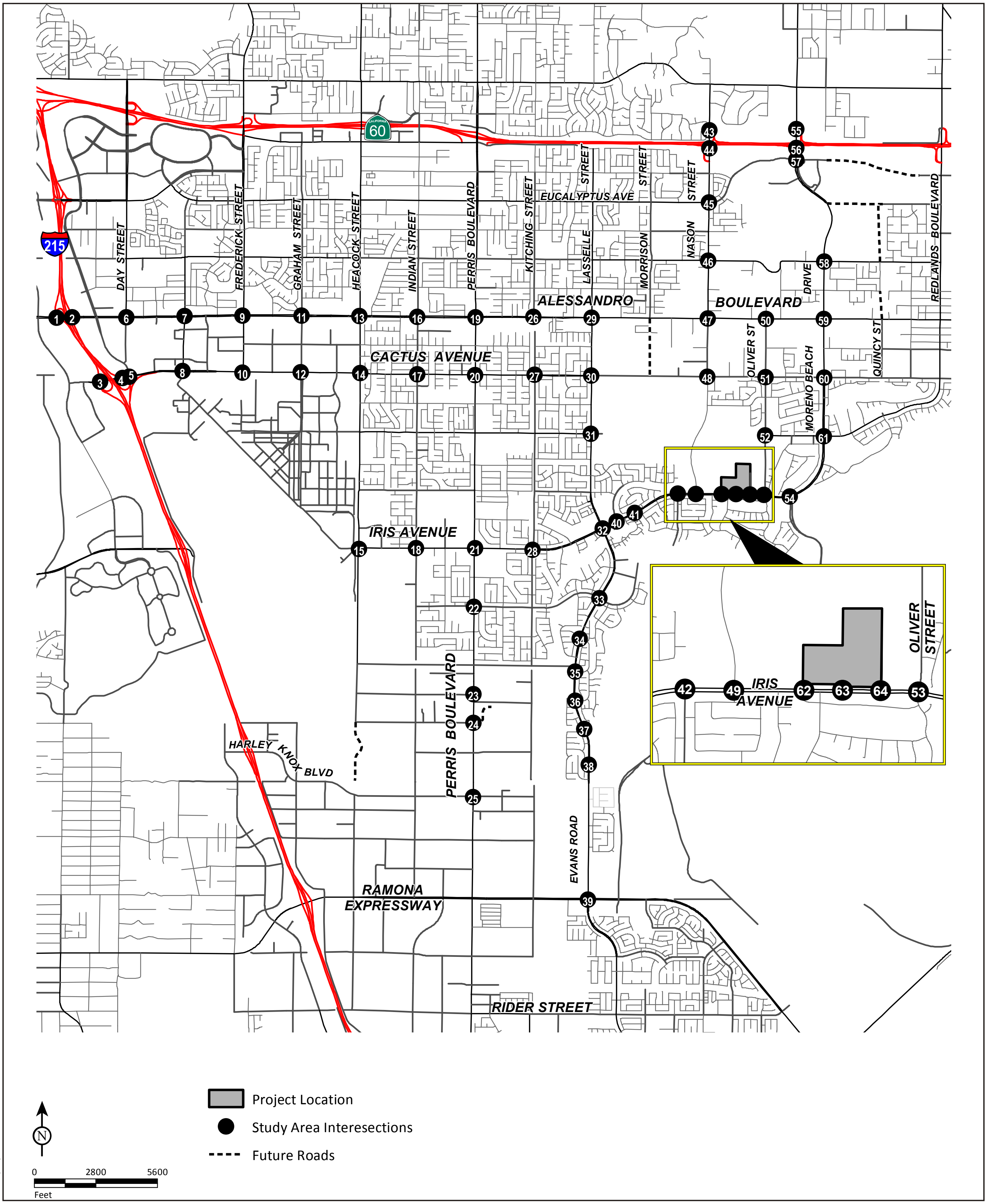


SOURCE: LSA

**FIGURE 4.14-2**

Study Area Intersections

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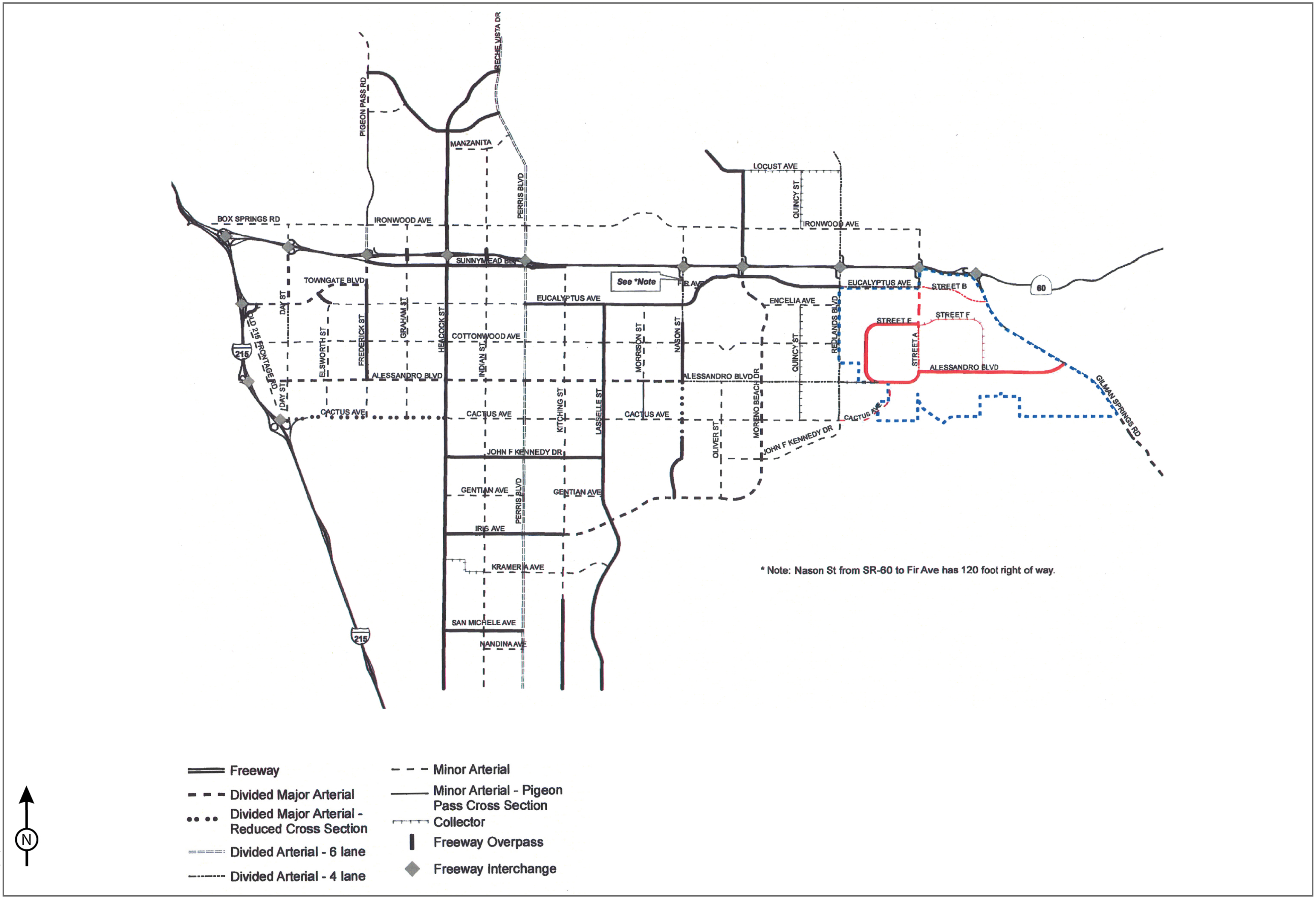


SOURCE: LSA

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**FIGURE 4.14-3**

City of Moreno Valley General Plan Street Classifications

Kaiser Permanente Moreno Valley Medical Center Project EIR

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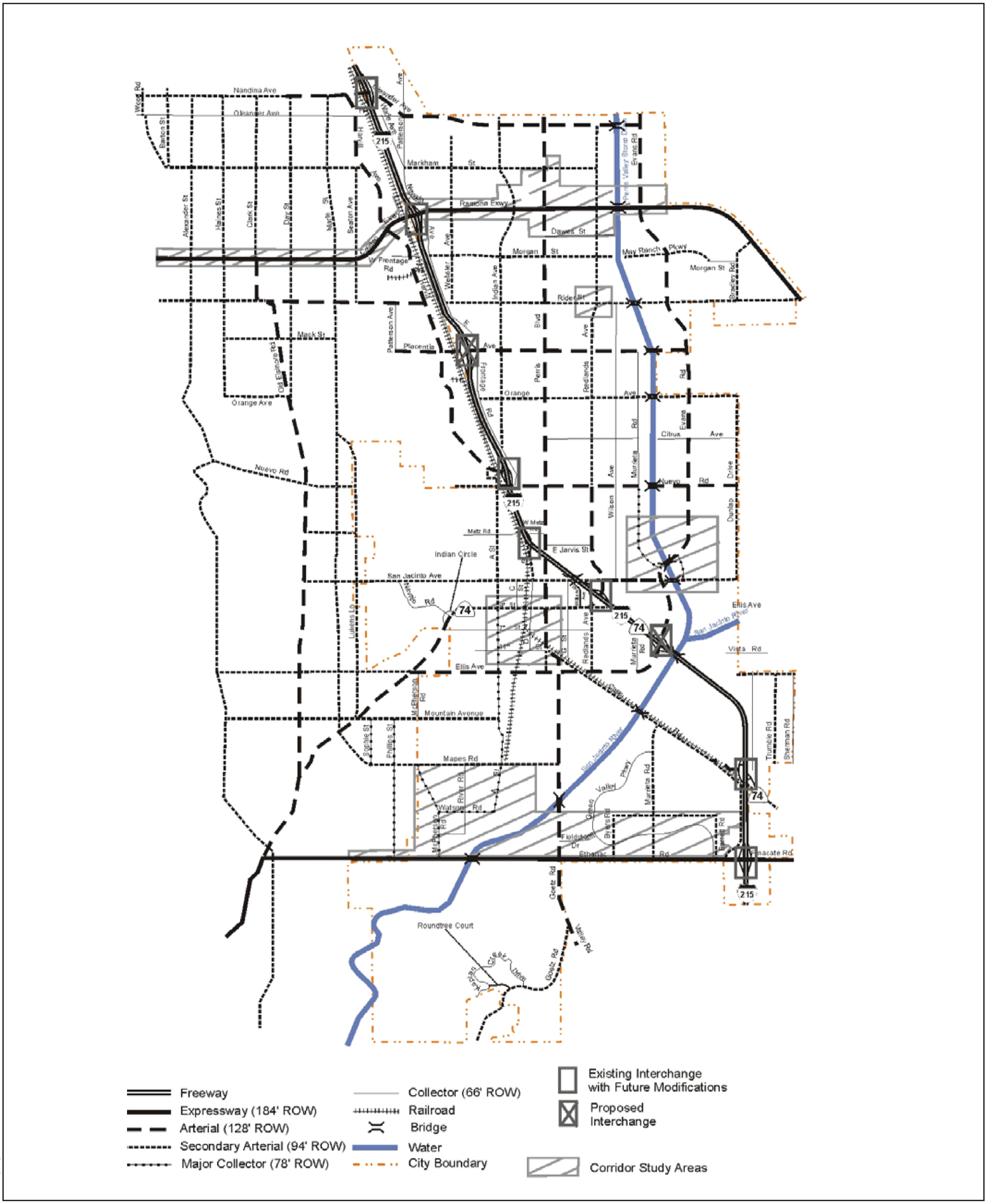


SOURCE: LSA

**FIGURE 4.14-4**

City of Perris General Plan Street Classifications

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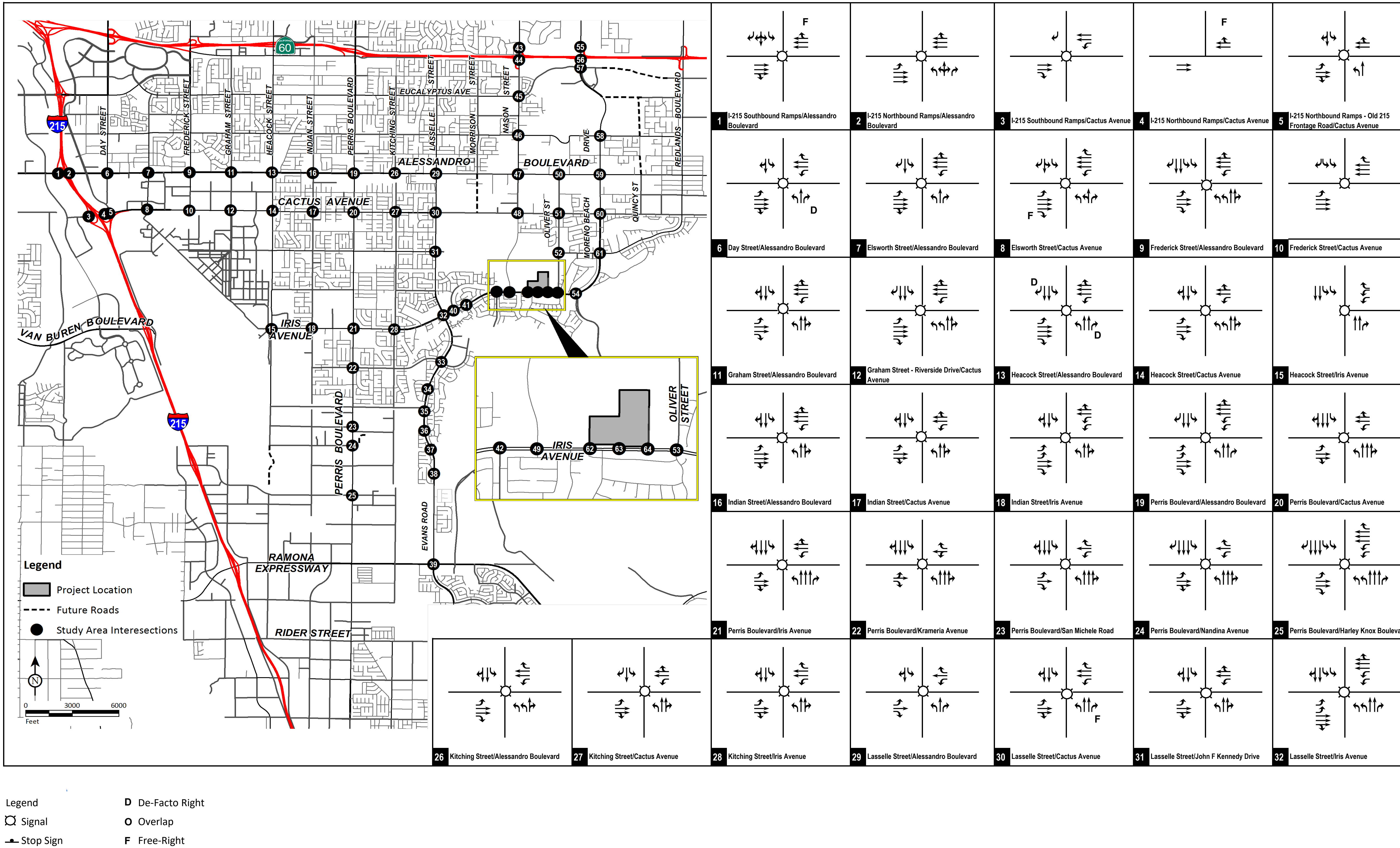


SOURCE: LSA

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**FIGURE 4.14-5A**

Existing Study Intersection Geometrics and Traffic Control (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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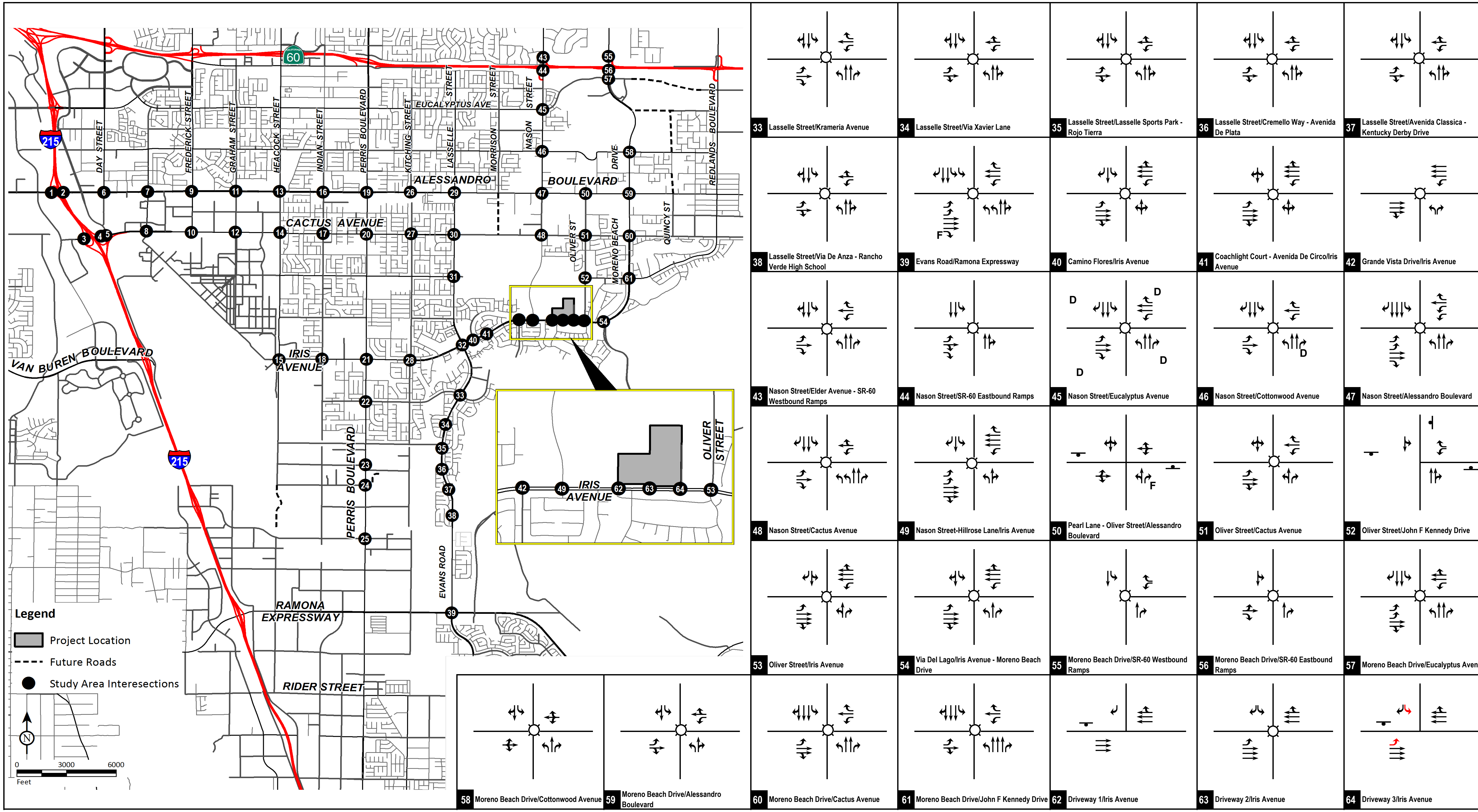


Legend
Signal
Stop Sign
D De-Facto Right
O Overlap
F Free-Right
With Project Movement Restrictions

SOURCE: LSA

**FIGURE 4.14-5B**

Existing Study Intersection Geometrics and Traffic Control (Int. 33-64)Existing Study Intersection Geometrics and Traffic Control (Int. 33-64)

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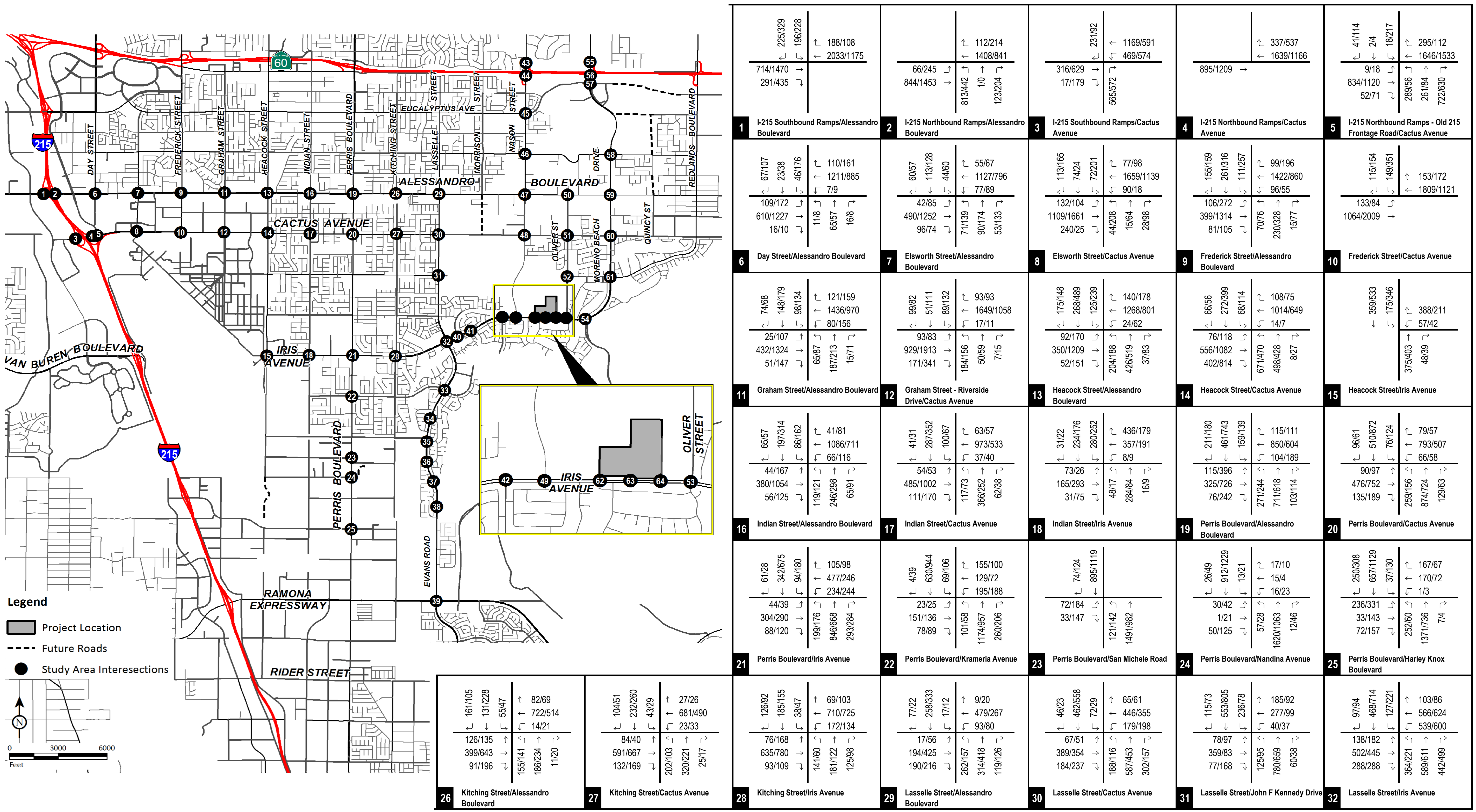


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-6A**

Existing Peak Hour Traffic Volumes (Int. 1-32)

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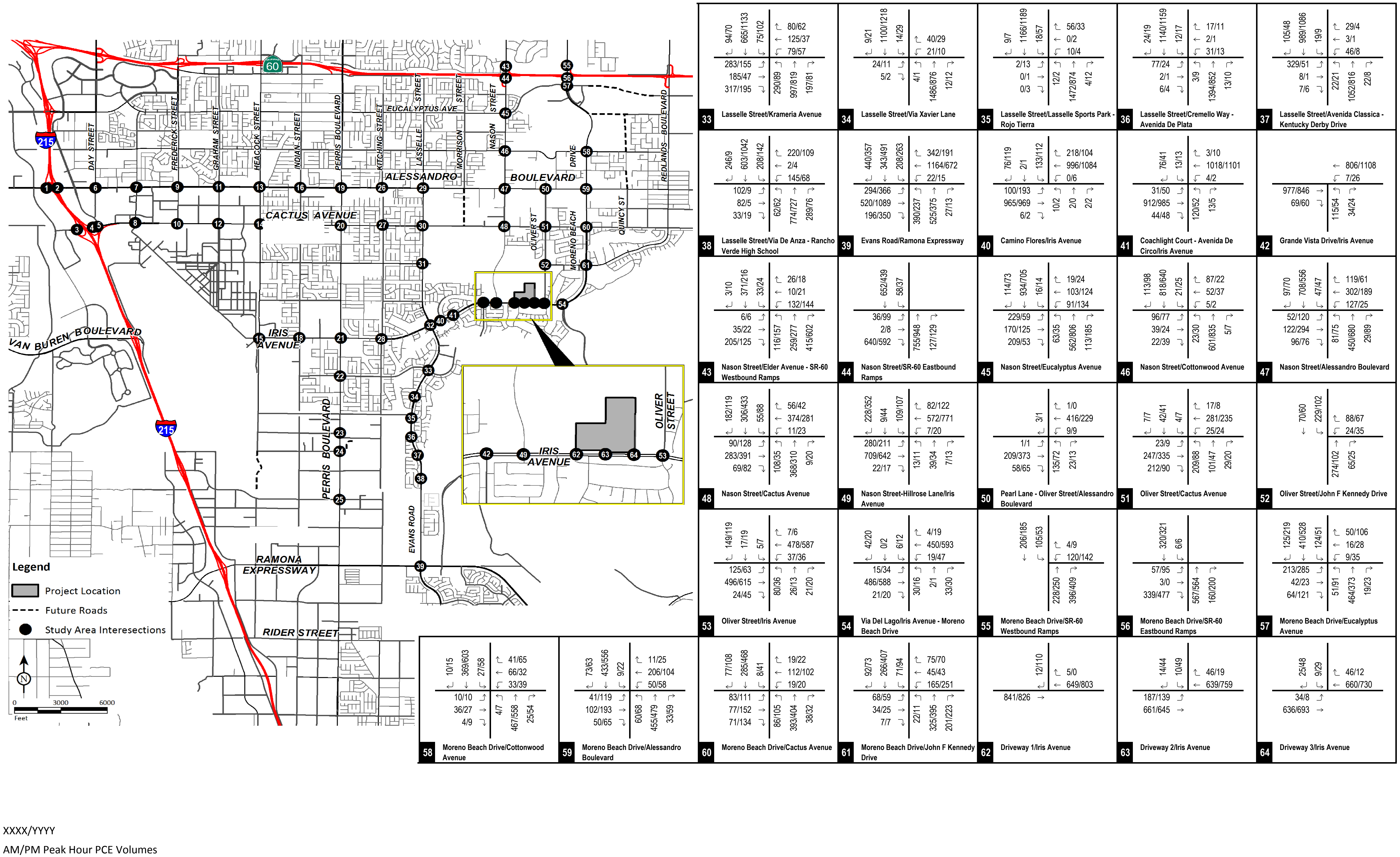


SOURCE: LSA

DUDEK

**FIGURE 4.14-6B**

Existing Peak Hour Traffic Volumes (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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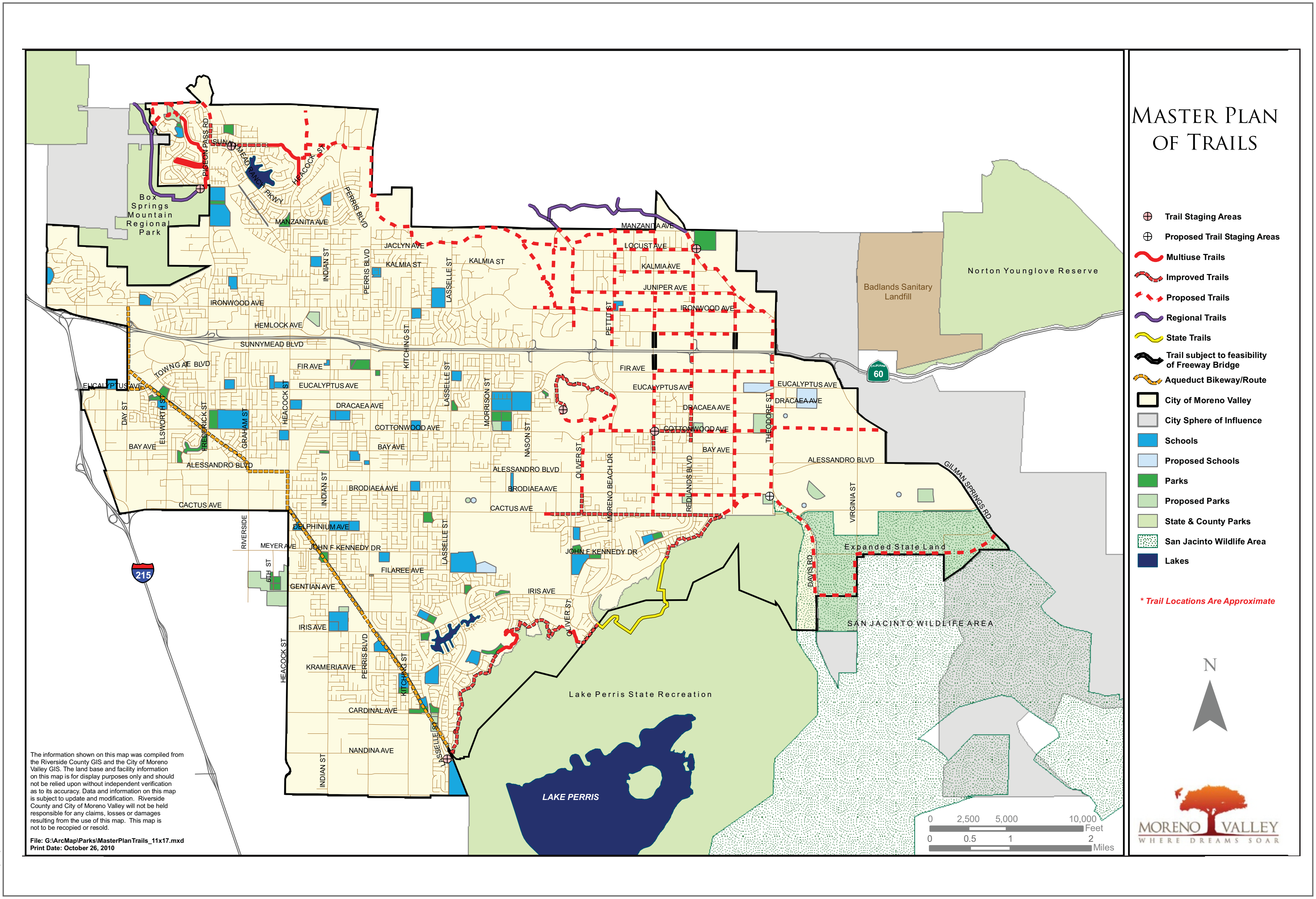


SOURCE: LSA

DUDEK

**FIGURE 4.14-7**

City of Moreno Valley Master Plan of Trails

Kaiser Permanente Moreno Valley Medical Center Project EIR

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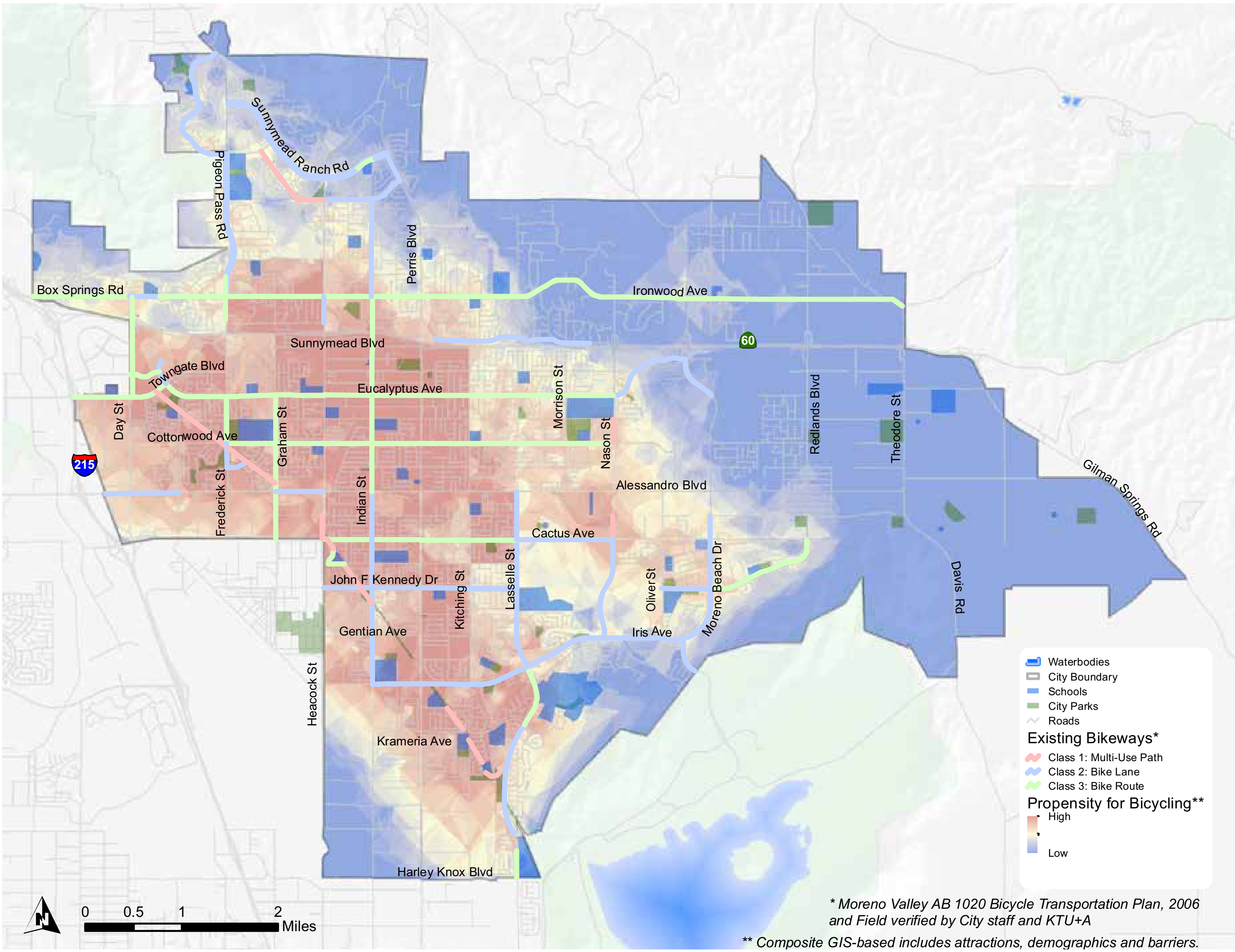


SOURCE: LSA

DUDEK

**FIGURE 4.14-8**

City of Moreno Valley Bicycle Lane Network Plan

Kaiser Permanente Moreno Valley Medical Center Project EIR

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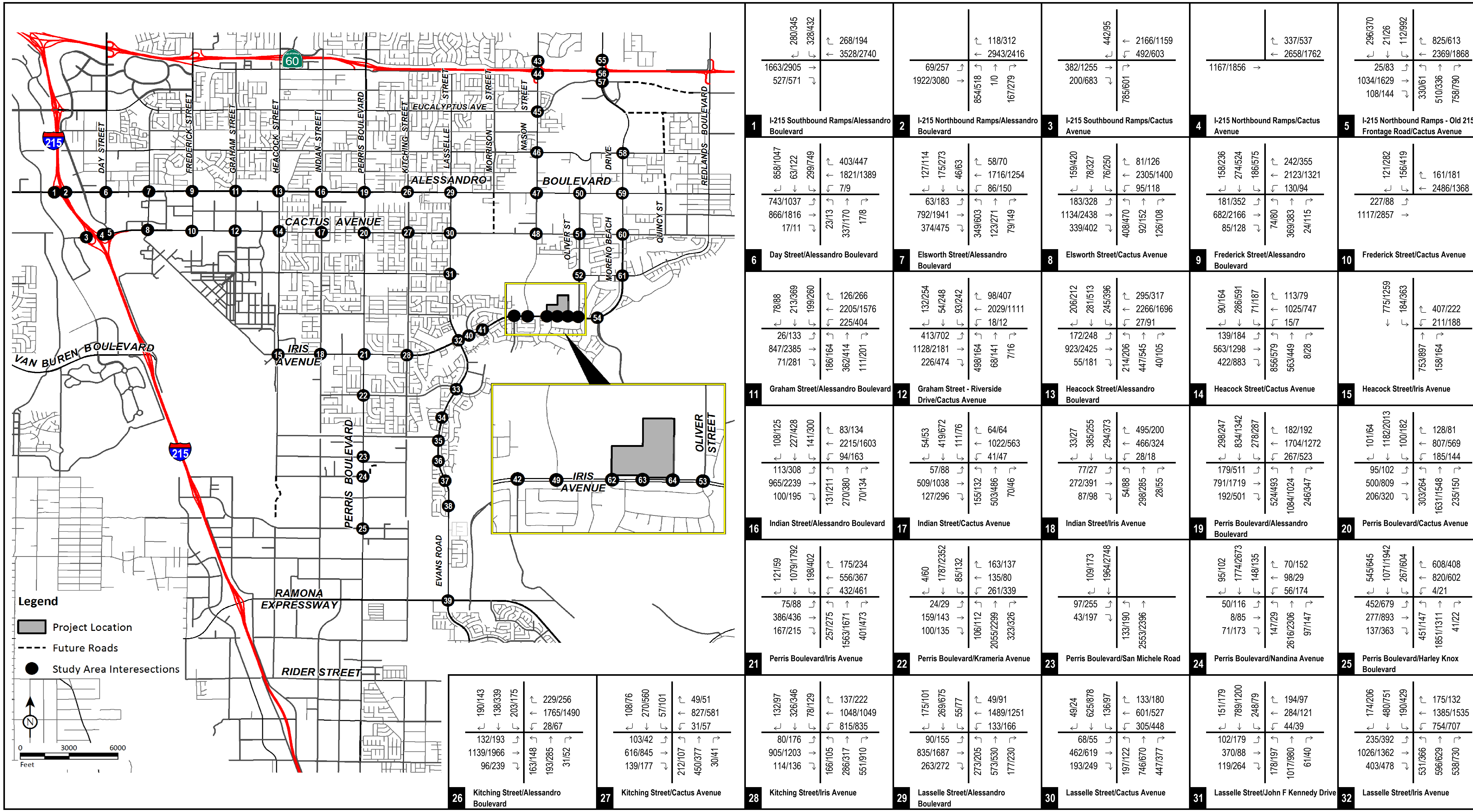


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-9A**

General Plan Buildout (2040) Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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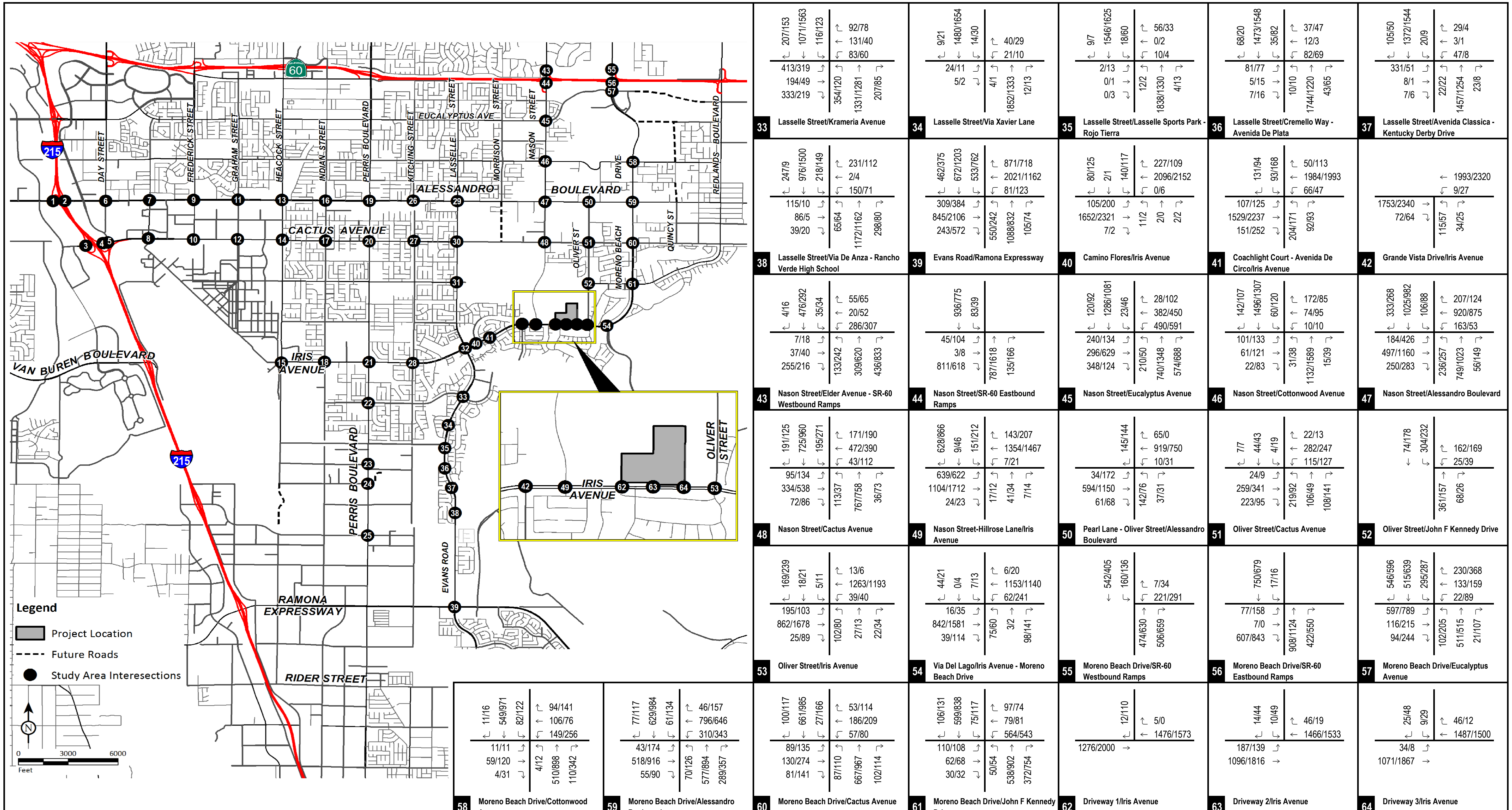


SOURCE: LSA

FIGURE 4.14-9B

General Plan Buildout (2040) Peak Hour Traffic Volumes (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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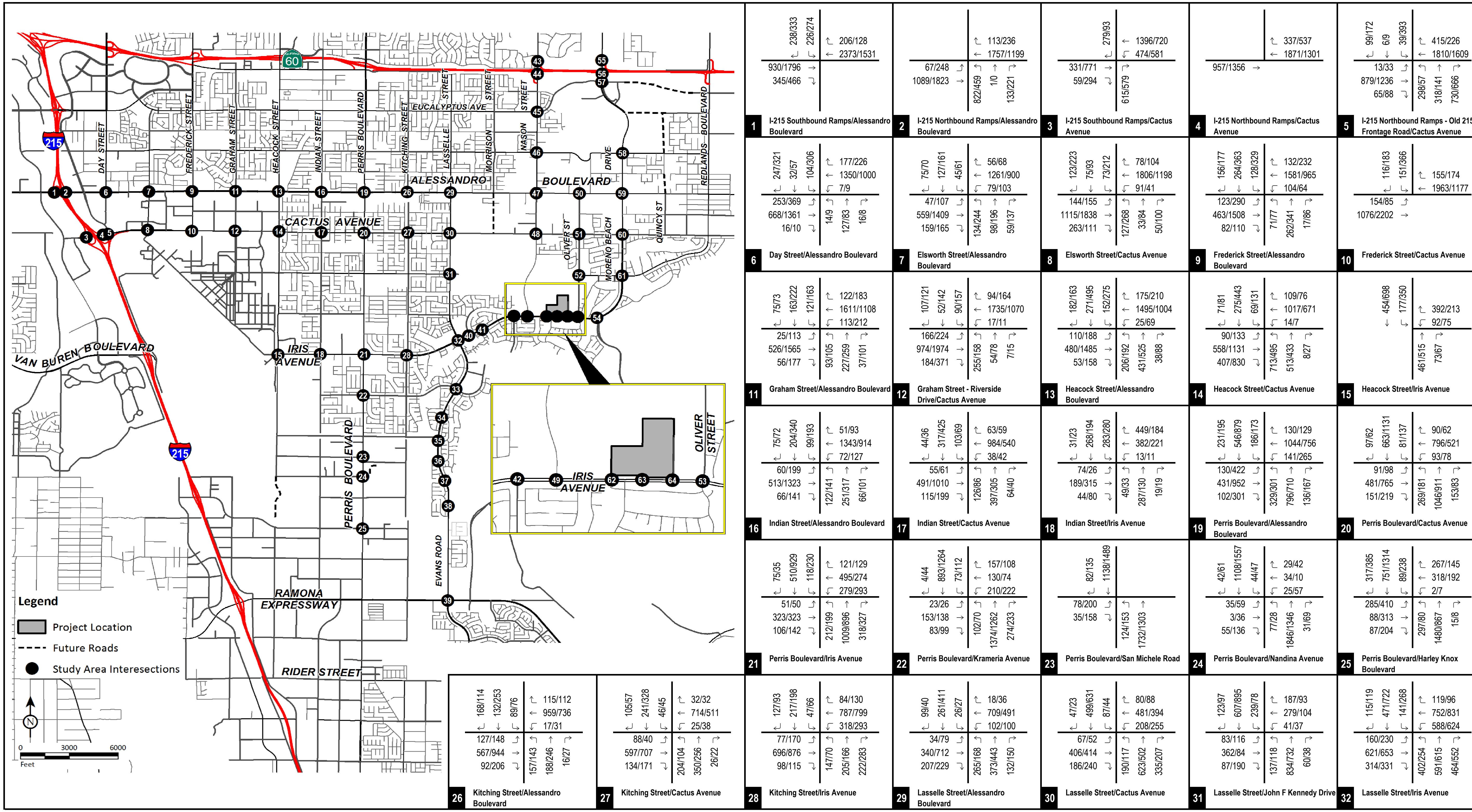


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-10A**

Phase I Project Completion Year (2023) Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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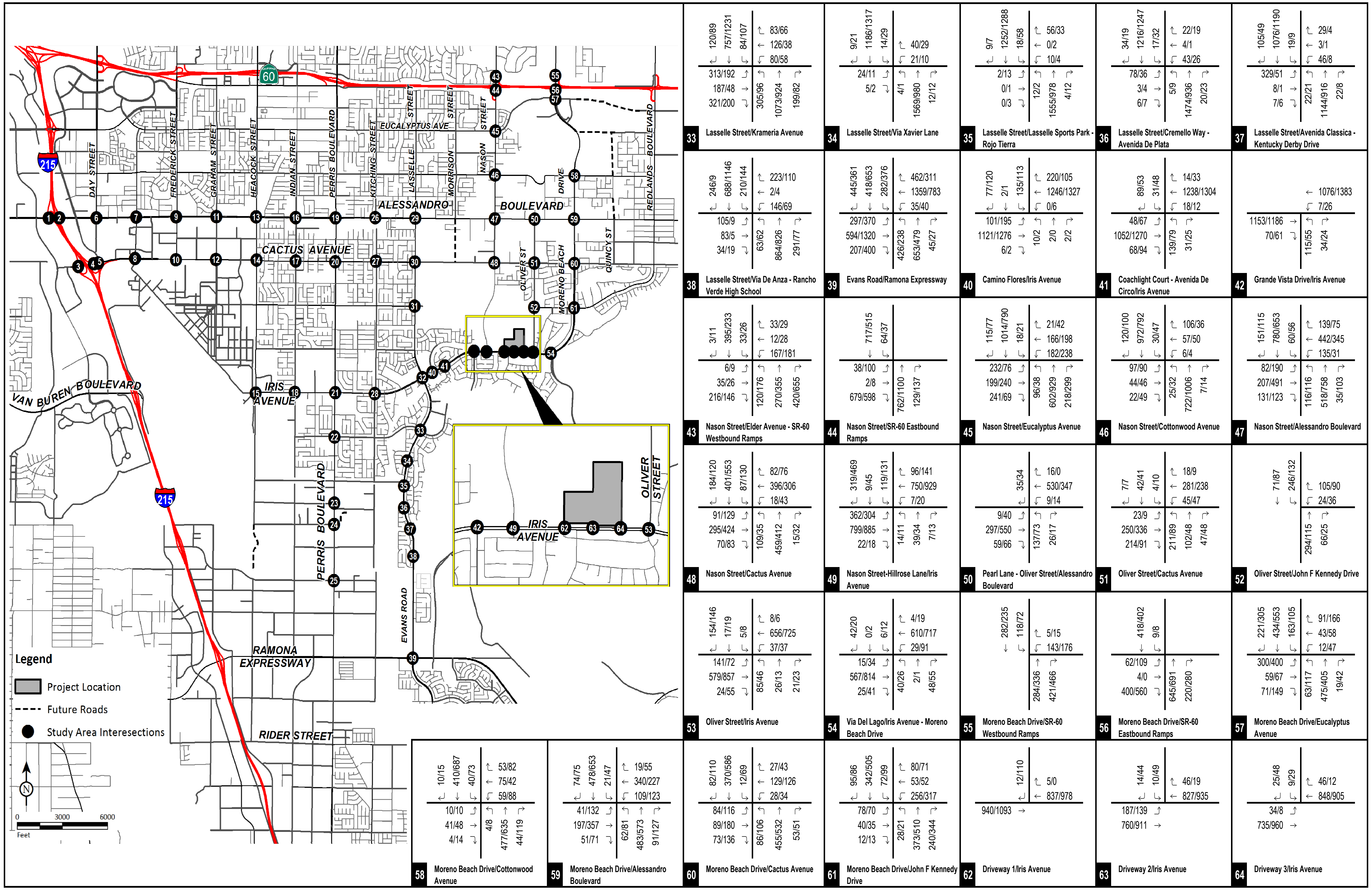


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-10B**

Phase I Project Completion Year (2023) Peak Hour Traffic Volumes (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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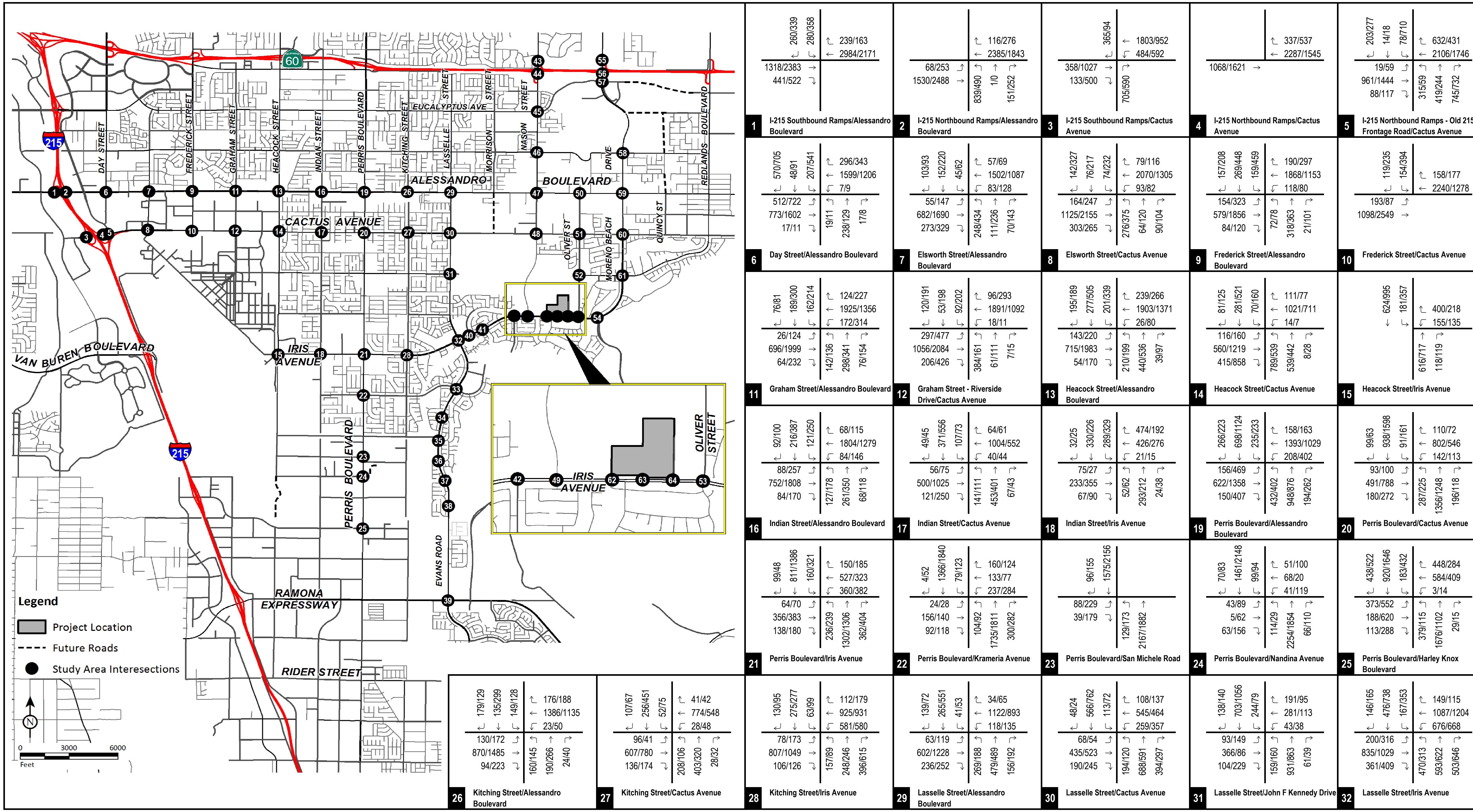


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-11A**

Phase II Project Completion Year (2032) Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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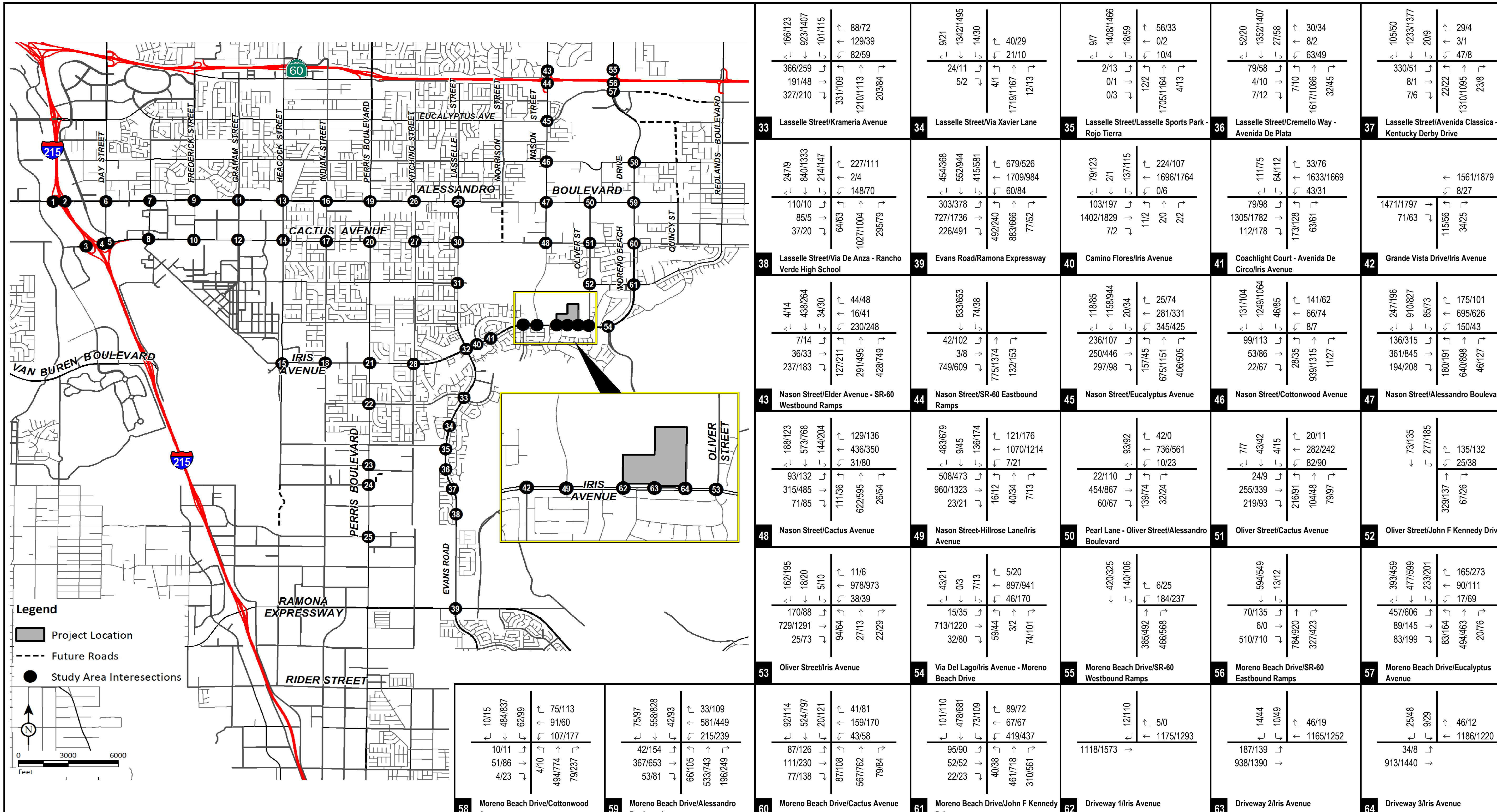


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-11B**

Phase II Project Completion Year (2032) Peak Hour Traffic Volumes (Int. 33-64)

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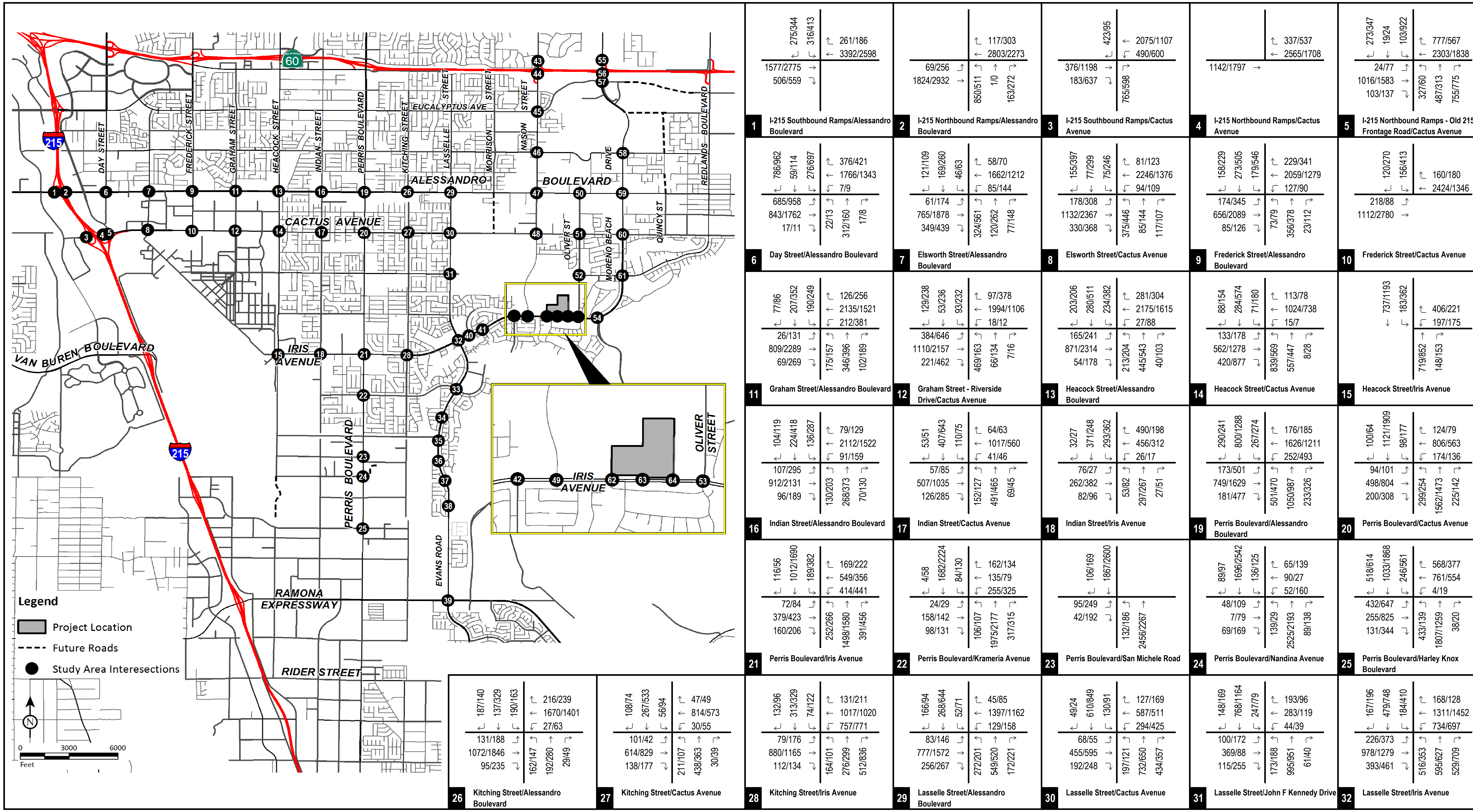


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-12A**

Phase III Project Completion Year (2038) Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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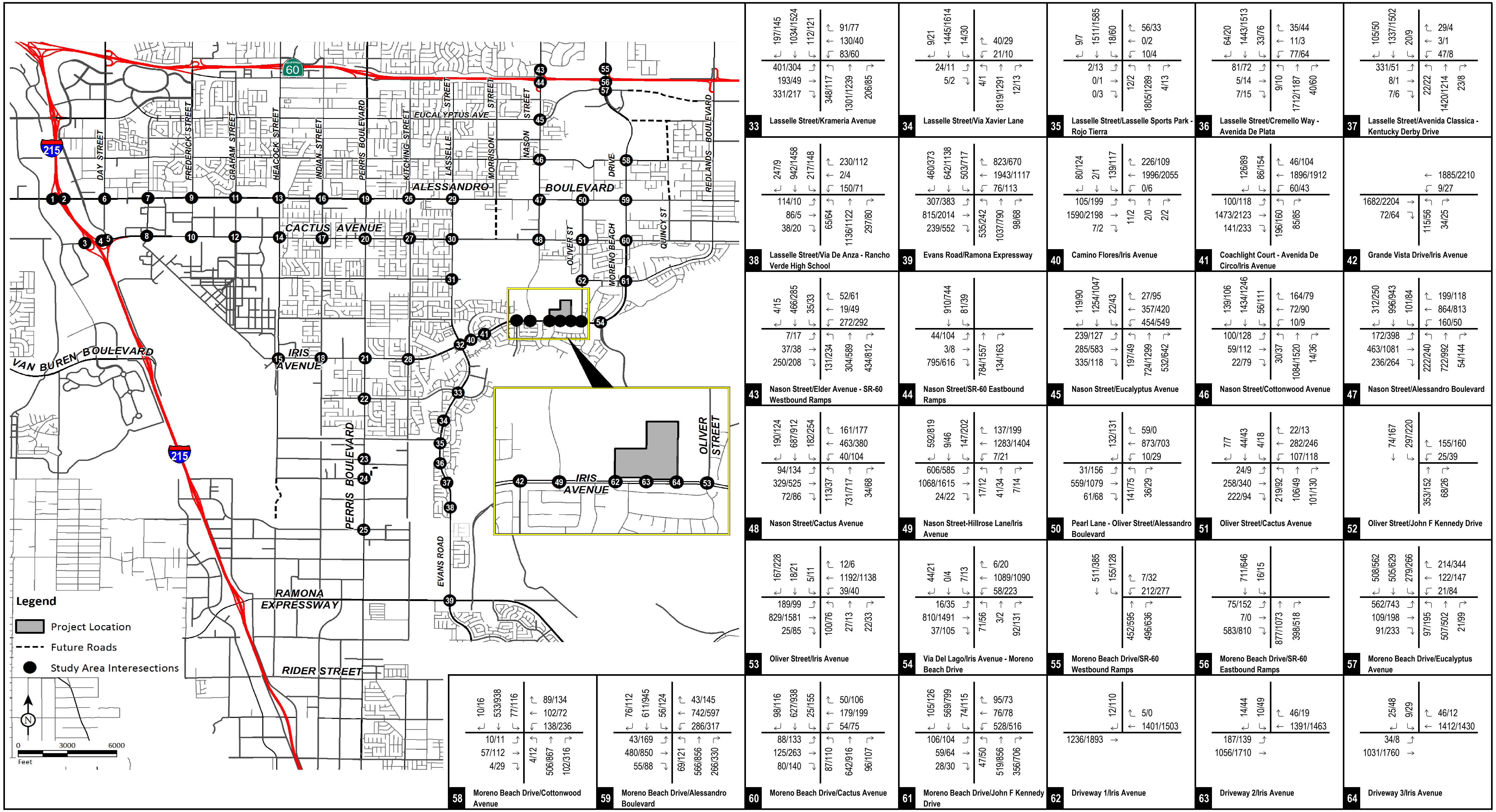


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-12B**

Phase III Project Completion Year (2038) Peak Hour Traffic Volumes (Int. 33-64)

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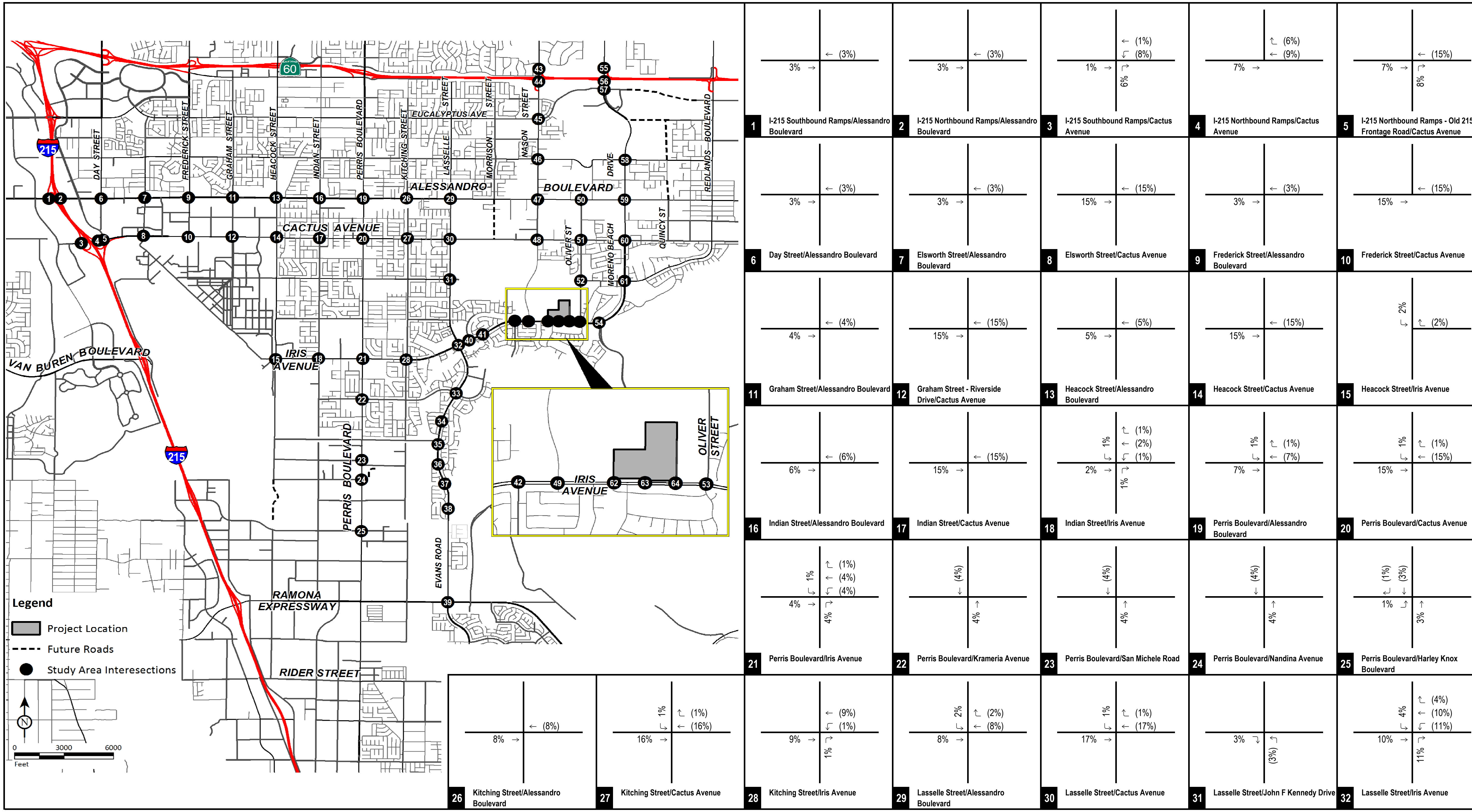


XX% (YY%)

Inbound (Outbound) Distribution

SOURCE: LSA

DUDEK

**FIGURE 4.14-13A**

Project Trip Distribution (Int 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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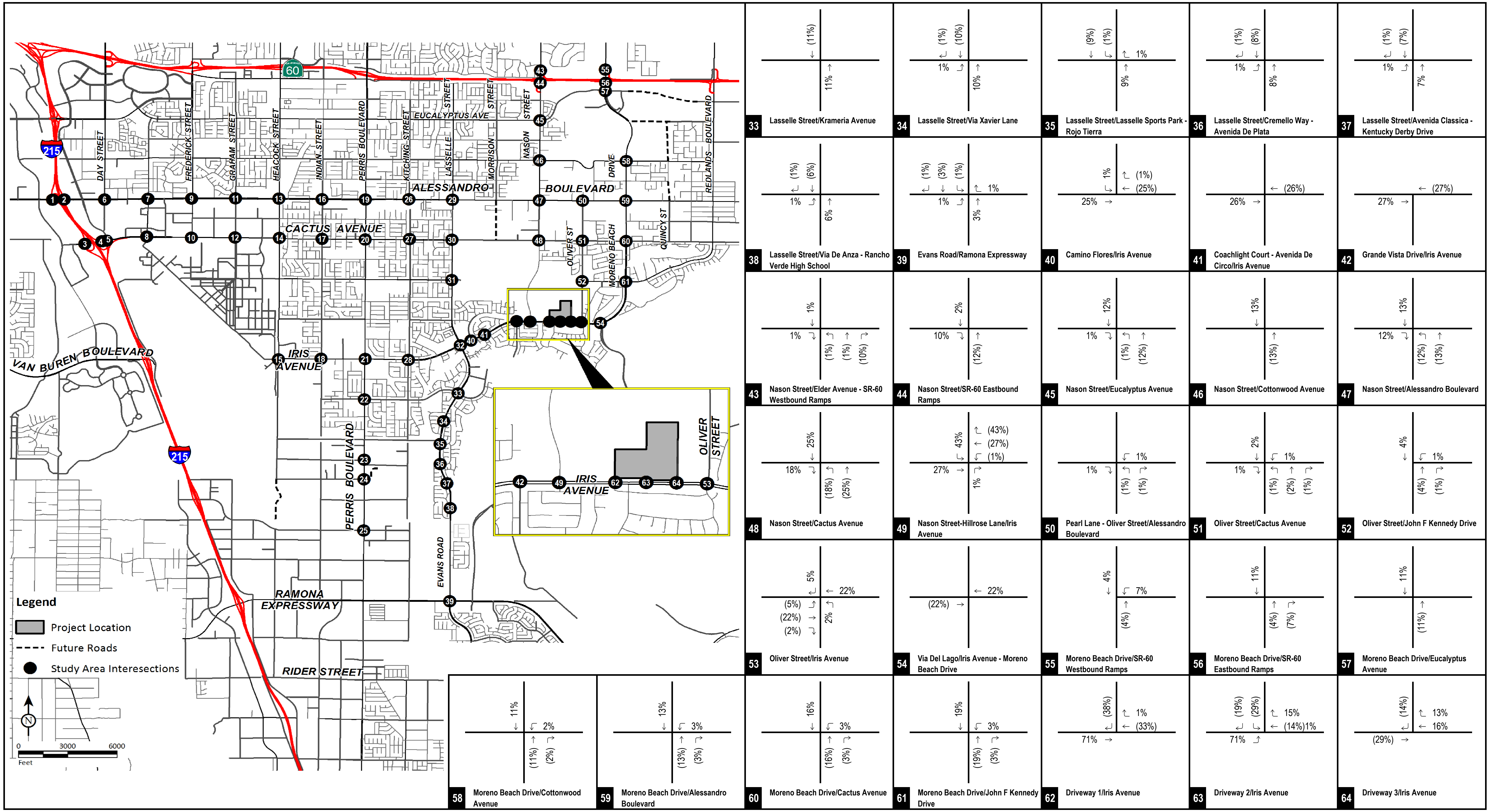


XX% (YY%)

Inbound (Outbound) Distribution

SOURCE: LSA

DUDEK

**FIGURE 4.14-13B**

Project Trip Distribution (Int 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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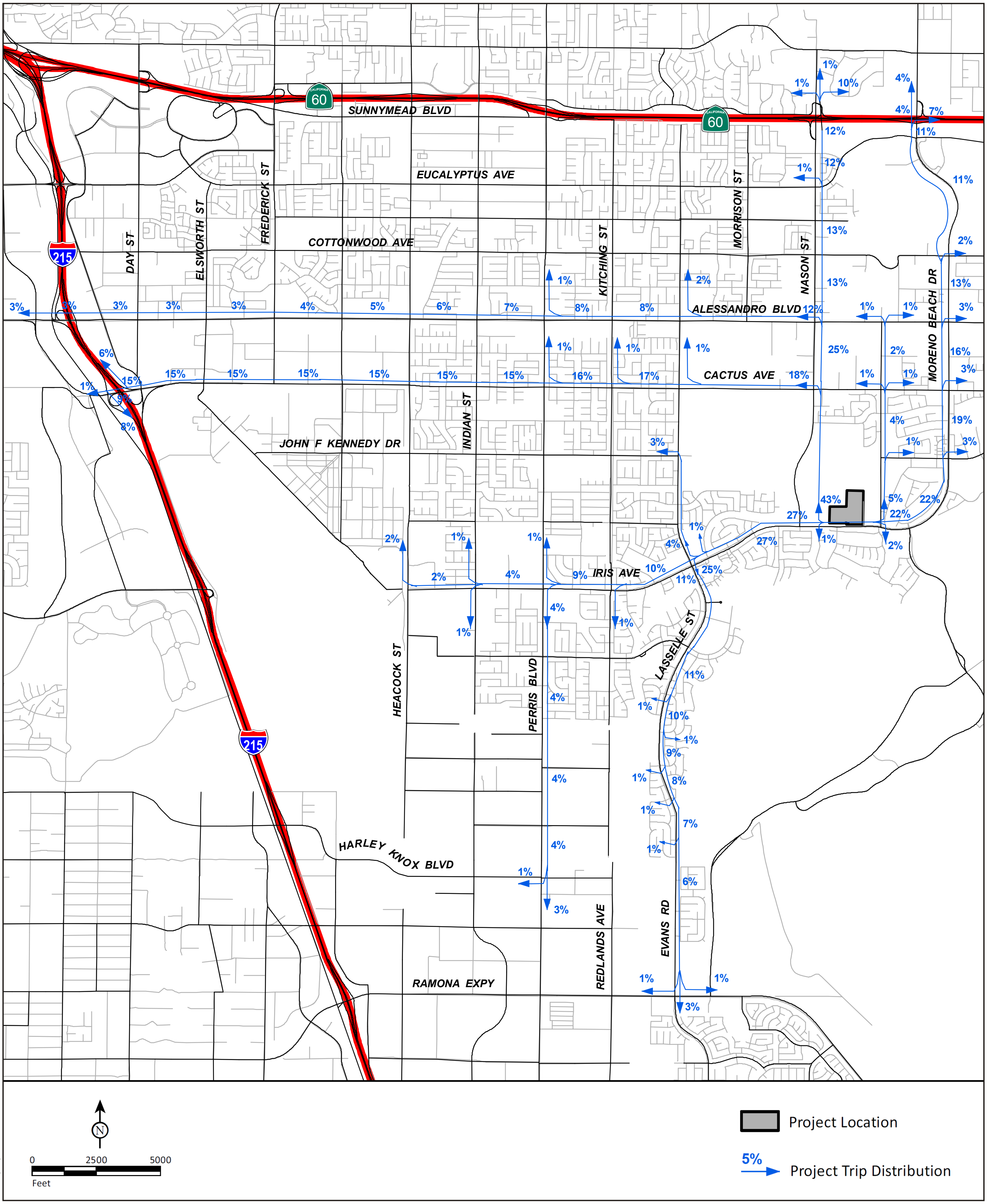


SOURCE: LSA

**FIGURE 4.14-14**

## Regional Project Trip Distribution

Kaiser Permanente Moreno Valley Medical Center Project EIR

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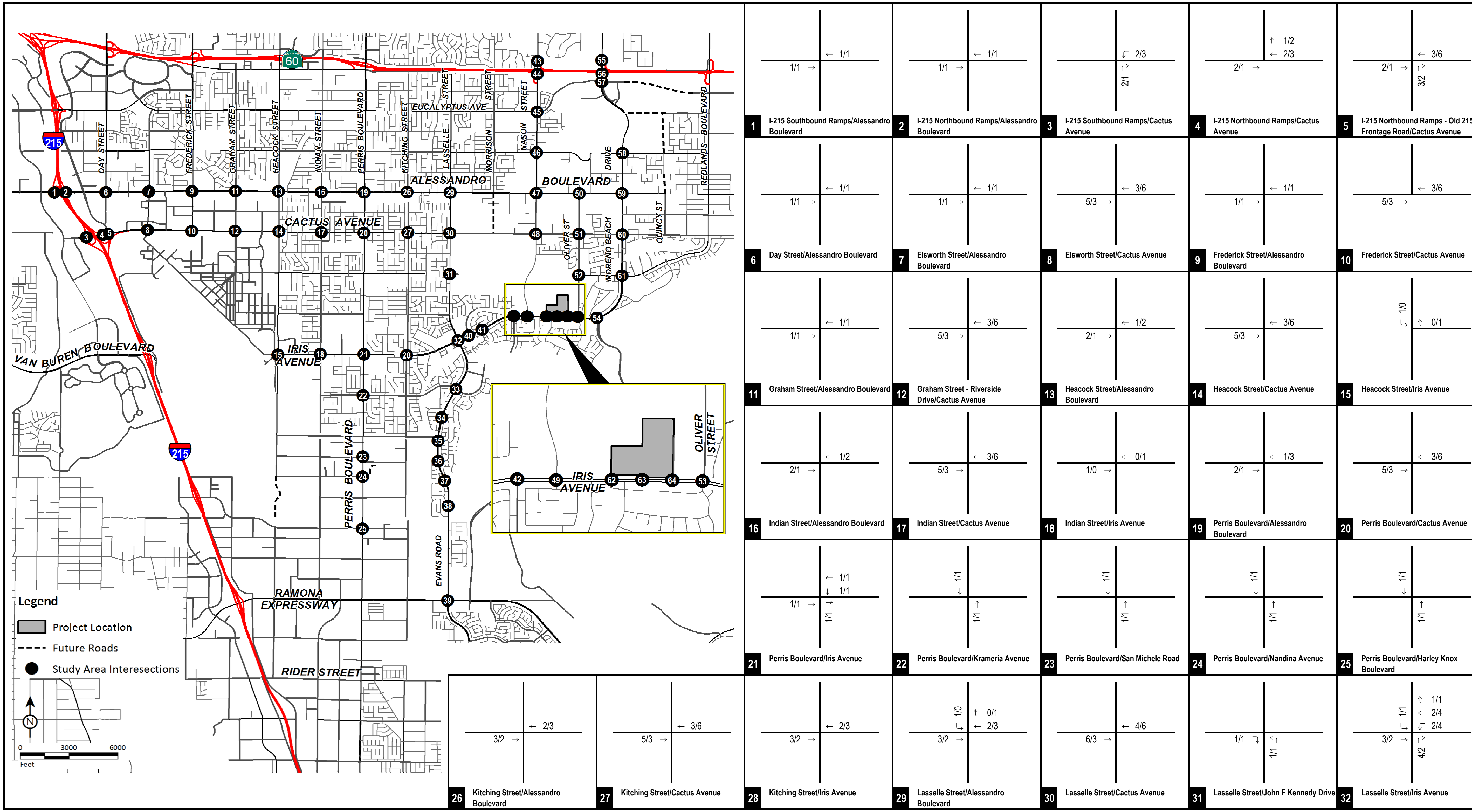


X/Y
AM/PM Trips

SOURCE: LSA

**FIGURE 4.14-15A**

Phase I Project Trip Assignment (Int. 1-32)

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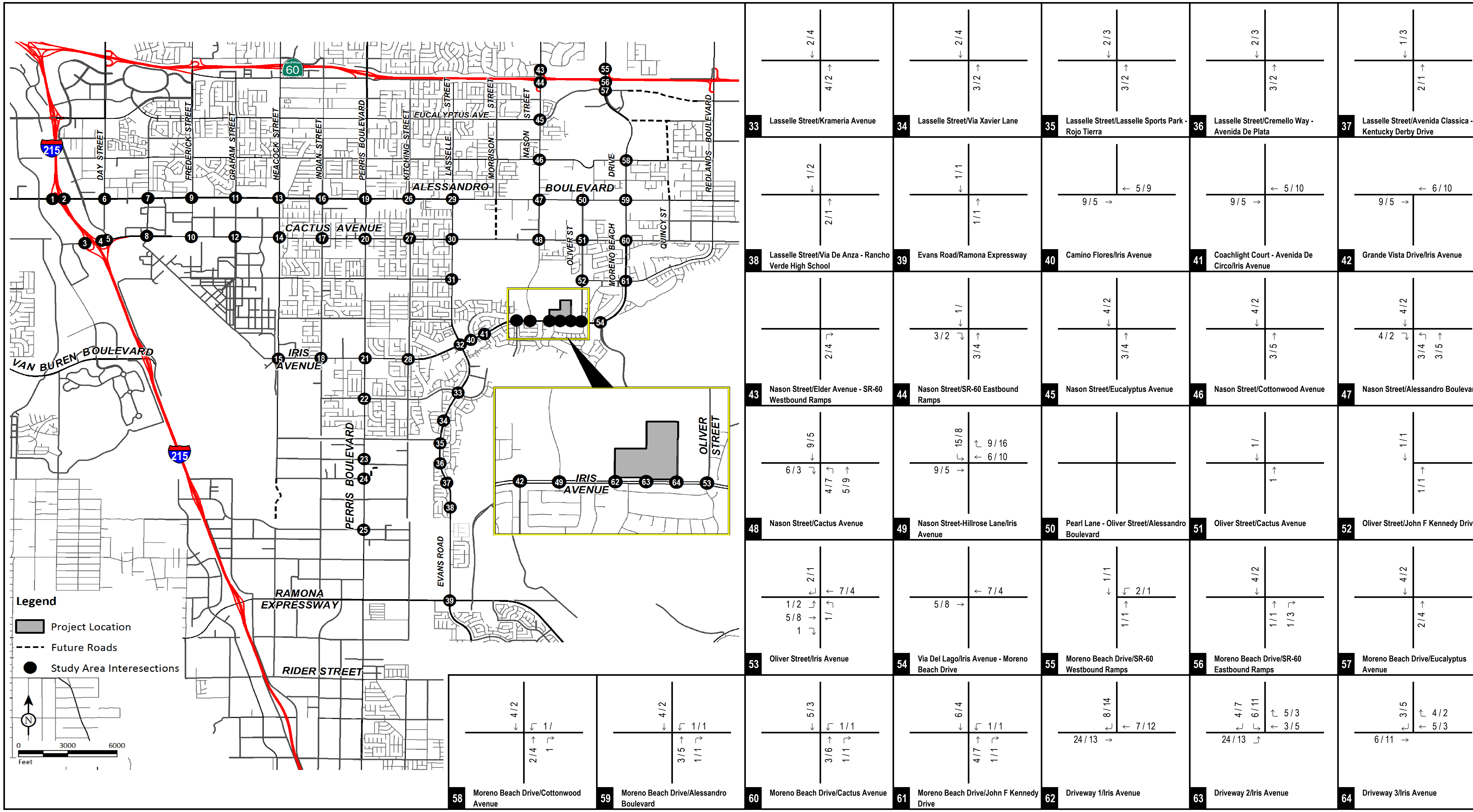


XX/YY
AM/PM Trips

SOURCE: LSA

**FIGURE 4.14-15B**

Phase I Project Trip Assignment (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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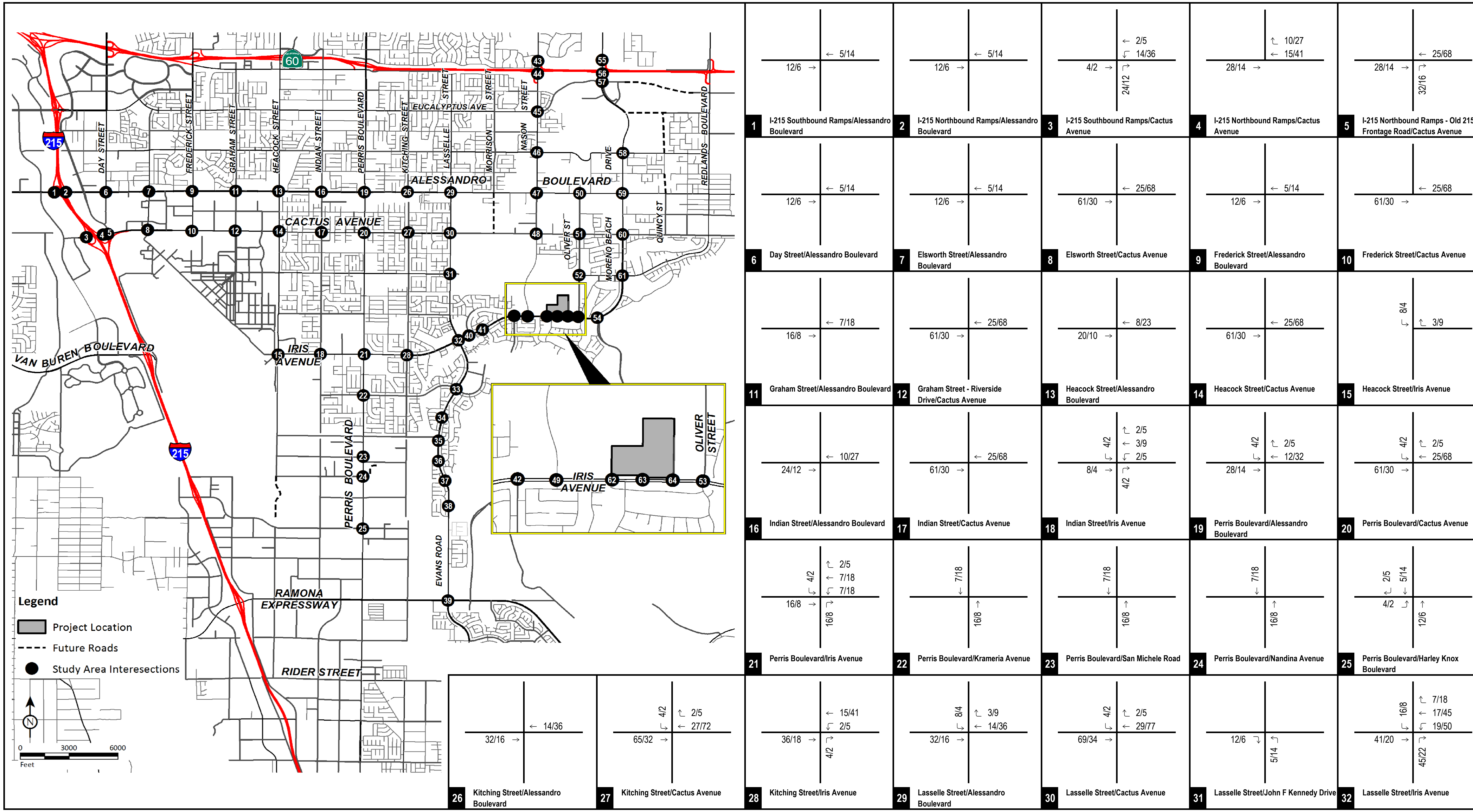


XX/YY
AM/PM Trips

SOURCE: LSA

DUDEK

**FIGURE 4.14-16A**

Phase II Project Trip Assignment (Int. 1-32)

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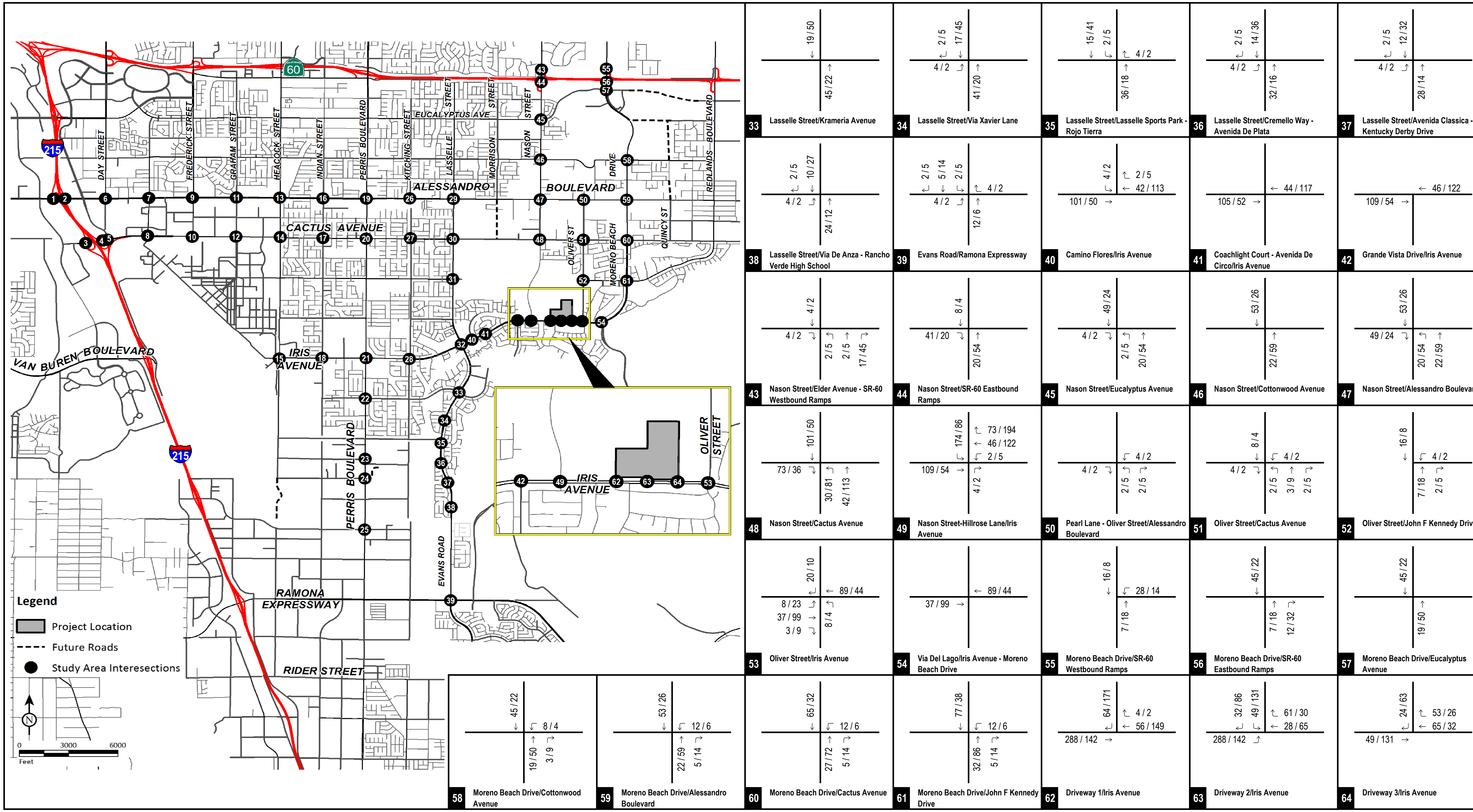


XXX/YYY
AM/PM Trips

SOURCE: LSA

**FIGURE 4.14-16B**

Phase II Project Trip Assignment (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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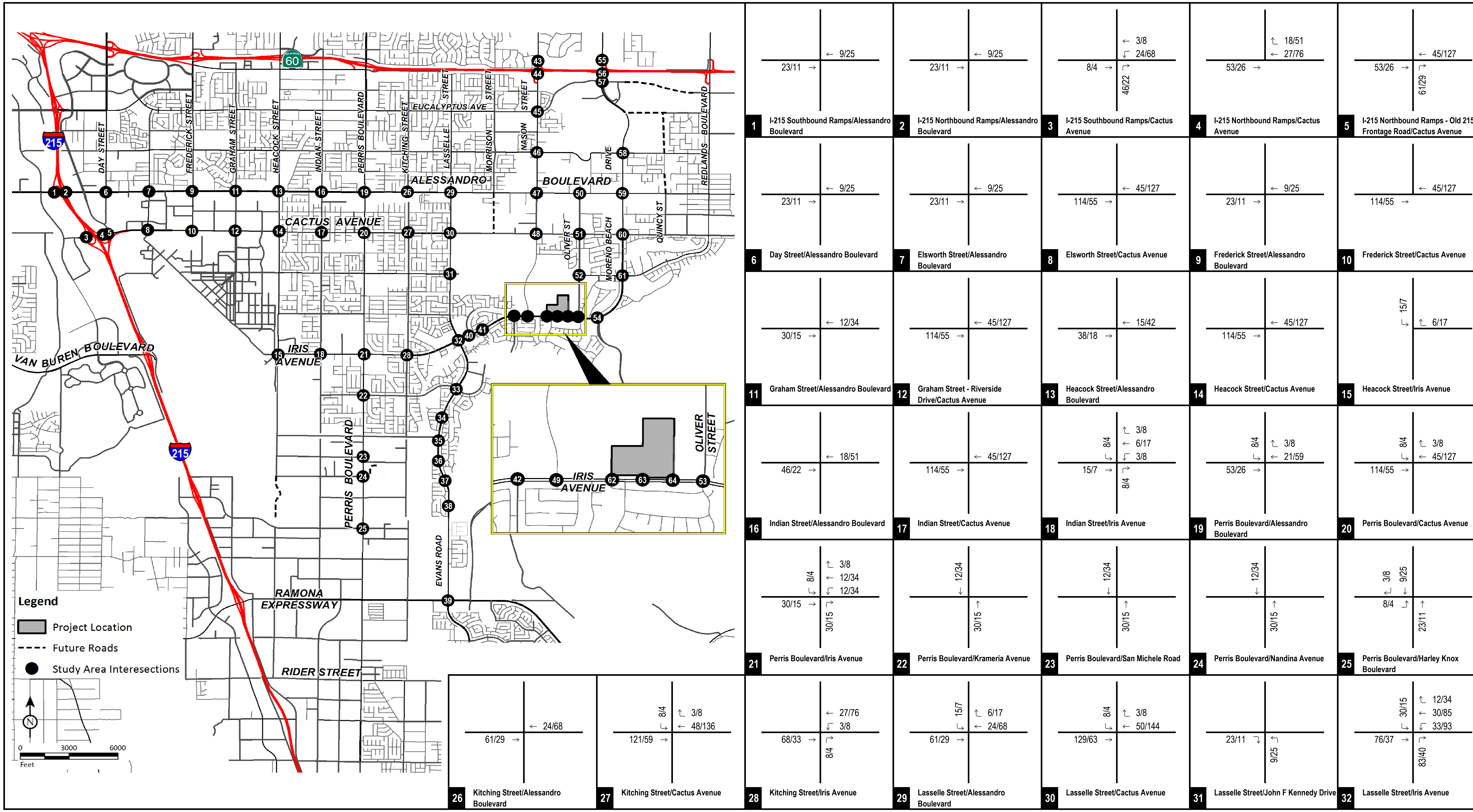


XXX/YYY
AM/PM Trips

SOURCE: LSA

DUDEK

**FIGURE 4.14-17A**

Phase III Project Trip Assignment (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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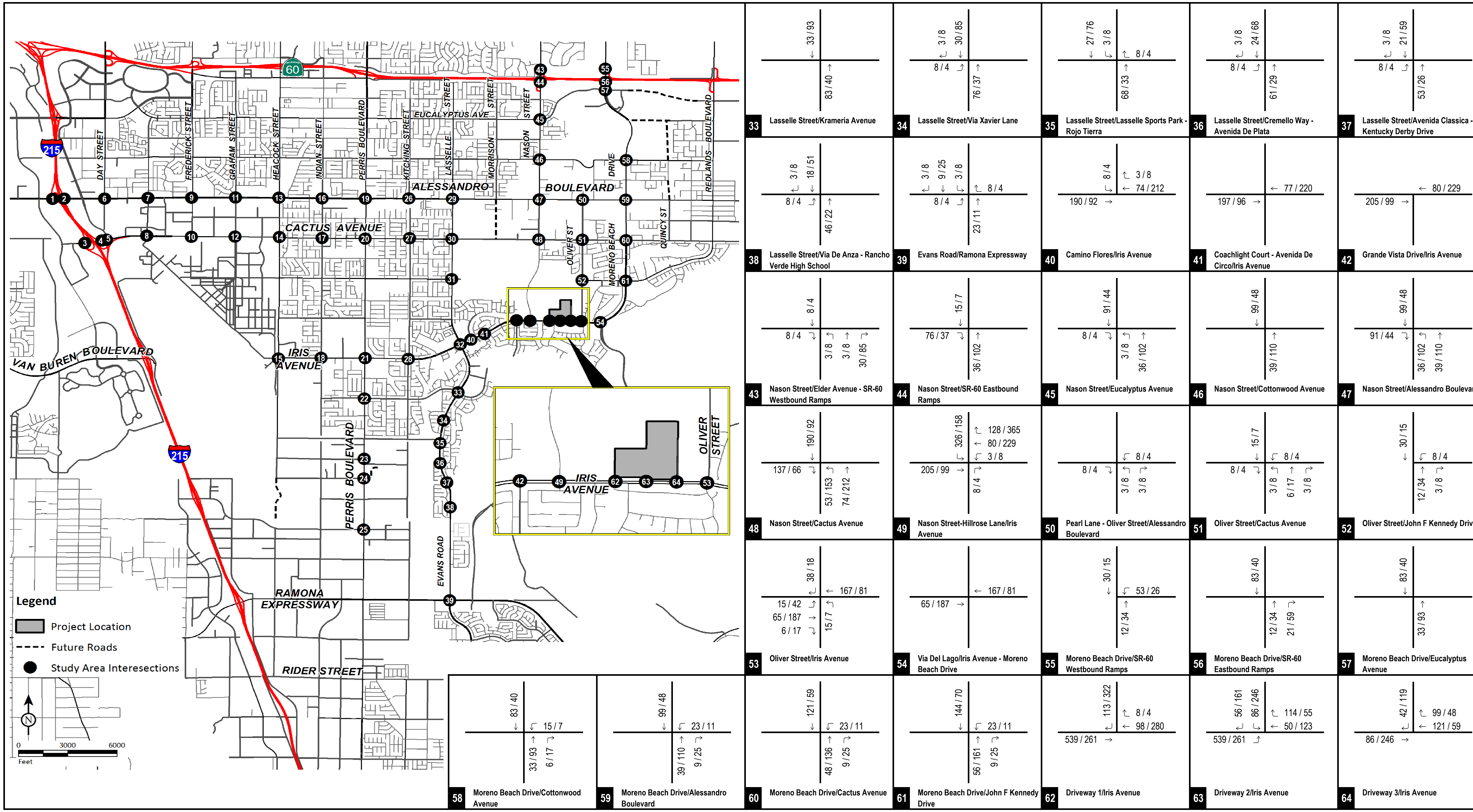


XXX/YYY
AM/PM Trips

SOURCE: LSA

DUDEK

**FIGURE 4.14-17B**

Phase III Project Trip Assignment (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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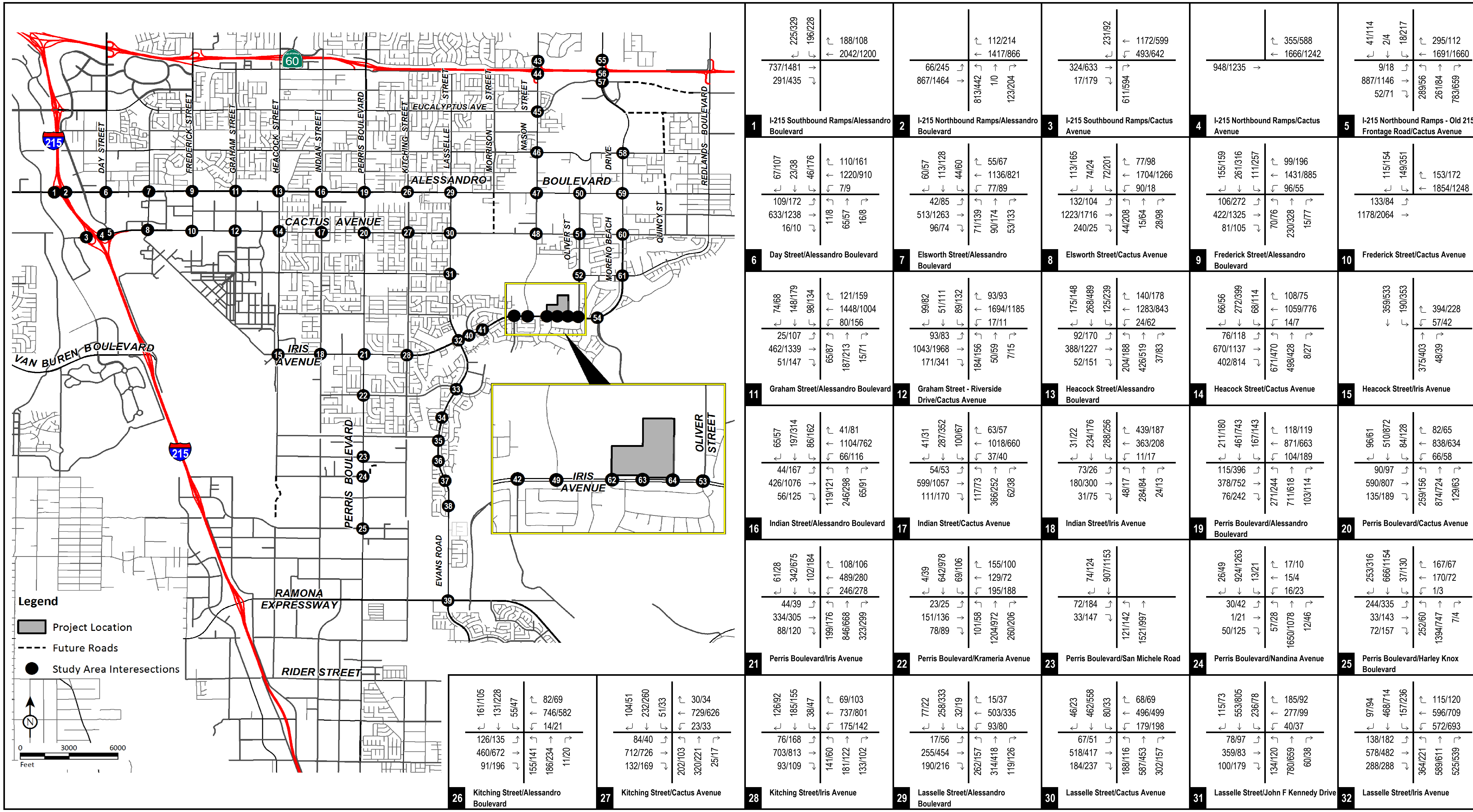


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-18A**

Existing with Project Peak Hour Traffic Volumes (Int. 1-32)



DUDEK

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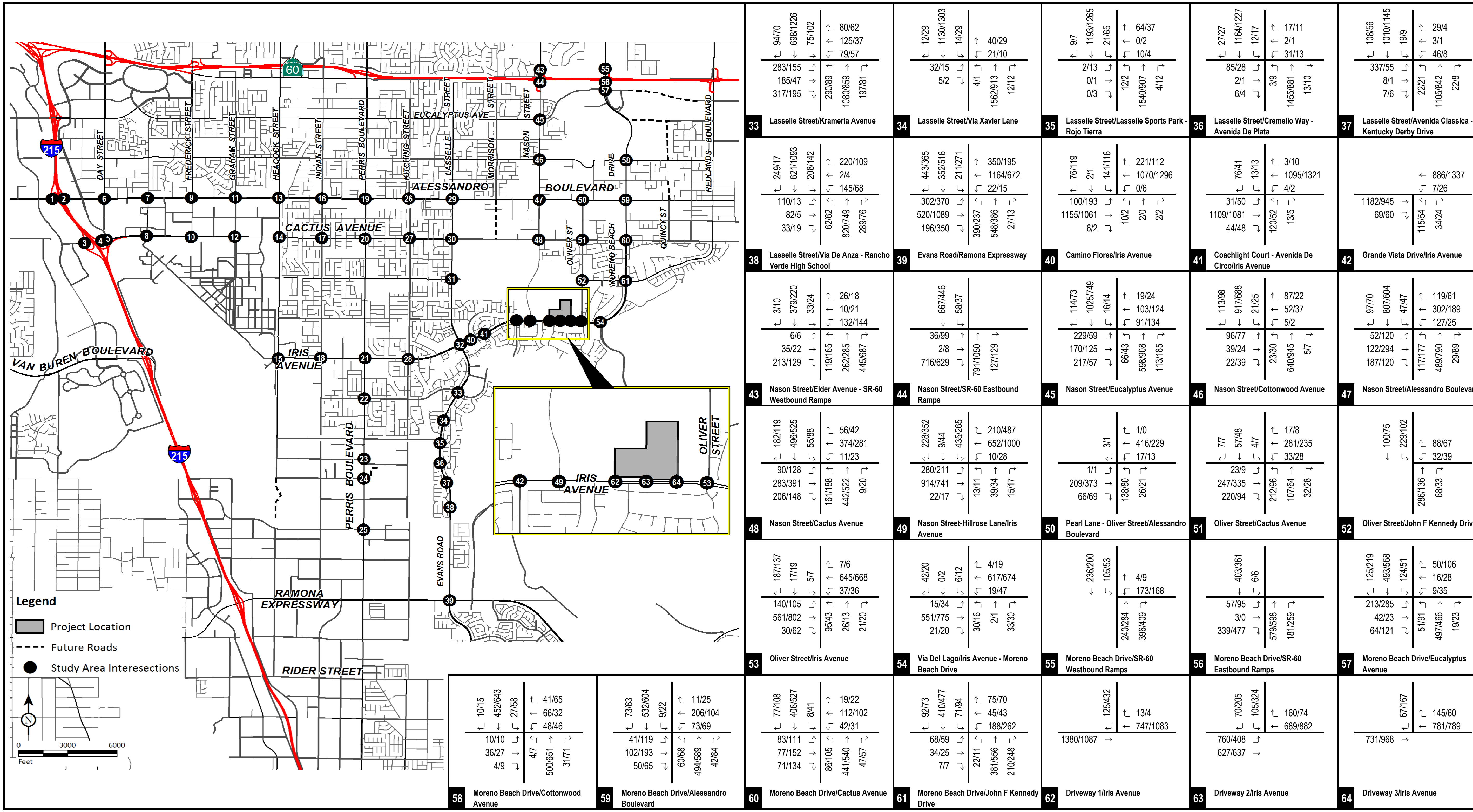


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-18B**

Existing with Project Peak Hour Traffic Volumes (Int. 33-64)

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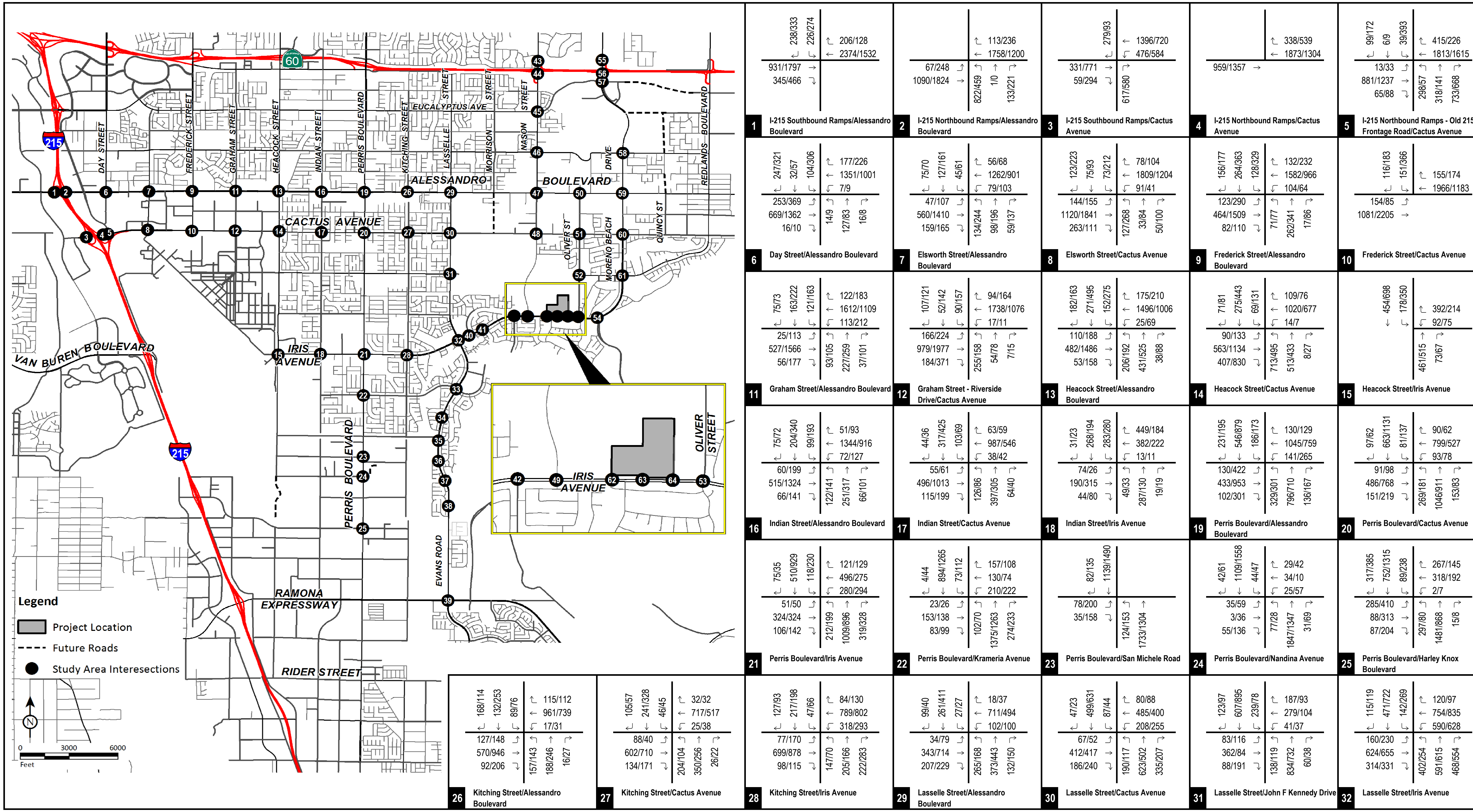


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-19A**

Phase I Project Completion Year (2023) with Project Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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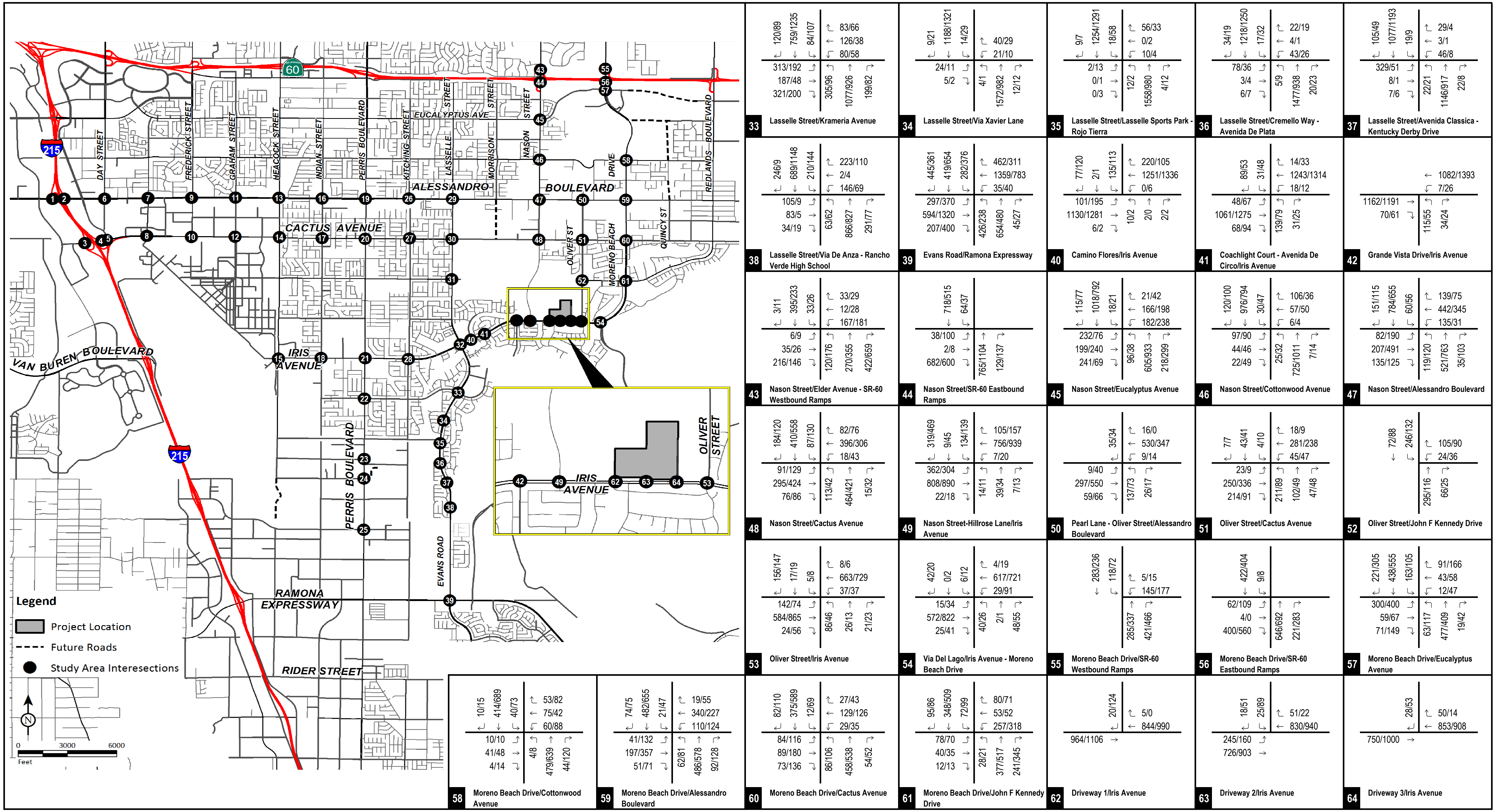


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-19B**

Phase I Project Completion Year (2023) with Project Peak Hour Traffic Volumes (Int. 33-64)

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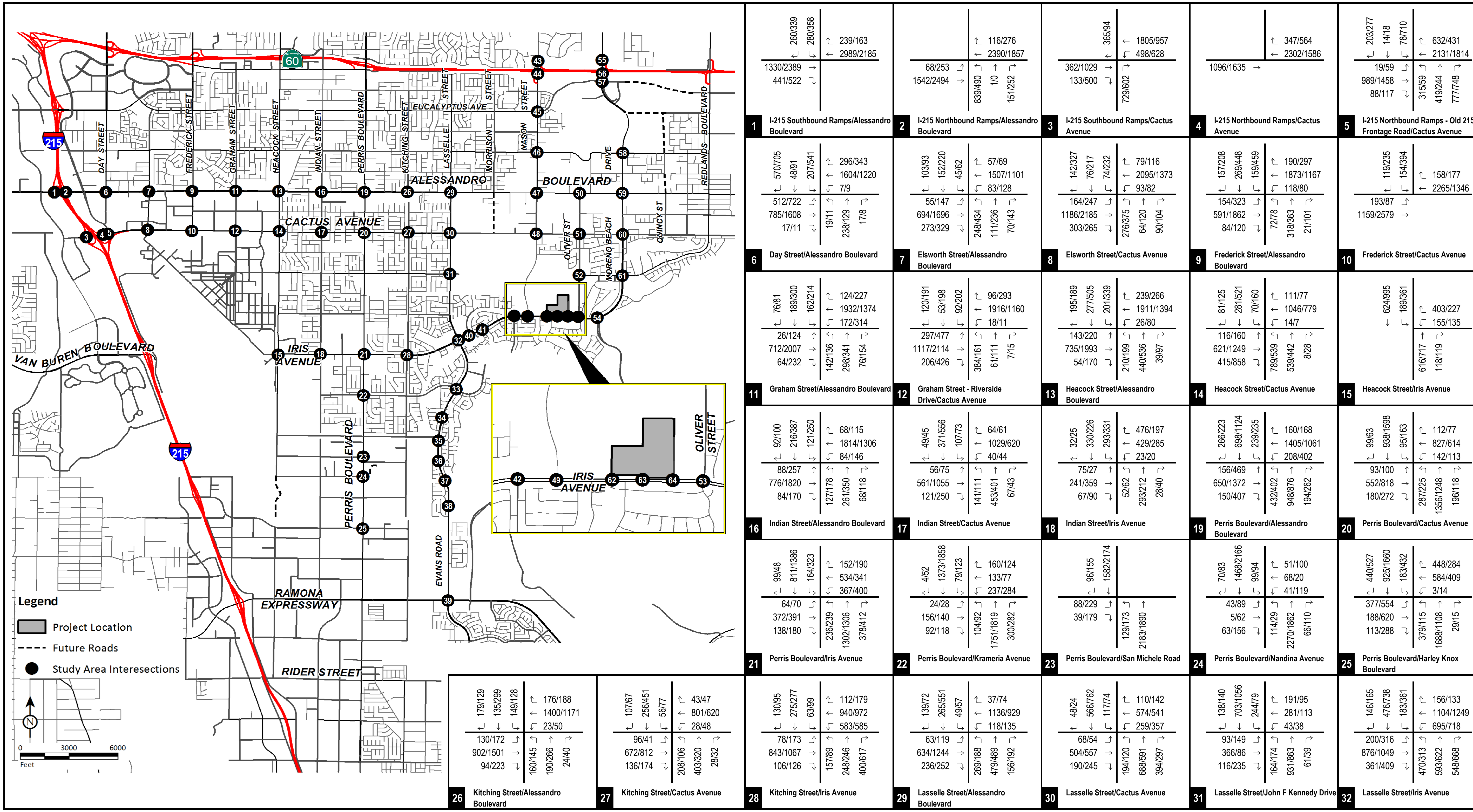


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

**FIGURE 4.14-20A**

Phase II Project Completion Year (2032) with Project Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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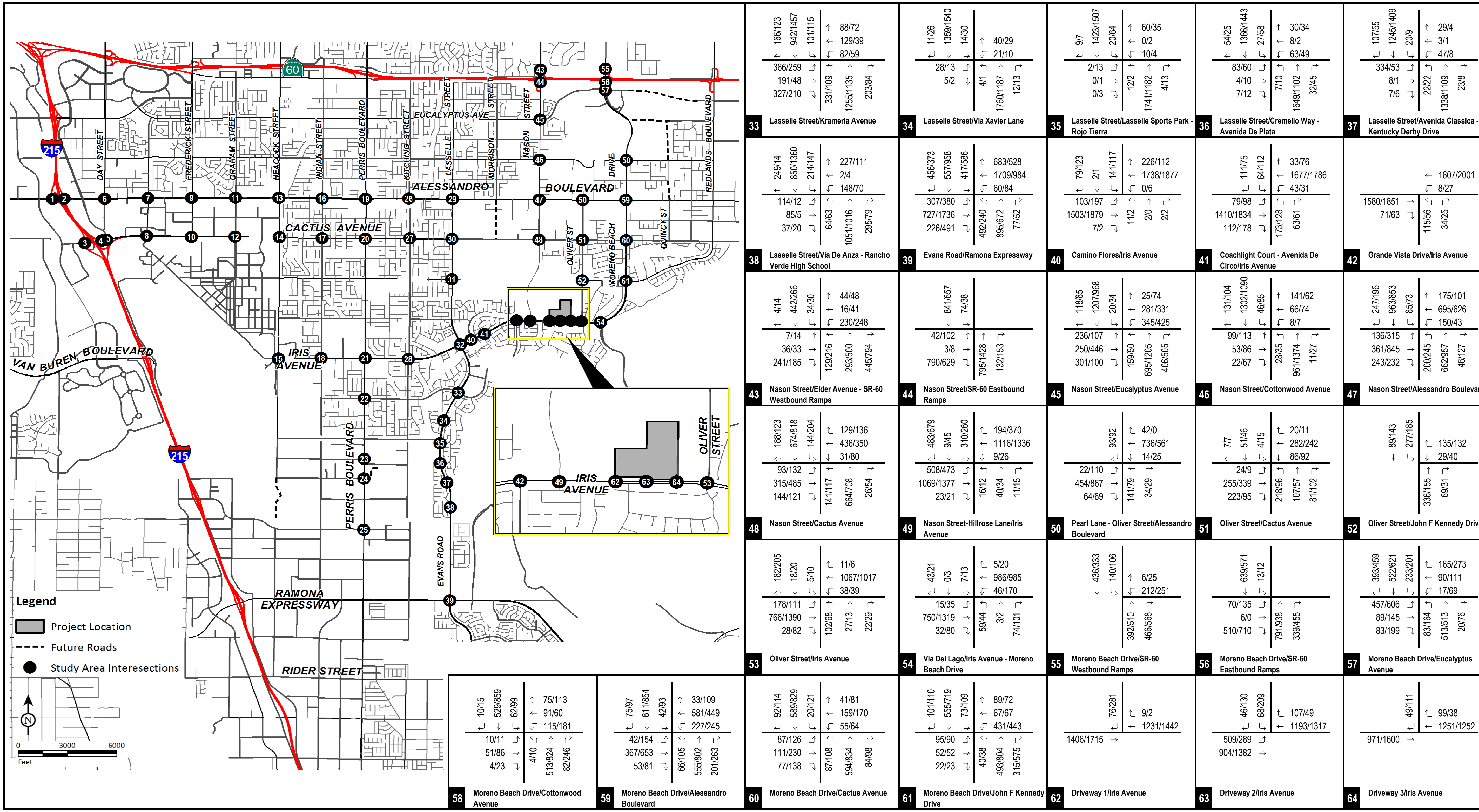



XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

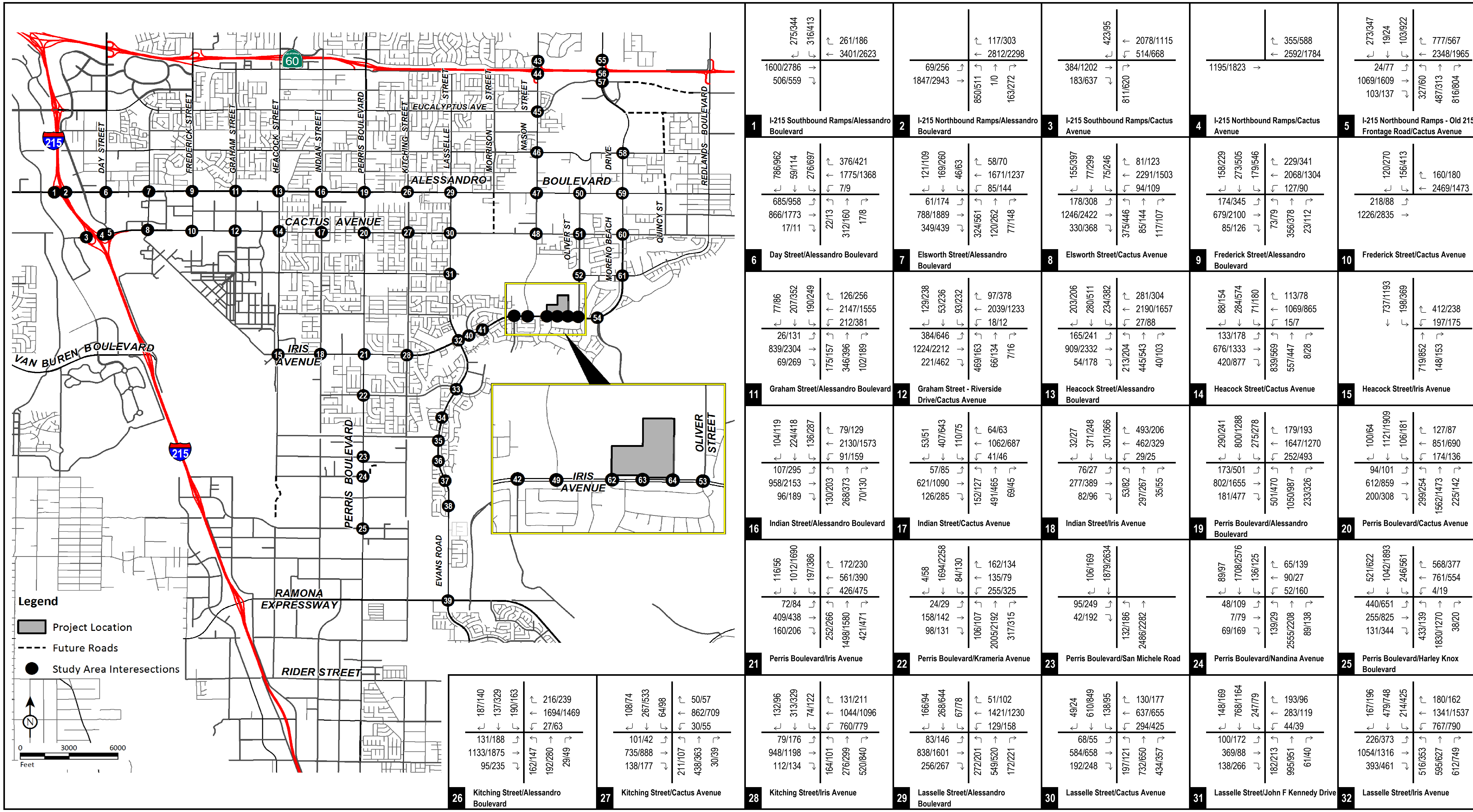
**FIGURE 4.14-20B**

Phase II Project Completion Year (2032) with Project Peak Hour Traffic Volumes (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

DUDEK

INTENTIONALLY LEFT BLANK




XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

FIGURE 4.14-21A

Phase III Project Completion Year (2038) with Project Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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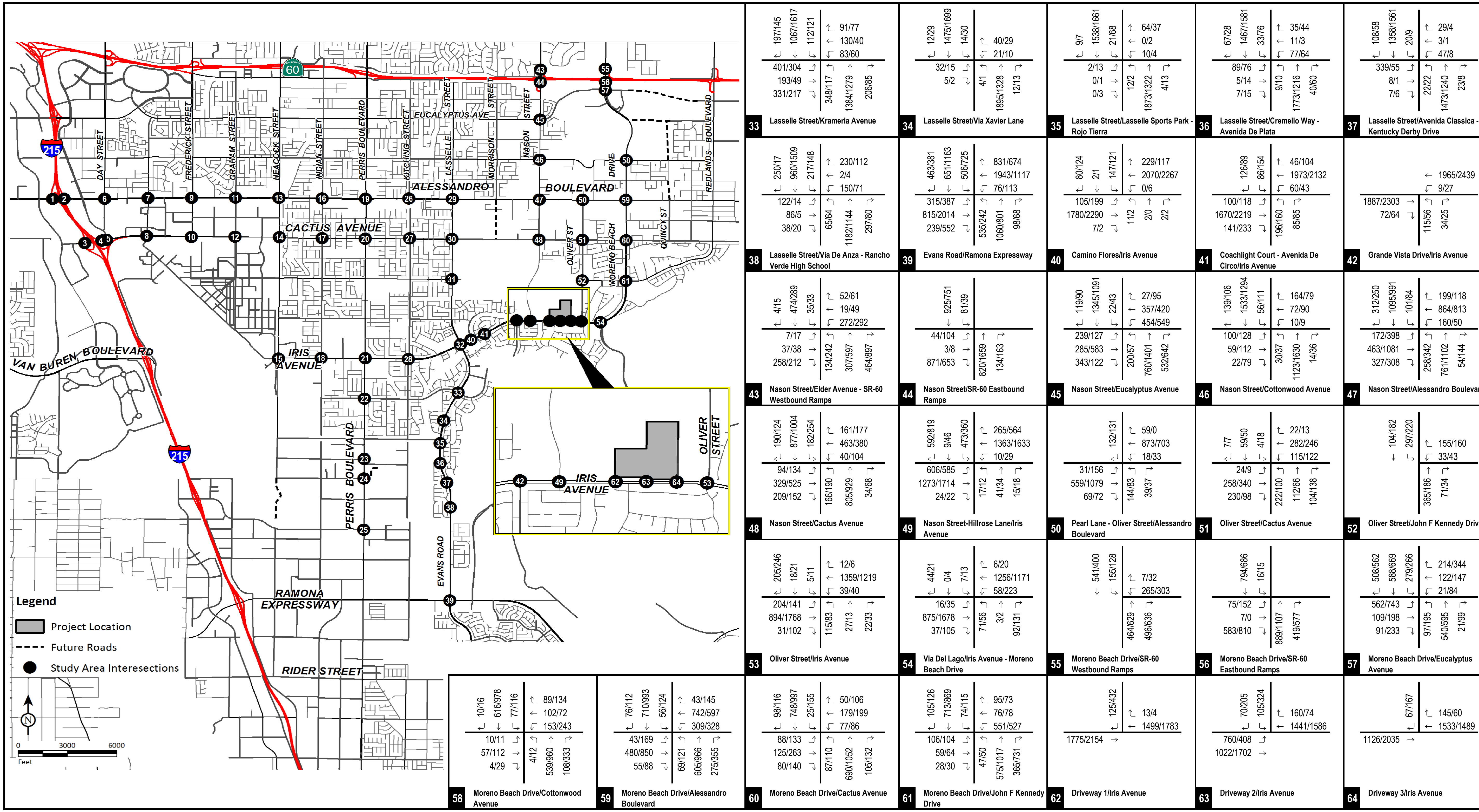


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-21B**

Phase III Project Completion Year (2038) with Project Peak Hour Traffic Volumes (Int. 33-64)

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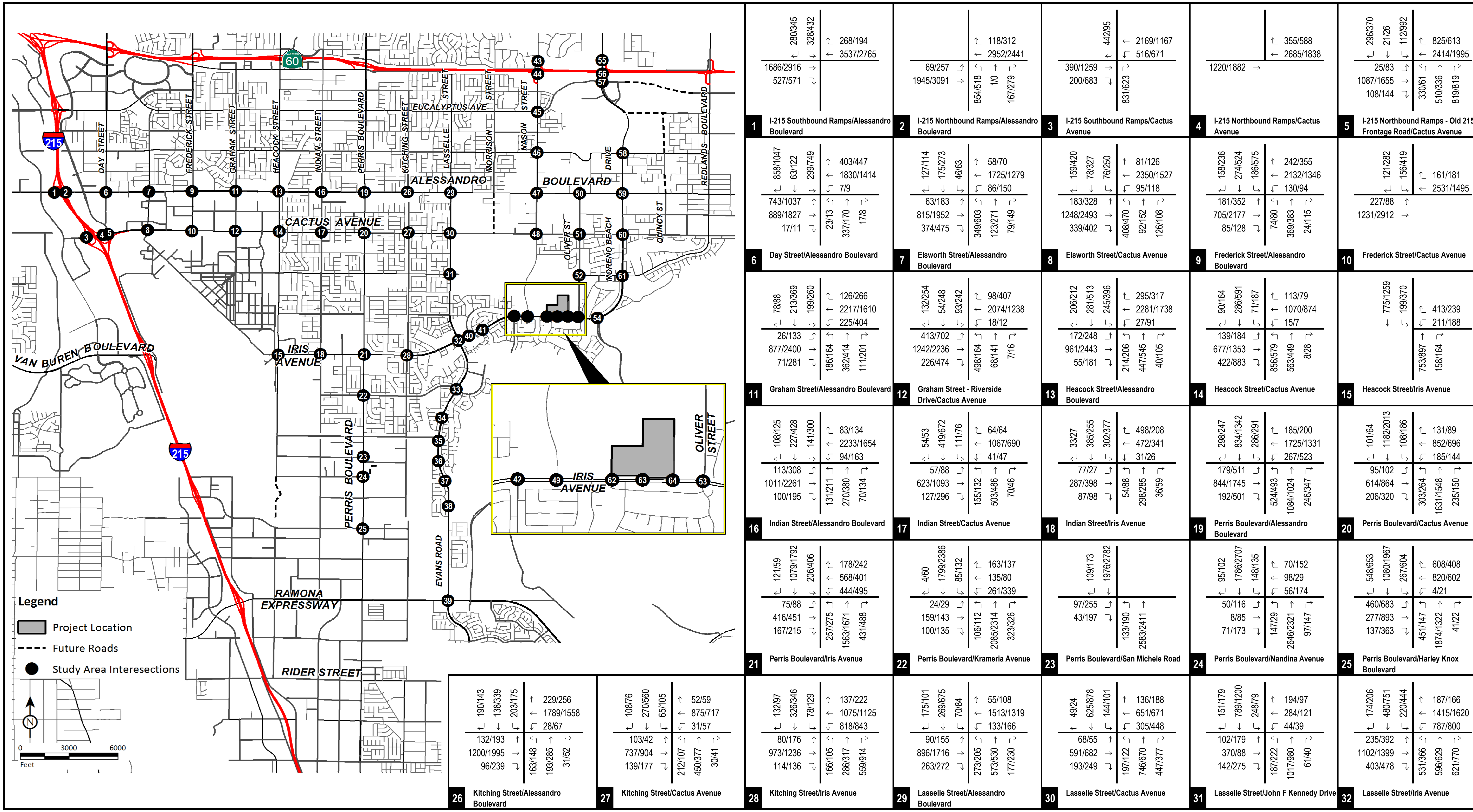


XXXX/YYYY
AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

FIGURE 4.14-22A

General Plan Buildout (2040) with Project Peak Hour Traffic Volumes (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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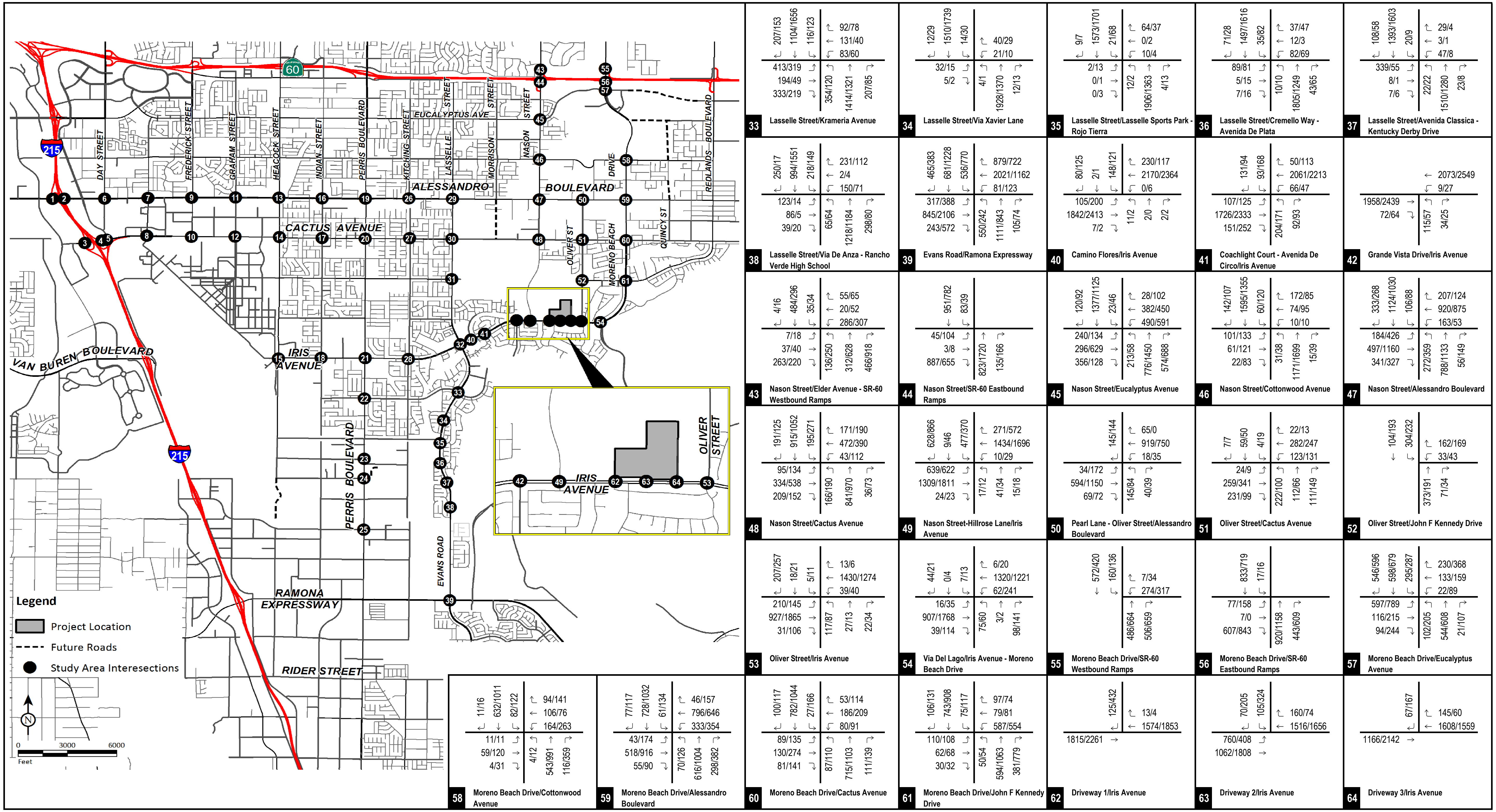


XXXX/YYYY

AM/PM Peak Hour PCE Volumes

SOURCE: LSA

DUDEK

**FIGURE 4.14-22B**

General Plan Buildout (2040) with Project Peak Hour Traffic Volumes (Int. 33-64)

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SOURCE: LSA

DUDEK

FIGURE 4.14-23

Conceptual Striping Plan with Proposed Improvements along Project Frontage

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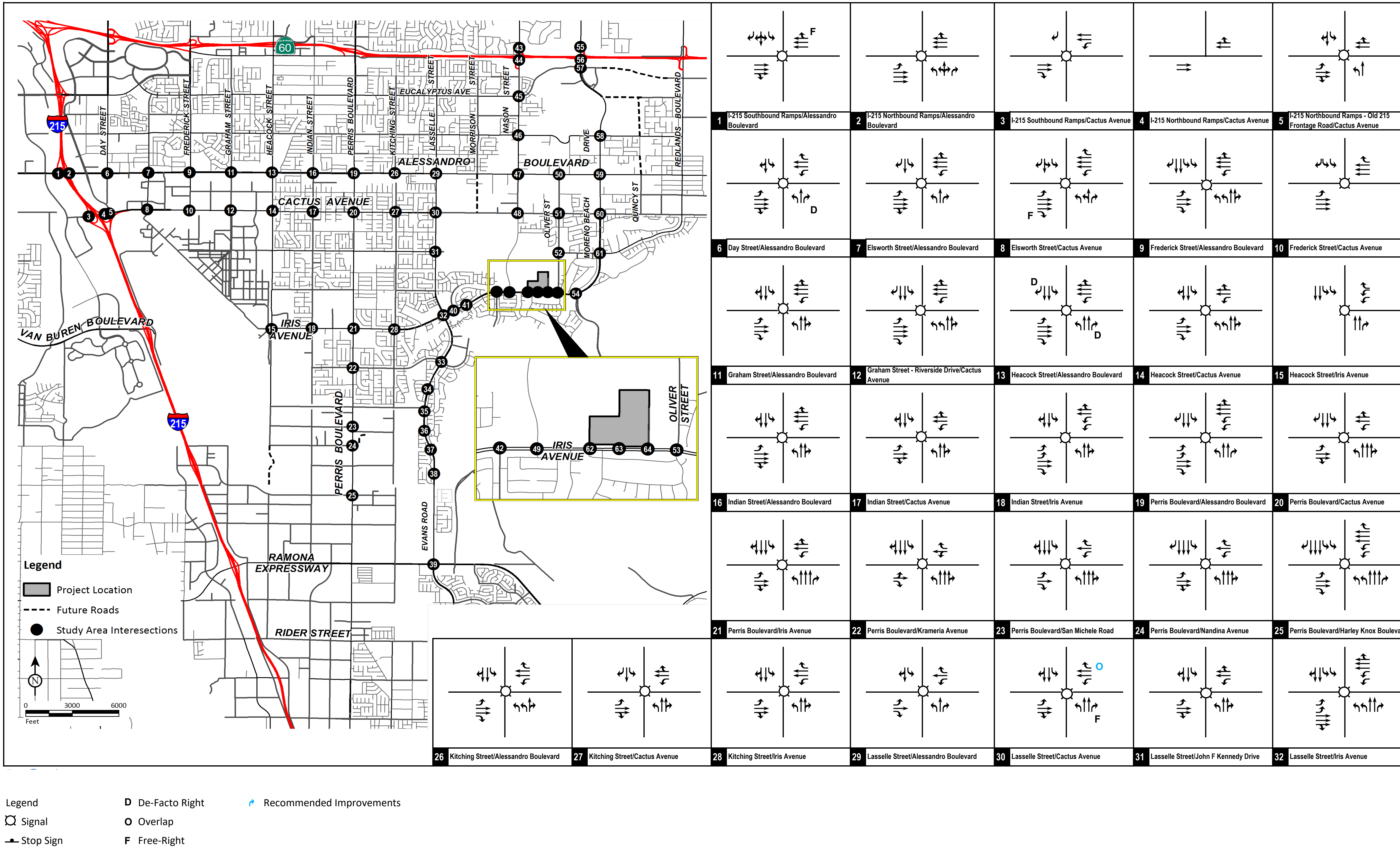


SOURCE: LSA

**FIGURE 4.14-24A**

Existing with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

DUDEK

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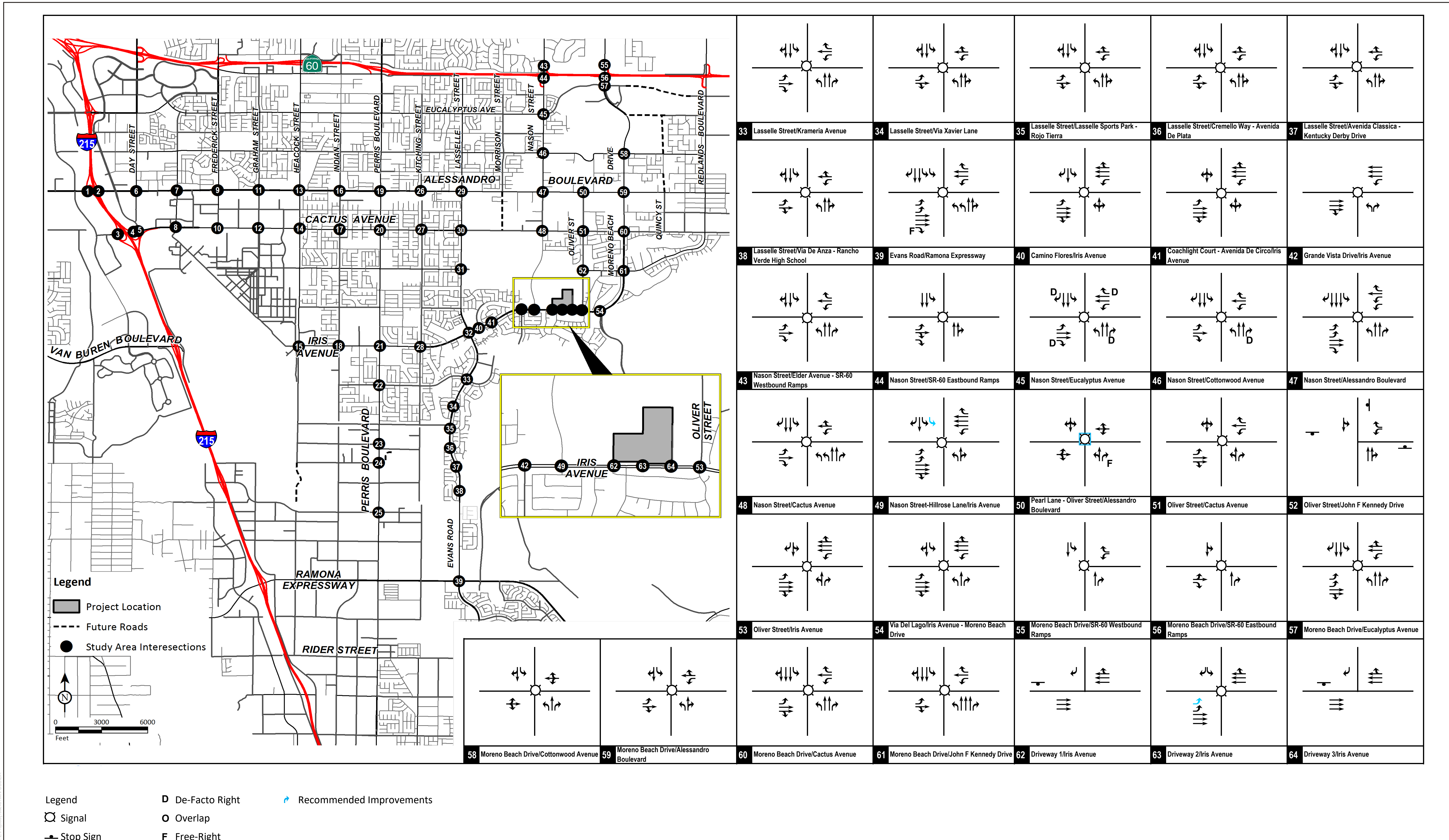


SOURCE: LSA

**FIGURE 4.14-24B**

Existing with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 33-64)

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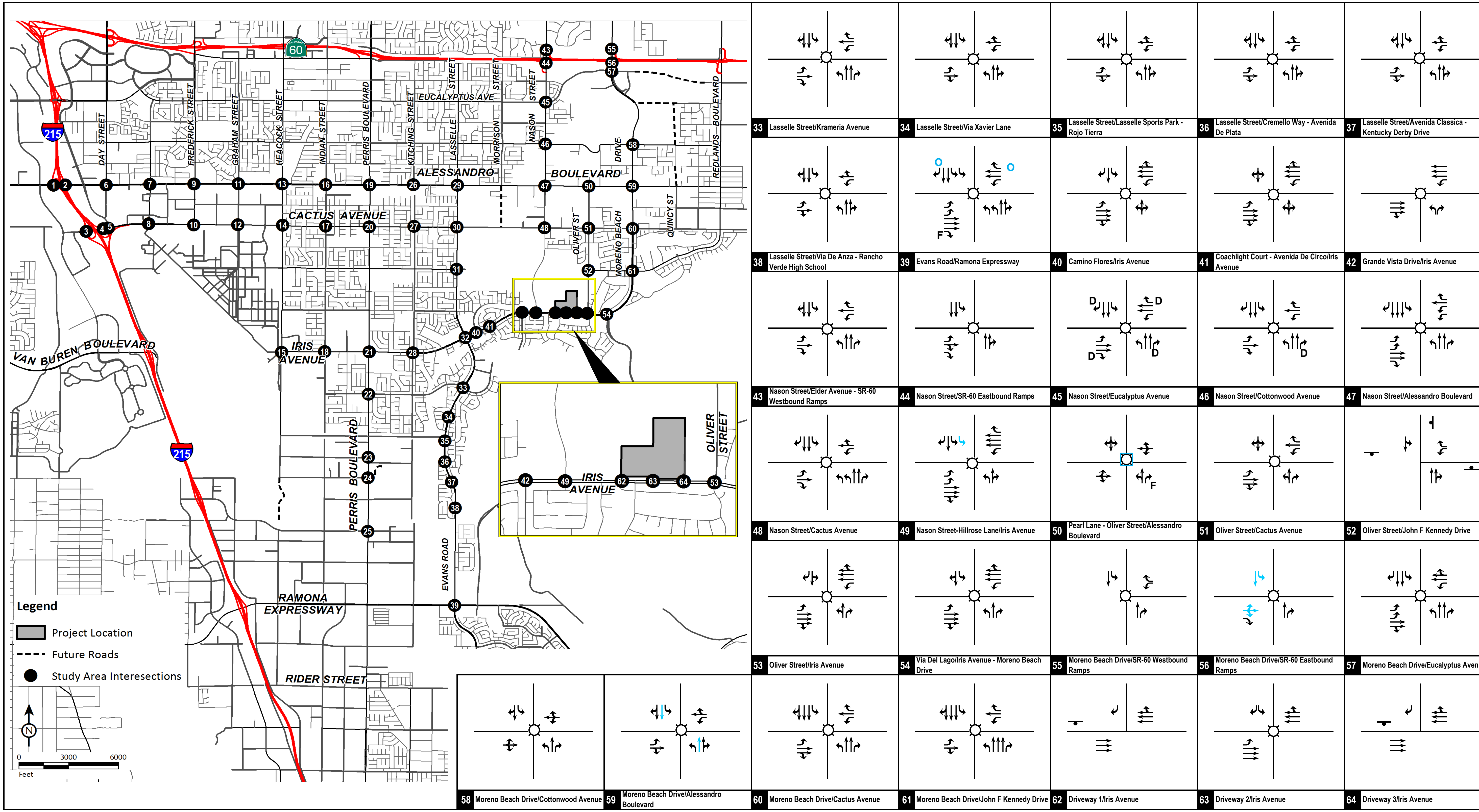


Legend
Signal
Stop Sign
D De-Facto Right
O Overlap
F Free-Right
Recommended Improvements

SOURCE: LSA

DUDEK

**FIGURE 4.14-25A**

Phase I Project Completion Year (2023) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 1-32)

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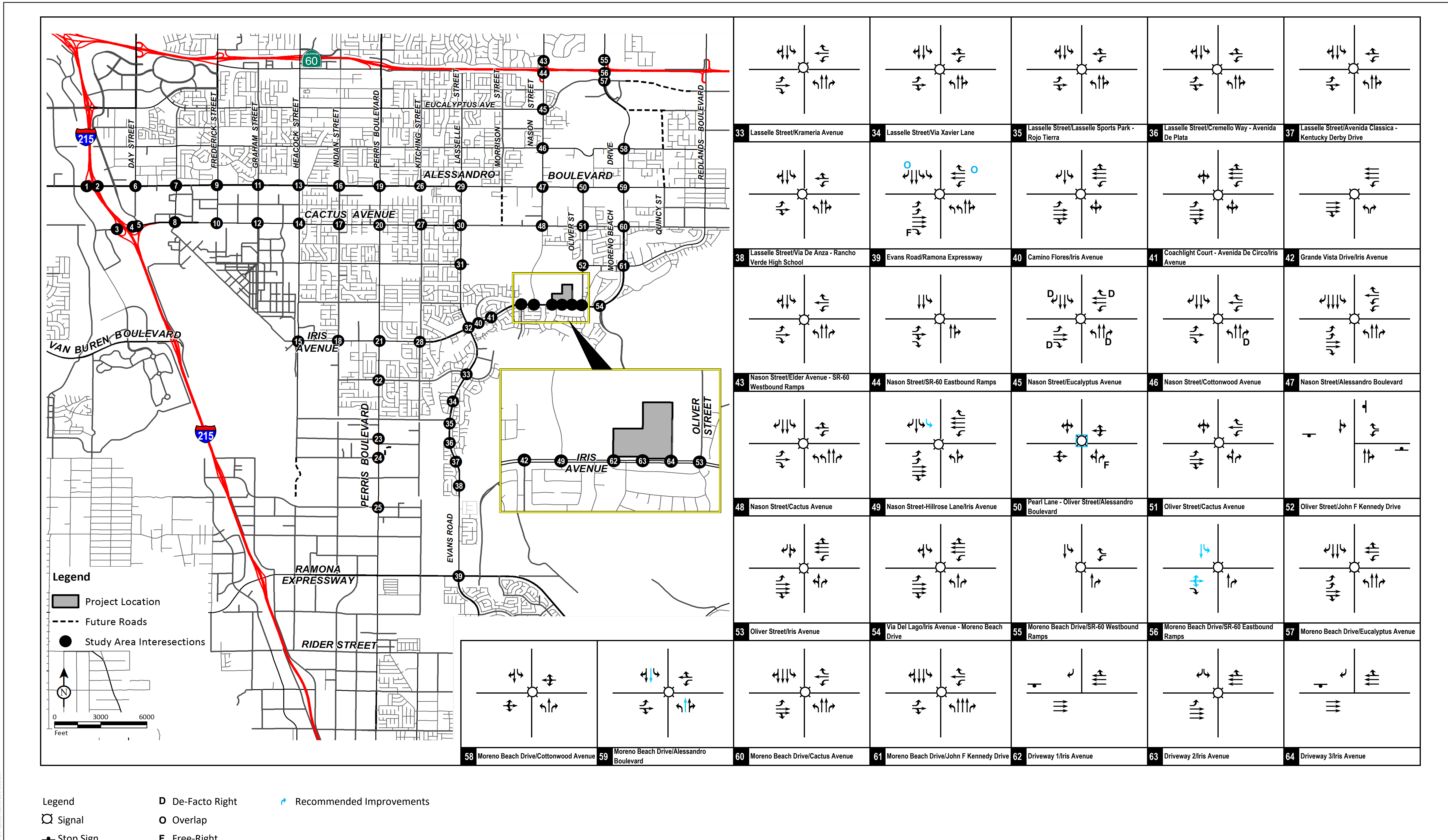


SOURCE: LSA

DUDEK

**FIGURE 4.14-25B**

Phase I Project Completion Year (2023) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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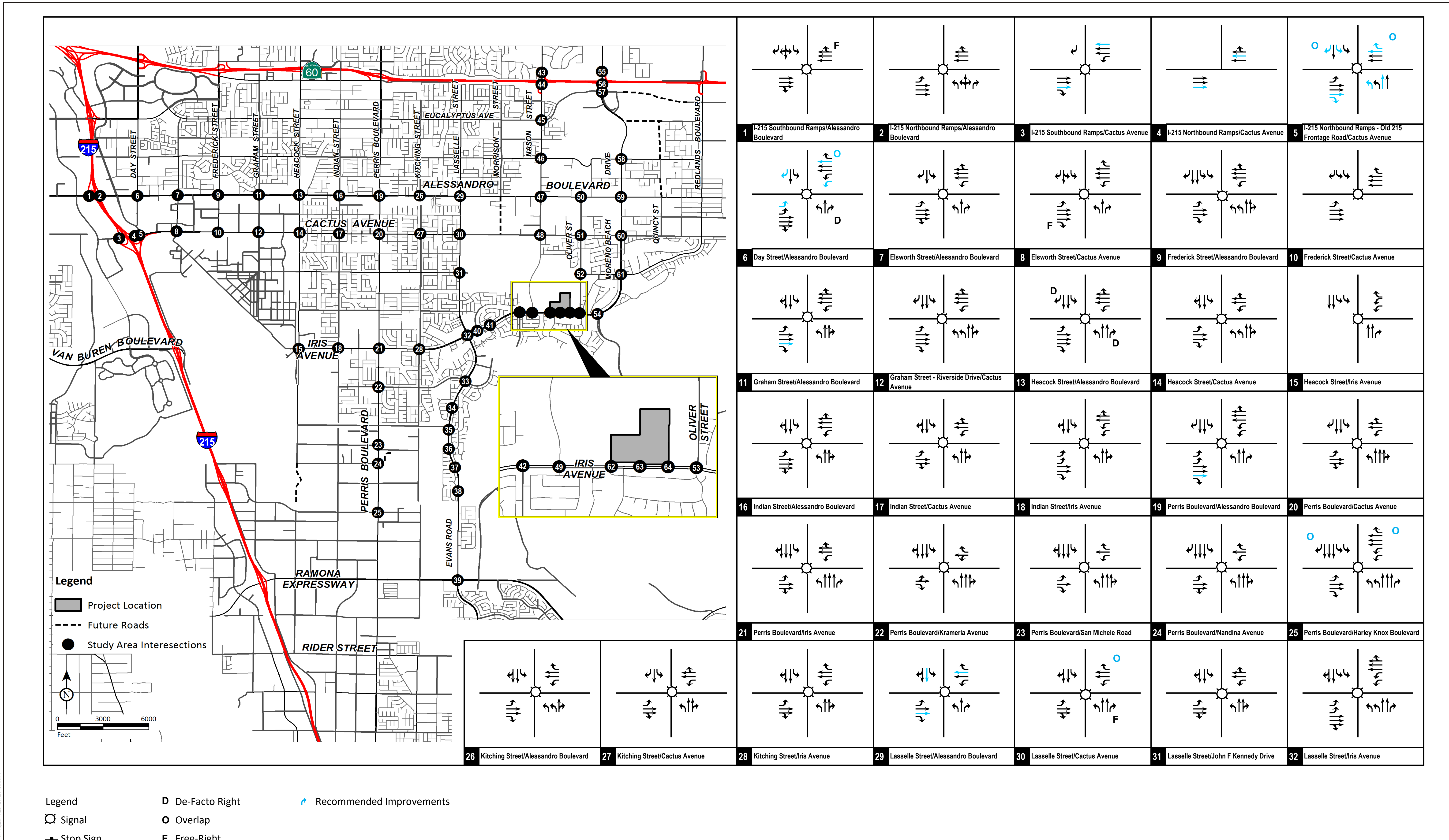


SOURCE: LSA

DUDEK

**FIGURE 4.14-26A**

Phase II Project Completion Year (2032) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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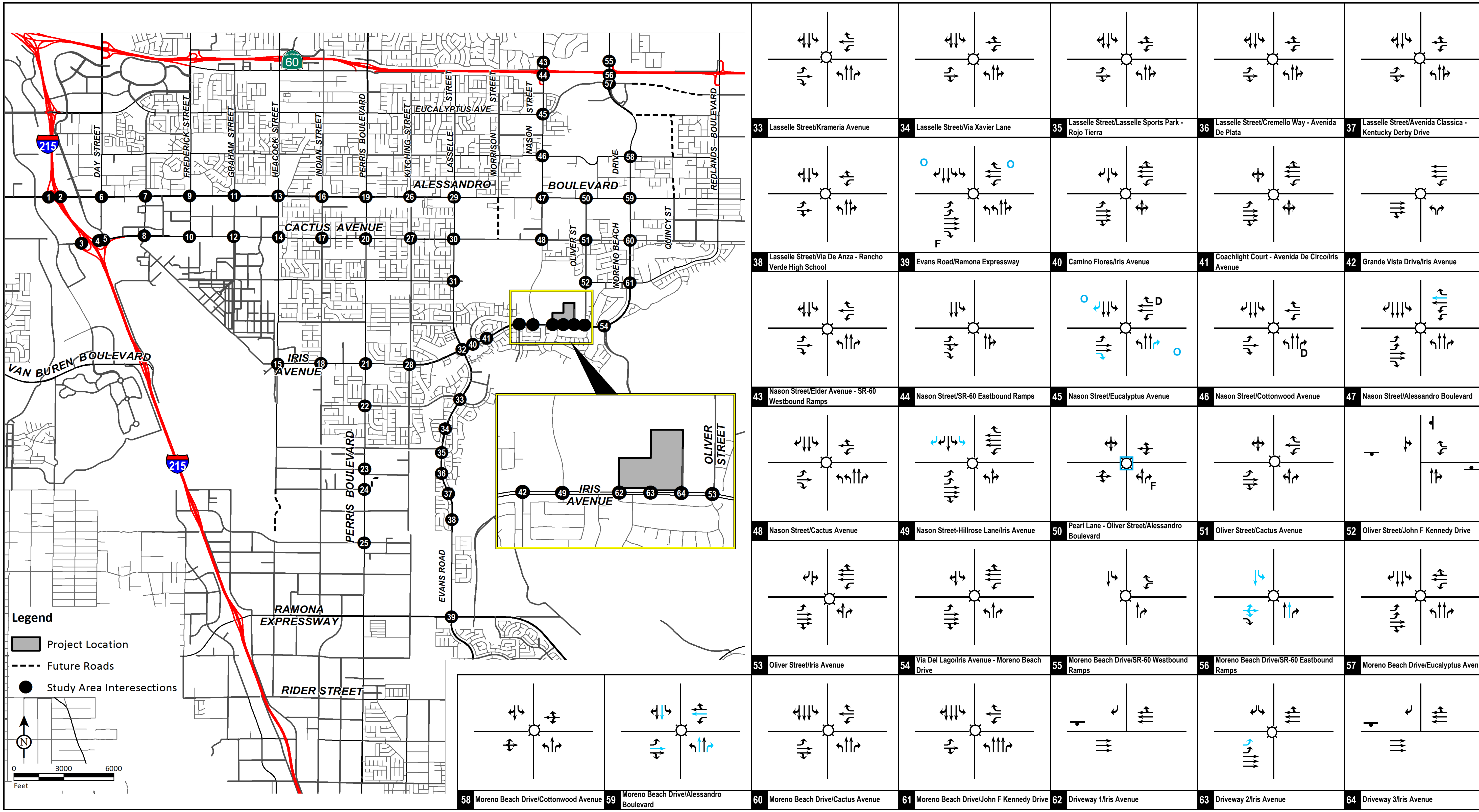


Legend
Signal
Stop Sign
D De-Facto Right
O Overlap
F Free-Right
Recommended Improvements

SOURCE: LSA

**FIGURE 4.14-26B**

Phase II Project Completion Year (2032) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 33-64)

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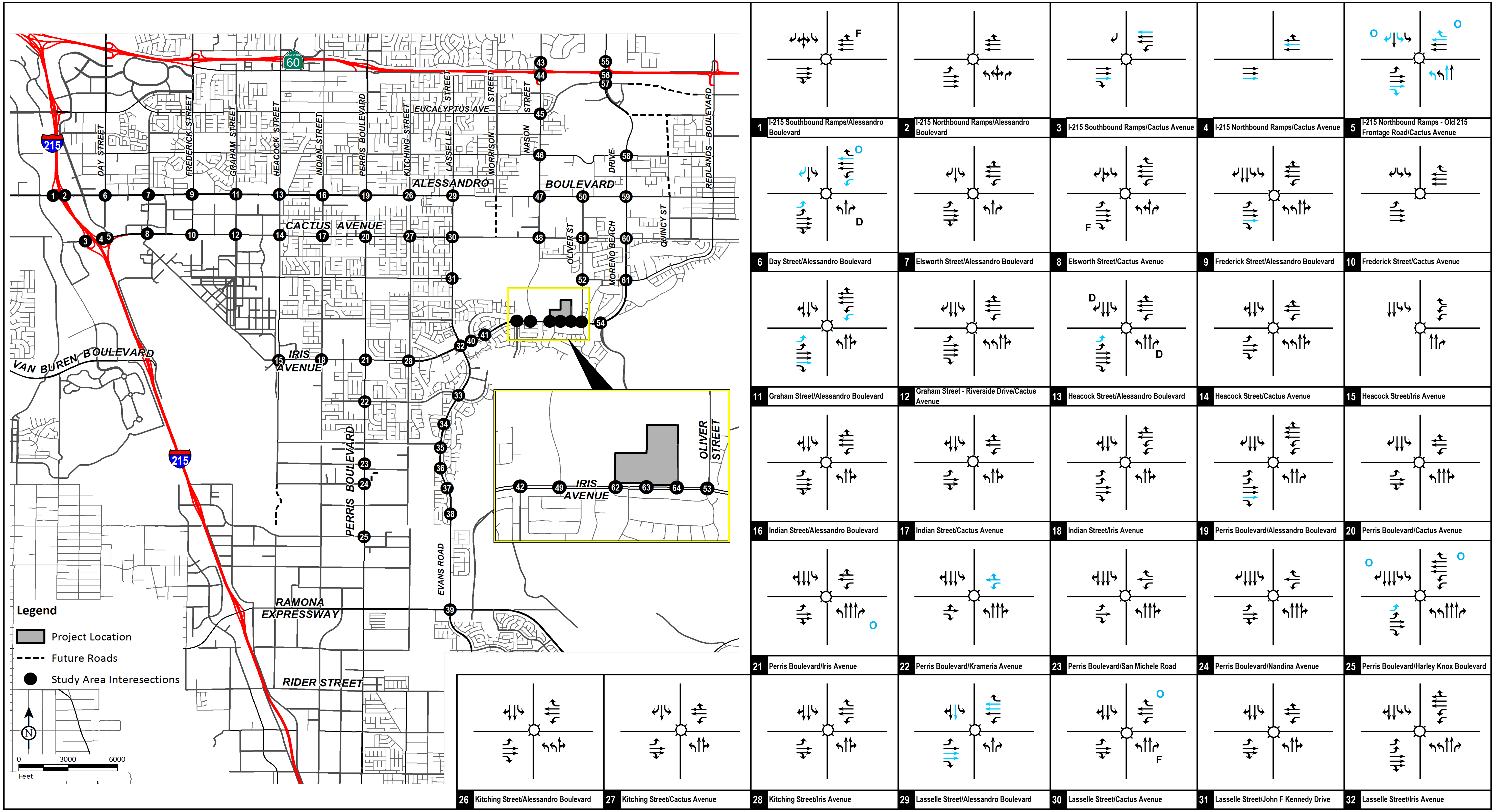


Legend
Signal
Stop Sign
D De-Facto Right
O Overlap
F Free-Right
Recommended Improvements

SOURCE: LSA

DUDEK

**FIGURE 4.14-27A**

Phase III Project Completion Year (2038) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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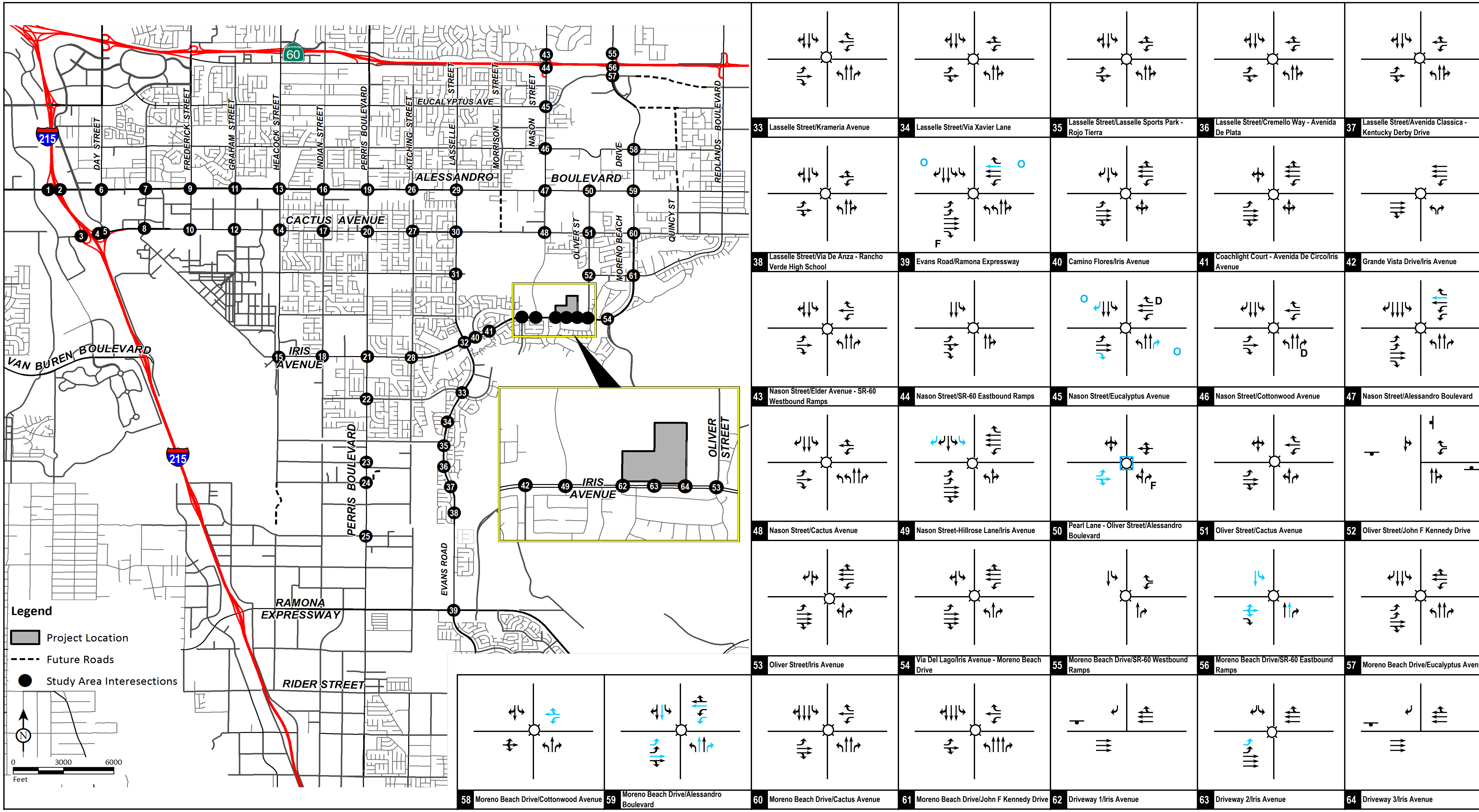


Legend
- Signal
- Stop Sign
- D De-Facto Right
- O Overlap
- F Free-Right
- Recommended Improvements

SOURCE: LSA

**FIGURE 4.14-27B**

Phase III Project Completion Year (2038) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 33-64)

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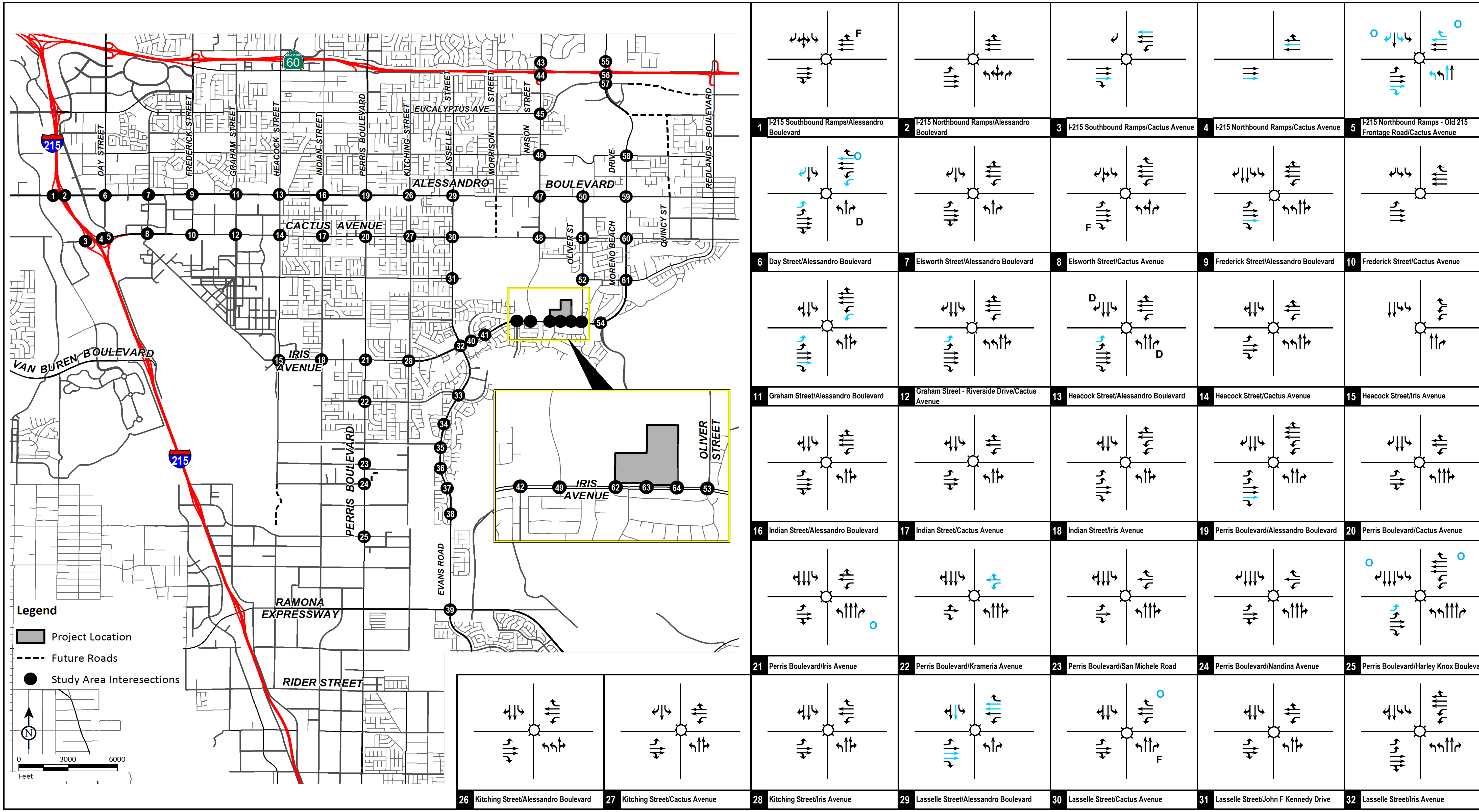


Legend
Signal
Stop Sign
D De-Facto Right
O Overlap
F Free-Right
Recommended Improvements

SOURCE: LSA

DUDEK

**FIGURE 4.14-28A**

General Plan Buildout (2040) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 1-32)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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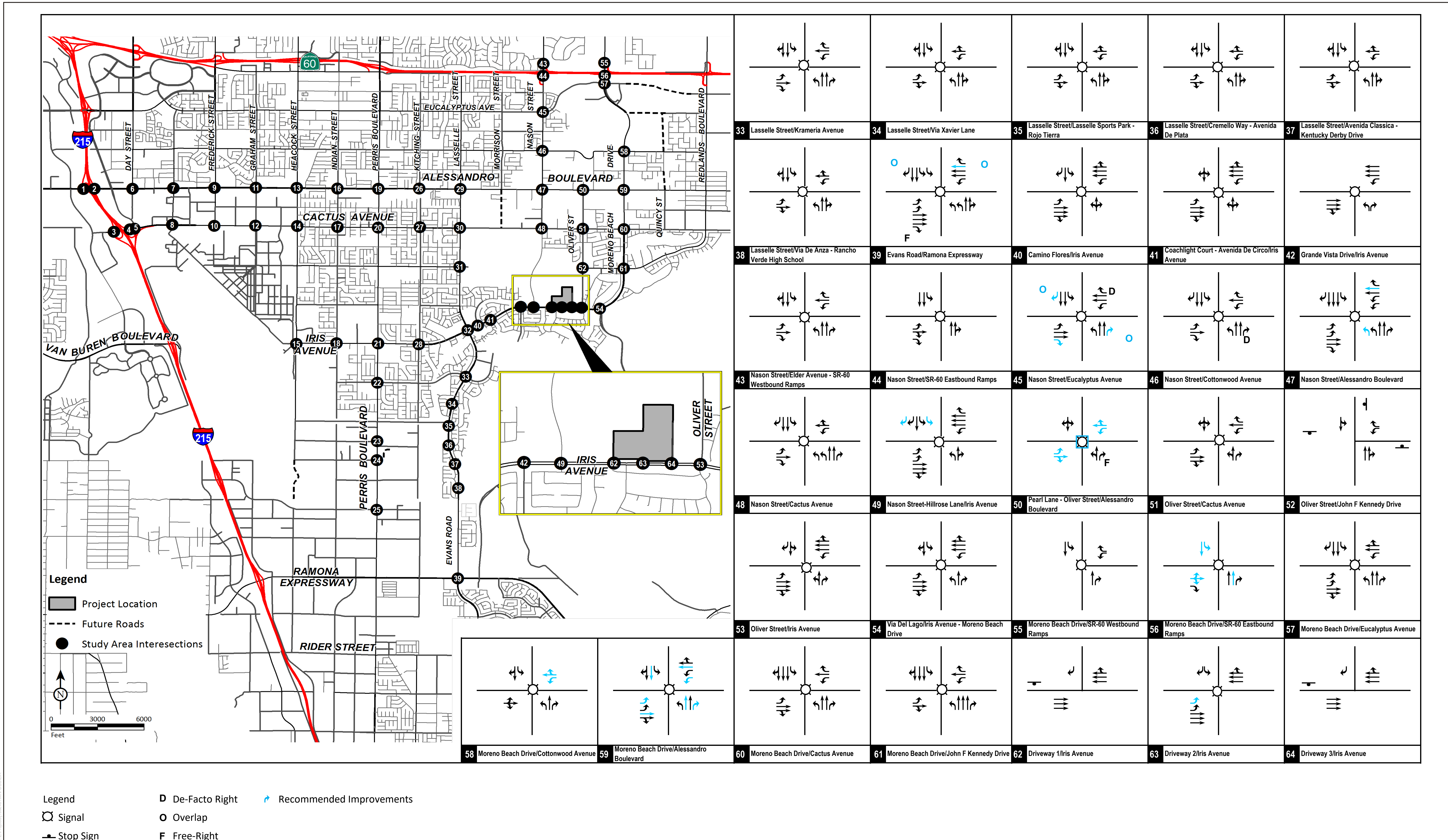


SOURCE: LSA

**FIGURE 4.14-28B**

General Plan Buildout (2040) with Project with Improvements Study Intersection Geometrics and Traffic Control (Int. 33-64)

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# 4.15 TRIBAL CULTURAL RESOURCES

This section identifies associated regulatory requirements, describes the existing cultural resources of the project site, evaluates potential impacts, and identifies mitigation measures for tribal cultural resources (TCRs) related to implementation of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). A TCR is defined as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe. In order to determine the presence of TCRs within a project site, similar methodologies are employed as when determining the presence of cultural resources, including conducting a California Historical Resources Information System (CHRIS) records search, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, a survey, and background research. As such, this section summarizes much of the same research that was previously discussed in Section 4.4, Cultural Resources. Additionally, this section summarizes the results of Assembly Bill (AB) 52 consultation between the lead agency and Native American tribes.

## 4.15.1 Relevant Plans, Policies, and Ordinances

**Federal**

While there is no federal nexus for this project, the subject property was evaluated in consideration of the National Register of Historic Places (NRHP) designation criteria and integrity requirements.

***National Register of Historic Places***

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, "How to Apply the National Register Criteria," as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity". NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

### State

#### *California Public Resources Code*

California Public Resources Code (PRC), Sections 5097–5097.6, provide that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. These sections prohibit the knowing destruction of objects of antiquity without a permit (express permission) on public lands, and provide for criminal sanctions. This section was amended in 1987 to require consultation with the NAHC whenever Native American graves are found. Violations that involve taking or possessing remains or artifacts are felonies.

PRC Section 5097.5, states that "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, rock art, or any other archaeological, paleontological or historic feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands."

#### *California Register of Historical Resources*

The California Office of Historic Preservation maintains the California Register of Historical Resources (CRHR). The CRHR is the authoritative guide to the state's significant historic and archaeological resources. The program provides for the identification, evaluation, registration, and protection of California's historic resources. The CRHR encourages public recognition and protection of resources of architectural, historic, archaeological, and cultural significance; identifies historic resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protection to resources under the California Environmental Quality Act (CEQA).

The CRHR also has established context types to be used when evaluating the eligibility of a property or resource for listing. The four criteria are as follows:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It represents the work of a master, or possesses high artistic values.
- It has yielded, or is likely to yield, information important to prehistory or history of the local area, California, or the nation.

Similar to the NRHP, eligibility for the CRHR requires an establishment of physical integrity, including the seven aspects previously described. The CRHR's list of special considerations is less stringent than the NRHP's, providing allowances for relocated buildings, structures, or objectives as reduced requirements for physical integrity.

***California Environmental Quality Act***

As described further, the following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of

> mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5(b)). If a site is listed or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is an "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA, which presumption may be rebutted by a preponderance of the evidence (PRC Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, 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

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (14 CCR 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required as provided in PRC Sections 21083.2(a)–(c).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2(g)).

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); 14 CCR 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains, and specifically to Native American remains, and specifies procedures to be used when remains are discovered. CEQA Guidelines Section 15064.5 also provides for compliance with PRC Section 5097.98 when Native American remains are discovered or likely to be discovered.

***California State Assembly Bill 52***

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that Tribal Cultural Resources ("TCRs") must be considered under CEQA and provided additional Native American consultation requirements for the lead agency. Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe. A TCR is either:

- On the CRHR or a local historic register; Eligible for the CRHR or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report (EIR).

Section 1 (a)(9) of AB 52 provides that "a substantial adverse change to a TCR has a significant effect on the environment." Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (PRC Section 21080.3.2(a)). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3(a)).

#### *California Health and Safety Code*

California Health and Safety Code protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code, Section 7050.5, requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify a Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

### Local

#### *City of Moreno Valley General Plan*

Objective 7.6 of the City of Moreno Valley (City) General Plan states that the city will try to "identify and preserve Moreno Valley's unique historical and archaeological resources for future generations" (City of Moreno Valley 2006). To achieve this objective, the city laid out five policies including:

**7.6.1** Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.

**7.6.2** Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities.

**7.6.3** Minimize damage to the integrity of historic structures when they are altered.

**7.6.4** Encourage restoration and adaptive reuse of historical buildings worthy of preservation.

**7.6.5** Encourage documentation of historic buildings when such buildings must be demolished.

***City of Moreno Environmental and Historic Preservation Board***

The Environmental and Historical Preservation Board of Moreno Valley considers matters pertaining to the preservation of the City's heritage and cultures, including the designation of landmarks and review of all restoration, rehabilitation, alteration and demolition projects in preservation areas. The Board educates the citizens about the City's heritage and matters of environmental concern to the community

## 4.15.2 Existing Conditions

### Environmental Setting

The proposed project lies in southern Moreno Valley, approximately 1.8 miles north of the Perris Reservoir and 0.20 miles south of the Moreno Valley Ranch Community Association Lake. The area to the north, west, and south of the proposed project site is largely residential. The study area is located at the foothills of a series of northeast-southwest trending hills within the Lake Perris State Recreation area. Elevations within the proposed project site are approximately 1560 feet above mean sea level. The City is bordered by the Badlands to the east, State Route 215 to the west, Lake Perris State Recreation area to the south, and Box Springs Mountain Reserve Park to the north (City of Moreno Valley 2006). The climate of the area is characterized by warm, dry summers and relatively mild winters. The proposed project site and surrounding vicinity supports chaparral and various scrub communities as well as non-native grassland and ornamental plants (City of Moreno Valley 2006). The proposed project site includes the entire 30 acre site proposed to be redeveloped which encompasses Assessor's Parcel Numbers 486-310-033 and 486-310-034.

### Cultural Setting

***Prehistoric Context***

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside and San Bernardino Counties, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC to AD 500), Late Prehistoric (AD 500 to 1769), and Ethnohistoric (post-AD 1769).

Paleoindian Period (pre-5500 BC)

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12 in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,920 to 9,590 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large-stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site—and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (see also Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos's interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key Early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominantly of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of ground stone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date from a shell produced a date of 6630 BC. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game, and resembles coastal San Dieguito assemblages and spatial patterning.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but it was also not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the Early Holocene (Basgall and Hall 1990).

<u>Archaic Period (8000 BC to AD 500)</u>

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among others), is relatively easy to define with assemblages that consist primarily of processing tools such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002;

Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow were adopted around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities, and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric Period (AD 500 to 1769)

The period of time following the Archaic and before the Ethnohistoric (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before AD 1400. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone–handstone versus mortar–pestle technology is tenuous due to incomplete information on archaeological assemblages.

Ethnohistoric Period (post-AD 1769)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Geiger and Meighan 1976; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the pre-contact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005: 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about Native American life before the arrival of Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja (lower) California Sur to the southern Oregon border at the time of Spanish contact (Johnson and Lorenz 2006). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007: 80). A large amount of variation within the language of a group represents a greater time depth than a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. He has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (Golla 2007: 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007). These groups include the Gabrielino, Cahuilla, and Serrano. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan circa 2600 BC to AD 1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC to AD 1000 (Laylander 2014).

The proposed project is located within the area associated with the Gabrielino, a name derived from the association with the San Gabriel Mission, who are also known as the Tongva. According to the archaeological record, they were not the first inhabitants of the Los Angeles basin but displaced indigenous Hokan speakers around 500 BC. The Gabrielino shared boundaries with the Chumash to the west, the Tataviam to the north, Serrano to the northeast, the Cahuilla to the east, and the Luiseño and Juaneño to the southwest (Bean and Smith 1978; Kroeber 1925).

As with many Native American groups, it is difficult to make population estimates for the Gabrielino, although one estimate gives village population ranges between 50 and 200 people for possibly more than 50 or 100 villages (Bean and Smith 1978). The arrival of the Spanish decimated Native American peoples through disease and changed living conditions, leaving few Gabrielinos by the time ethnographic studies were conducted (Bean and Smith 1978). This makes it difficult to make definitive statements about their culture. The tribes of the region were organized into patrilineal clans or bands centered on a chief, each of which had its own territorial land or range where food and other resources were collected at different locations throughout the year. Place-names were assigned to each territory, often reflecting common animals, plants, physical landmarks, or cosmological elements that were understood as being related to that location. Marriages were sometimes arranged by parents or guardians, and chiefs occasionally had multiple wives (Bean and Smith 1978).

Shamanism was a major component in tribal life. Shamans, who derived their power through dreams or visions, served individual villages. They cured illness using a variety of tools and plants. Some locations and natural resources were of cultural significance. Springs and other water-related features were thought to be associated with spirits. These resources, often a component of origin stories, had power that came with a variety of risks and properties to those who became affected by them. Mourning ceremonies were similar throughout the region, generally involving and burning of the deceased's possessions, dancing, and ritual wailing, followed by the burning of the deceased's remaining items a year after death (Bean and Smith 1978).

### *Historic Period Overview*

Post-contact history for the State of California is generally divided into three periods: the Spanish Period (1769 to 1821), Mexican Period (1821 to 1848), and American Period (1848 to present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769 to 1821)

Spanish explorers made sailing expeditions along the coast of Southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríguez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic Period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego—a fortified military outpost—as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring Southern California, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Mission San Luis Rey de Francia at the Luiseño village of Temecula was included in those 21 missions established by the Spanish and the Franciscan Order. In 1819, the Mission San Luis Rey de Francia granted land to Leandro Serrano, the highest locally appointed official (or "mayordomo") of San Antonio de Pala Asistencia, for the Mission of San Luis Rey for Rancho Temescal. In 1828, Serrano was elected as the mayordomo of Mission San Juan Capistrano. From around 1819 until his death in 1852, Serrano built and occupied three separate adobe residences in what is now Riverside County. Serrano's family resided in the third adobe residence until around 1898 (Elderbee 1918).

Mexican Period (1821 to 1848)

It was in the early 1820s that Spain's grip on its expansive subjugated territories began to unravel, which greatly affected the political and national identity of the Southern California territory. Mexico established its independence from Spain in 1821, secured California as a Mexican territory in 1822, and became a federal republic in 1824. After the Mexican independence and the 1833 confiscation of former Mission lands, Juan B. Alvarado became governor of the territory. In 1836, Governor Alvarado began the process of subdividing what is now Riverside and San Bernardino Counties into large ranchos: Rancho Jurupa in 1838; El Rincon in 1839; Rancho San Jacinto Viejo in 1842; Rancho San Jacinto y San Gorgonio in 1843; Ranchos La Laguna, Pauba, and Temecula in 1844; Ranchos Little Temecula and Potreros de San Juan Capistrano in 1845; and Ranchos San Jacinto Sobrante, La Sierra (Sepulveda), La Sierra (Yorba), Santa Rosa, and San Jacinto Nuevo y Potrero in 1846 (Fitch 1993). While these ranchos were established in documentation, the cultural and commercial developments of the ranchos were punctuated and generally slow with little oversight or assistance from the government in Mexico. On May 22, 1840, Governor Alvarado granted the "11-league" Rancho Jurupa to Don Juan Bandini (Stonehouse 1965).

In 1843, La Placita de los Trujillos, or "La Placita" (also known as "San Salvador" and regionally nicknamed "Spanish Town"), was established in modern-day Riverside County and has been since recognized as one of the first non-native settlements in the San Bernardino Valley (Brown and Boyd 1922). A group of genízaro (Native American slave or servant) colonists from Abiquiú, New Mexico, arrived in the area in the early 1840s (Nostrand 1996). Don Juan Bandini donated a portion of Rancho Jurupa to them on the condition that they would assist in protecting his livestock from Native American raids. Lorenzo Trujillo led 10 of the colonist families to 2,000 acres on the "Bandini Donation" on the southeast bank of the Santa Ana River and formed the village of La Placita. In 1852, the same year that Leandro Serrano died, the Los Angeles County Board of Supervisors established a town called "San Salvador" encompassing a number of small, growing communities in the area initially known as "La Placita." San Salvador was mainly a community of agriculture and animal husbandry until around the late 1860s with the occurrence of "the Great Flood of 1862" and a second flood later in 1886, causing the local population to abandon the immediate area. The area remained largely a ghost town until the recent modern introduction of waste transferal and recycling facilities to the area (Elderbee 1918).

American Period (1848 to Present)

In the late 1840s and early 1850s—after the arrival of a growing European-descended American and other foreign populations, and the conclusion of the Mexican–American war with the Treaty of Guadalupe Hidalgo—issues concerning land rights immediately ensued with results that often favored newly introduced American interests (Starr 2007; Hale 1888). The California Gold Rush was in full steam by the late 1840s and early 1850s, resulting in a heavy influx of new immigrants from not only across the United States, but also from foreign countries (many from Asia and Latin America). These diverse immigrants changed the dynamics of the local populations. Growth in the region's population was inevitable with the major shifts in the popular social perceptions of potential economic opportunities that California had to offer during the 1850s. The local population growth was further facilitated by the creation of the Temescal Station of the Butterfield Overland Mail Route in 1857, and the organization of the first Temescal School District (Elderbee 1918).

### *Local History of the Project Site*

Riverside County

For a brief time, tin mining was a source of local development in Riverside County. Tin mining had been initiated in the 1850s by Able Stearns, but proved largely unsuccessful; it remained stagnant for years due to litigation disputes that were not settled until 1888 by the U.S. Supreme Court. After the dispute settlement, miners converged on the region, swelling the immediate population while the tin mine enjoyed a 2-year run of operations, closing down for good in 1892 (Elderbee 1918). The growth of the area increased steadily as the economic focus shifted from ranching and animal husbandry to a more fruit orchard/agricultural lifestyle greatly influenced by the region's Mediterranean climate and the introduction of large numbers of honeybees and hives (Elderbee 1918).

In March 1870, John Wesley North issued a circular entitled "A Colony for California" to promote the idea of founding an agriculture-based colony in California. Prospective investors met in Chicago on May 18 of that same year, and the interest expressed led to the formation of the Southern California Colony Association. This success prompted North to head to Los Angeles, where he arrived on May 26, 1870, initially intending to settle the colony there. However, the association directors decided on Rancho Jurupa along the banks of the Santa Ana River, purchasing it from the California Silk Association in August 1870. North then took up residence on site for the purpose of surveying and developing the colony. He envisioned small-scale farmers growing oranges, lemons, figs, walnuts, olives, almonds, grapes, sweet potatoes, sorghum, and sugar beets (Stonehouse 1965). The community was originally called "Yurupa," but the name was changed to "Riverside" in December of 1870 (Stonehouse 1965; Patterson 1971; Wlodarski 1993). The citrus industry increased dramatically during the 1880s, with promotion of the area shifting to focus on the potential wealth to be had through agriculture (California Department of Transportation 2007).

Of particular note is the introduction of the navel orange to the budding California citrus industry. Two navel orange trees from Brazil's Bahia Province were gifted to Eliza Tibbets, one of the founders of Riverside County, by William Saunders, horticulturalist at the U. S. Department of Agriculture. Mrs. Tibbets and her husband, Luther C. Tibbets, brought the trees to the Riverside colony and planted them in 1873. These parent trees produced sweet-tasting seedless fruits, sparking the interest of local farmers and becoming so popular that the fruits from these trees eventually became known as "Riverside Navel." The fruit's popularity helped establish Riverside as a national leader in cultivating oranges. One of the two original parent Washington navel orange trees is still extant, growing near the intersection of Arlington and Magnolia Avenues. It is "mother to millions of navel orange trees the world over;" the tree is designated as California Historical Landmark No. 20 (Hurt 2014).

North originally intended that the colony would build, own, and operate its own irrigation system, but the desert mesa location made such a venture prohibitively expensive. Thus, the Southern California Company Association joined forces with the Silk Center Association to develop the irrigation project. After completing a canal survey, work began in October 1870 to construct a canal 12 feet wide, narrowing to 8 feet at the base, and 3 feet deep (Stonehouse 1965). With continued growth of the area, a second canal was constructed, and by 1878, the Riverside Canal Company was formed; it was superseded in 1886, due to litigation, by the Riverside Water Company (Bailey 1961). Further growth in the region led to construction of a third major canal, called the “Gage Canal,” built between 1882 and 1888 (Guinn 1907; Wlodarski 1993). Development of such a stable water supply bolstered the agricultural industry, helping facilitate the booming citrus industry in Riverside County. By 1895, around 20,000 acres of navel orange groves had been planted, and the citrus industry became the primary economic influence for the region well into the turn of the twentieth century (Guinn 1907). This rapid growth of such a vibrant citrus industry led to Riverside County becoming the wealthiest city per capita in the United States by 1895 (March Field Air Museum 2011). The growing citrus industry was in turn stimulated by another major factor that would strongly influence the cultural development of Riverside County: the advent of the railroad, in particular, the transcontinental railroad.

In the later-nineteenth century, the railroad industry began to connect vast swaths of the country with a rail-line transportation system that had previously required extremely slow travel and often with dangerous travel conditions. The initial rail line developed in the region was the California Southern railroad, around 1882, which then connected with the Santa Fe transcontinental line in 1885. In 1887, C.W. Smith and Fred Ferris of the California Southern Railroad, and J.A. Green, incorporated the Valley Railway to serve the region. The San Jacinto Valley Railroad was constructed the next year, in 1888; it traveled southeast from Perris, then east across the valley, gradually curving northeast to its terminus at San Jacinto (George and Hamilton 2009). With the combination of rail transportation, the packing industry, and cold storage facilities, Riverside County was able to yield over 0.5 million boxes of oranges by 1890 (Wlodarski 1993).

The towns of Winchester and Hemet were quickly established along the San Jacinto Valley Railroad. The railroad connected the eastern part of the valley to Perris, where it met the California Southern Railroad. This ensured transportation of valley products to markets in Los Angeles and San Diego. The Hemet–San Jacinto Growers’ Association Cannery was located adjacent to the railroad; the canned fruit was loaded directly onto railcars for shipment outside of the valley (George and Hamilton 2009). In addition, many of the ranches that were located along the rail line had their own sidings, where the farm products were directly loaded onto the trains. The railroad also provided passenger service to Los Angeles; however, the construction of modern highways in the 1950s lessened the importance of the railroad. Later, the route was taken over by the Atchison, Topeka, and Santa Fe Railroad, and then the Burlington Northern Santa Fe.

During this time in Southern California history, counties were established, and the area known today as Riverside County was established from portions of Los Angeles County and San Diego Counties. In 1853, the eastern part of Los Angeles County was used to create San Bernardino County. Between 1891 and 1893, several proposals and legislative attempts were put forth to form new counties in Southern California. These proposals included one for a Pomona County and one for a San Jacinto County; however, no proposals were adopted to create Riverside County until the California Board of Commissioners filed the final canvass of the votes and the measure was signed by Governor Henry H. Markham on March 11, 1893.

City of Moreno Valley

The City is an amalgamation of three communities: Moreno, Edgemont, and Sunnymead. After four incorporation attempts, the City was officially incorporated on December 3, 1984; though the area was settled long before that. Moreno, which got its name from the Spanish word for brown, was originally planned as an agricultural community, specifically focused on citrus. Frank Brown, a civil engineer and water company owner, built a water pipeline from Bear Valley to the area in 1891, bringing much needed irrigation to the fledgling agricultural town. After the pipeline was finished, major roads were laid out, and the City began to take shape. March Air Field, originally known as Alessandro Aviation Field, was built in 1918 and represents the first major development in the area. The construction of the airfield brought many more people to the community. After the incorporation of the City in 1984, it experienced its first major population increase, growing from 48,000 at the time of incorporation to over 100,000 in 1990 (Ghori 2014). Today, Moreno Valley has a population of just over 200,000 people (Data USA 2018).

## 4.15.3 Cultural Resources Records Search

On November 27, 2018, Dudek completed a search of CHRIS at the Eastern Information Center (EIC) for the proposed project site and surrounding 1-mile (1,609 m) radius. This search included mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Landmarks. Additional consulted sources included the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the California Historical Resources Inventory. No archaeological or historic resources, including Native American resources or TCRs were identified in the proposed project site as a result of the CHRIS records search (see Section 4.4, Cultural Resources).

## 4.15.4 Native American Coordination

### Sacred Lands File Search and Tribal Outreach

Dudek contacted the NAHC on November 26, 2018 and requested a review of the SLF. The NAHC replied via email on December 5, 2018 stating that the SLF search did not identify the presence of Native American cultural resources in the proposed project site; though they stated that this did not preclude the existence of cultural resources within the proposed project site. The NAHC suggested contacting six Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the proposed project site. Two responses were received as a result of the tribal outreach letters and is summarized in Table 4.15-1.

**Table 4.15-1**
**Native American Heritage Commission-Listed Native American Contacts**

| Native American Tribes | Response Received |
|---|---|
| Thomas Rodriguez, Chairperson<br>La Jolla Band of Luiseño Indians | No response received. |
| Robert H. Smith, Chairperson<br>Pala Band of Mission Indians | No response received. |
| Mark Macarro, Chairman<br>Pechanga Band of Luiseño Indians | No response received. |
| Bo Mazzetti, Chairperson<br>Rincon Band of Luiseño Indians (RBLI) | Response received on January 15, 2019 via email from Deneen Peltron, Administrative Assistant for the RBLI. Within the email was an attached letter response from Destiny Colocho, Tribal Historic Preservation Officer for the RBLI. In the letter, Ms. Colocho stated that the proposed project site is within the territory of the Luiseño people and within the RBLI's area of historic interest. However, Ms. Colocho stated that the RBLI did not have any knowledge of any tribal cultural resources within the proposed project site. |
| Carmen Mojado, Tribal Council<br>San Luis Rey Band of Mission Indians | No response received. |
| Joseph Ontiveros, Cultural Resource Department<br>Soboba Band of Luiseño Indians (SBLI) | Response received on January 8, 2019 via email from Jessica Valdez, Cultural Resource Specialist. Ms. Valdez stated that the proposed project site is culturally sensitive to SBLI and their in-house search identified multiple areas of potential impact. Ms. Valdez stated that the specifics would be shared with the lead agency through direct consultation. The email included an attached letter from Joseph Ontiveros in which he reiterates the information provided by Ms. Valdez. Additionally, Mr. Valdez requested consultation with the lead agency, provide project progress to the SBLI, and retention of a SBLI monitor for all ground-disturbance work, including surveys and testing. The email and letter from the SBLI was forwarded to the City. |

This outreach was conducted for informational purposes only and does not constitute formal government-to-government consultation as specified by AB 52, which is discussed in detail in the following section. Documents related to the NAHC SLF search and Native American outreach efforts are included in Appendix C of the Cultural Resources Technical Report (Appendix D of this EIR).

## 4.15.5 Assembly Bill 52 Consultation

The City sent notification of the proposed project December 12, 2018, to all eight California Native American tribal representatives that have requested project notifications from the City pursuant to AB 52 and that are on file with the NAHC as being traditionally or culturally affiliated with the geographic area. These notification letters included a project site plan, brief proposed project description, and a statement informing tribes that the notification letter was provided to initiate AB 52 consultation. AB 52 allows tribes 30 days after receiving notification to request consultation. If a response is not received within the allotted 30 days, it is assumed that consultation is declined. To date, five responses have been received. However, government-to-government consultation initiated by the City has not resulted in the identification of a TCR within or near the proposed project site. Table 4.15-2 summarizes the results of the AB 52 process for the proposed project. All documentation received as part of the AB 52 consultation is provided in confidential Appendix D to the Cultural Resources Technical Report (Appendix D of this EIR).

**Table 4.15-2**
**Assembly Bill 52 Native American Tribal Outreach Results**

| Native American Tribal Representatives | Method of Notification; Date Received | Response to City Notification Letters |
|---|---|---|
| Patricia Garcia, Director<br>Tribal Historic Preservation Office<br>Agua Caliente Band of Cahuilla Indians (ACBCI) | Certified Mail sent December 12, 2018 | Response received via email on December 19, 2019 from tribal representative Lacy Padilla, archaeological technician for the Tribal Historic Preservation office for the ACBCI. Ms. Padilla stated that the proposed project site is not located within boundaries associated with the (ACBCI); however, the proposed project site does lie within the Tribe's traditional use area. Ms. Padilla did not request further consultation and deferred to the Soboba Band of Mission Indians and the Morongo Band of Mission Indians. |

**Table 4.15-2**
**Assembly Bill 52 Native American Tribal Outreach Results**

| Native American Tribal Representatives | Method of Notification; Date Received | Response to City Notification Letters |
|---|---|---|
| Robert Martin, Tribal Chairman<br>Morongo Band of Mission Indians (MBMI) | Certified Mail sent December 12, 2018 | Response received via email on December 21, 2019 from tribal representative Travis Armstrong, Tribal Historic Preservation Officer for the MBMI. Mr. Armstrong stated that the proposed project is within the ancestral territory associated with the MBMI and that there was potential to encounter ancestral territory and buried deposits associated with the MBMI. Mr. Armstrong requested further consultation and requested the results of the CHRIS records search and to have a monitor from the MBMI participate during pedestrian survey or to be given a copy of the cultural study if the survey had already taken place. The CHRIS records search results were provided to Mr. Armstrong on January 11, 2019. |
| Raymond Huaute, Cultural Resource Specialist<br>Morongo Band of Mission Indians (MBMI) | Certified Mail sent December 12, 2018 | See response received from tribal representative Travis Armstrong on behalf of the MBMI. |
| Lee Clauss, Director<br>CRM Department<br>San Manual Band of Mission Indians (SMBMI) | Certified Mail sent December 12, 2018 | Response received via email on January 10, 2019 from tribal representative Jessica Mauck, Cultural Resource Analyst for the SMBMI. Ms. Mauck stated that the proposed project lies within ancestral territory associated with the SMBMI; though she stated that the SMBMI does not have any concerns with implementation of the proposed project. Additionally, Ms. Mauck provided mitigation detailing protocols for the unanticipated discovery of cultural and tribal cultural resources that she requested be adopted for the proposed project. |
| Torres Martinez, Cultural Resources Coordinator<br>c/o Michael Mirelez<br>Desert Cahuilla Indians | Certified Mail sent December 12, 2018 | A response was not received. |
| Ebru T. Ozdil, Planning Specialist<br>Pechanga Cultural Resources Department | Certified Mail sent December 12, 2018 | A response was not received. |
| Joseph Ontiveros, Cultural Resources Director<br>Soboba Band of Luiseno Indians (SBLI) | Certified Mail sent December 12, 2018 | Response received via email on January 24, 2019. In his response, Mr. Ontiveros requests formal consultation with the City and provides his contact information. The City is in contact with Mr. Ontiveros and SBLI. |

**Table 4.15-2**
**Assembly Bill 52 Native American Tribal Outreach Results**

| Native American Tribal Representatives | Method of Notification; Date Received | Response to City Notification Letters |
|---|---|---|
| Destiny Colocho, Tribal Historic Preservation Officer<br>Cultural Resources Department<br>Rincon Band of Luiseño Indians (RBLI) | Certified Mail sent December 12, 2018 | A letter response was received on January 15, 2019. Ms. Colocho states that the proposed project site is within the territory of the RBLI and is also within the RBLI's specific area of historic interest. However, Ms. Colocho states that the RBLI does not have knowledge of any cultural resources within or near the proposed project site, but states that this does not mean that none exist. Ms. Colocho concludes her response by stating that the RBLI do not request consultation, but recommends an archaeological records search. |

## 4.15.6 Historic Aerial Review

Dudek consulted historic maps and aerial photographs to understand development of the proposed project site and surrounding properties. Topographic maps are available from 1954 to the present and aerial images are available from 1966 to the present (NETR 2018a, 2018b).

Topographic maps from 1954 show the proposed project site and general vicinity as undeveloped land. On the 1954 map, there are only a few roads running through the general area. The nearest development in 1954 was March Air Force Base to the west. The proposed project site remained undeveloped until sometime between 1985 and 2012. Topographic maps indicate that development in the entire Moreno Valley area was rather slow during most of the twentieth century. By 1968, the first planned subdivisions appear, located to the northwest of the proposed project site. Development continued slowly and the area did not see major development until between 1985 and 2012, when the majority of the city was developed.

The first aerial for the proposed project site dates to 1966 and shows the area as primarily agricultural land. The 1966 aerial shows a small planned subdivision between Perris Boulevard and Kitching Street along Gentian Avenue and a much larger planned subdivision along the Moreno Valley Freeway (State Route 60) between Heacock Street and Perris Boulevard. The proposed project site was undeveloped in 1966. During the 1970s, smaller subdivisions to the west and northeast of proposed project site were built; however, the proposed project site remained agricultural land throughout this time. The aerial from 1996 shows that by this time the Kaiser Permanente Hospital had begun to be developed. The residential subdivision south of Iris Avenue also began to be developed at this time. In 1996 the hospital only consisted of one building and one parking lot. There were no changes to the hospital or the proposed project site until between 2010 and 2012 when the westernmost parking lot was built. Throughout the 1990s and 2000s, there was a small but steady increase in development in eastern Moreno Valley and by 2012 the city was essentially built out to its current extent.

## 4.15.7 Cultural Resource Survey

Dudek conducted a pedestrian survey on December 18, 2018 for the proposed project. As discussed further in Section 4.4, the pedestrian survey did not result in the identification of Native American cultural resources.

## 4.15.8 Thresholds of Significance

The significance criteria used to evaluate the project impacts to tribal cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact would occur if the project were to cause a substantial adverse change to tribal cultural resources. Under AB 52, a TCR must have tangible, geographically defined properties that can be impacted by project implementation. A "tribal cultural resource" is defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

TCR-1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

TCR-2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## 4.15.9 Impacts Analysis

***Threshold TCR-1.*** ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

***i)*** ***Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?***

As described under Section 4.4.4, Cultural Resources Records Search, of this EIR, a CHRIS records search was conducted for the proposed project site and within a 1-mile buffer. No tribal cultural resources were identified as a result of the records search. In a SLF results letter dated November 26, 2018, the NAHC stated that the SLF search was completed with negative results. Additionally, no tribal cultural resources were identified by California Native American tribes as part of Dudek's tribal outreach or as part of the City's AB 52 notification and consultation process. Therefore, impacts are considered **less than significant.** No mitigation is required.

***ii)*** ***A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? (In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)***

As discussed previously in this section, there are no resources in the proposed project site that have been determined by the City to be significant pursuant to the criteria set forth in Public Resources Code Section 5024.1. Further, no specific tribal cultural resources were identified in the proposed project site by the NAHC, California Native American tribes, or by the City as part of the AB 52 notification and consultation process conducted between December 2018 and January 2019 (see Table 4.15-2).

The AB 52 government-to-government consultations initiated by the City have not resulted in the identification of a geographically defined TCR within or near the proposed project site. As such, no TCRs have been identified that could be impacted by the proposed project. The City has not determined that a resource exists on the project site and is significant under PRC Section 5024.1.

However, the AB 52 consultation between the City and tribal representatives from the Soboba Band of Luiseno and Morongo Band of Mission Indians suggests that there is still some potential for unknown subsurface TCRs to be impacted by the proposed project. In the event that unknown subsurface TCRs are uncovered during ground disturbance associated with the proposed project, and such resources are not identified and avoided or properly treated, a potentially significant impact could result. Mitigation measures MM-TCR-1 through MM-TCR-7 would protect TCRs, in the event of an unanticipated discovery during project construction. Upon implementation of MM-TCR-1 through MM-TCR-7, impacts would be **less than significant with mitigation incorporated**.

## 4.15.10 Mitigation Measures

The following mitigation measure would ensure that the project has a less-than-significant impact on TCRs.

**MM-TCR-1** Prior to the issuance of a grading permit, the Applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards. The project archaeologist, in consultation with the Consulting Tribe(s), the construction manager, and any contractors (hereafter referred to as "Native American Tribal Representatives") will conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session will include a handout and will focus on how to identify archaeological and Tribal Cultural Resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, including who to contact and the appropriate avoidance measures that need to be undertaken until the find(s) can be properly evaluated; the duties of archaeological and Native American monitors; and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation if one is necessary. All new construction personnel that will conduct earthwork or grading activities must take the Archaeological Sensitivity Training prior to beginning work on the project and the professional archaeologist shall make themselves available to provide the training on an as-needed basis. A sign-in sheet shall be compiled to track attendance and shall be submitted to the City of Moreno Valley with the Phase IV Archaeological Monitoring Report.

**MM-TCR-2** Preconstruction Notification of Native American Tribal Representatives. Prior to the issuance of a grading permit, the Applicant shall provide evidence to the City of Moreno Valley that the Native American Tribal Representatives received a minimum of 30 days advance notice of all mass grading and trenching activities, and provide evidence of monitoring agreements between the Applicant and the Tribes. The Native American Tribal Representatives shall be notified a minimum of 48 hours in advance and allowed to attend the pre-grading meeting with the City and project construction contractors and/or monitor all project mass grading and trenching activities.

**MM-TCR-3** Prior to grading permit issuance, the Applicant and the City of Moreno Valley shall verify that the following note is included on the Grading Plan: "If any suspected archaeological resources are discovered during ground-disturbing activities and the archaeological monitor or Native American Tribal Representatives are not present, the construction supervisor is obligated to halt work in a 100-foot radius around the find and call the project archaeologist and the Native American Tribal Representatives to the site to assess the significance of the find."

**MM-TCR-4** Prior to the issuance of a grading permit, the Applicant shall retain a qualified archaeological monitor. The archaeological monitor will work under the direction and guidance of the qualified professional archaeologist and will meet the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archeological monitor shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction. Archaeological monitoring is required at all depths and strata. The archaeological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to any known archaeological resources, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the qualified professional archaeologist.

**MM-TCR-5** The applicant shall ensure that all ground-disturbing activities are ceased and treatment plans are implemented if tribal cultural resources (TCRs) are encountered. In the event that TCRs are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 100 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All TCRs unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards.

In the event that a TCR is encountered during ground-disturbing activities, the landowner(s) shall relinquish ownership of all such resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains. The artifacts shall be relinquished through one or more of the following methods and evidence of such shall be provided to the City of Moreno Valley Planning Department:

1. Accommodate the process for Preservation-In-Place/Onsite reburial of the discovered items with the consulting Native American tribes or bands, as detailed in the treatment plan prepared by the professional archaeologist. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;
2. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79; therefore, the resources would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and/or
3. For purposes of conflict resolution, if more than one Native American tribe or band is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.

**MM-TCR-6** Prior to building permit issuance, the project archaeologist shall prepare a final Phase IV Monitoring Report as outlined in the Cultural Resources Monitoring Program (CRMP), which shall be submitted to the City of Moreno Valley Planning Division, the appropriate Native American tribe(s), and the Eastern Information Center at the University of California, Riverside. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and CEQA, and treatment of these resources. All cultural material, excluding sacred, ceremonial, grave goods and human remains, collected during the grading monitoring program and from any previous archaeological studies or excavations on the project site shall be curated in a Riverside County repository according to the current professional repository standards and may include the Pechanga Band's curatorial facility in Temecula, California, the Western Science Center or other federally approved repository.

**MM-TCR-7** In the event that any human remains are unearthed during project construction, the City of Moreno Valley and the Applicant shall comply with State Health and Safety Code Section 7050.5 The City of Moreno Valley and the Applicant shall immediately notify the Riverside County Coroner's office and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition. If remains are determined to be of Native American descent, the coroner has 24-hours to notify the Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely Descendant (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment or disposal, with appropriate dignity, of the human remains and any associated funerary objects. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD all reasonable options regarding the MLDs preferences for treatment.

If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

## 4.15.11 Level of Significance After Mitigation

With adherence to the mitigation measures MM-TCR-1 through MM-TCR-7, the potential for impacts to TCRs would be less than significant with mitigation incorporated.

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# 4.16 UTILITIES AND SERVICE SYSTEMS

This section evaluates potential impacts on utilities resulting from the proposed Kaiser Permanente Moreno Valley Medical Center Project (project). The discussion in the following sections is based on information provided by the local service providers, findings from other approved planning documents, and technical reports related to the provision of utilities. This section identifies associated regulatory requirements, describes the existing utilities setting of the project site, evaluates potential impacts, and identifies any mitigation measures related to implementation of the project.

## 4.16.1 Relevant Plans, Policies, and Ordinances

### Water

#### *Federal*

Federal Clean Water Act of 1987

The Clean Water Act is the primary federal law that protects our nation's waters, including lakes, rivers, aquifers, and coastal areas. Section 401 of the Clean Water Act requires that an applicant seeking a federal permit to conduct any regulated activity, including the construction or operation of a facility that may result in the discharge of any pollutant, must also obtain certification from the state.

Section 303 of the Clean Water Act requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. Section 404 of the Clean Water Act established a permit program to regulate the discharge of dredged material into waters of the United States.

#### *State*

Urban Water Management Planning Act

In 1983, the California legislature enacted the Urban Water Management Planning Act (California Water Code, Sections 10610–10656), which requires specified urban water suppliers within the state to prepare an urban water management plan (UWMP) and update it every 5 years. State and local agencies and the public frequently use UWMPs to determine if agencies are planning adequately to reliably meet water demands in various service areas. As such, UWMPs serve as an important role in documenting water supply availability and reliability for purposes of compliance with Senate Bills 610 and 221, which link water supply sufficiency to large land-use development project approvals. Urban water suppliers also must prepare UWMPs, pursuant to the Urban Water Management Planning Act, in order to be eligible for state funding and drought assistance.

A UWMP provides information on water usage, water supply sources, and water reliability planning within a specified water agency service area. It also may provide implementation schedules to meet projected demands over the planning horizon; a description of opportunities for new development of desalinated water; groundwater information (where groundwater is identified as an existing or planned water source); description of water quality over the planning horizon; and identification of water management tools that maximize local resources and minimize imported water supplies. Additionally, a UWMP evaluates the reliability of water supplies within the specified service area. This includes a water supply reliability assessment, water shortage contingency plan, and development of a plan in case of an interruption of water supplies.

The Water Conservation Bill of 2009 (SB X7-7) requires each urban retail water supplier to develop an urban water use target and an interim urban water use target. SB X7-7 authorizes urban retail water suppliers to determine and report progress toward achieving these targets on an individual agency basis.

Senate Bills 610 and 221

On January 1, 2002, Senate Bill (SB) 610 took effect. SB 610, which was codified in the Water Code beginning with Section 10910, requires the preparation of a water supply assessment for projects within cities and counties that propose to construct 500 or more residential units, or that will use an equivalent amount of water as 500 or more residential units, and are subject to the California Environmental Quality Act (CEQA). SB 610 stipulates that when environmental review of certain development projects is required, the water agency that is to serve the development must complete the water supply assessment to evaluate water supplies that are or will be available during normal, single-dry, and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with a proposed project.

SB 221, enacted in 2001 and codified in the Water Code, requires a city, county, or local agency to include a condition to any tentative subdivision map that a sufficient water supply shall be available to serve the subdivision. The term “sufficient water supply” is defined as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the proposed subdivision project’s projected water demand, in addition to existing and planned future water uses, including agricultural and industrial uses, within the specified service area. SB 221 further requires any verification of “projected” water supplies to be based on entitlement contracts, capital outlay programs and regulatory permits and approvals.

California Senate Bill 7

SB 7 (SB X7-7) was enacted in November 2009 to require all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020 (California Water Code Section 10608.20). In order to reach this goal, SB X7-7 requires each urban retail water supplier to report progress in meeting water use targets (California Water Code Section 10608.40). The law also requires wholesale water suppliers to support their retail member agencies' efforts to comply with SB X7-7 through a combination of regionally and locally administered active and passive water conservation measures, programs, and policies, as well as the use of recycled water.

California Water Quality Control Act

The Porter–Cologne Water Quality Control Act authorizes the SWRCB to adopt, review, and revise policies for all "waters of the state" (including both surface water and groundwater) and directs the RWQCB to develop regional basin plans (California Water Code, Section 13000 et seq.). Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative.

There are nine regional water quality control boards statewide. Regional boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology and hydrology for each watershed. Each Regional Board makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.

The project site is located within the RWQCB, Santa Ana Region, which has adopted and periodically amends the Water Quality Control Plan (Basin Plan). Basin Plans must conform to the policies set forth in the Porter–Cologne Act, as established by the SWRCB in its state water policy. The Basin Plan establishes water quality standards for all the groundwater and surface waters of each RWQCB region and includes an implementation plan describing actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. Further, the Basin Plan regulates waste discharges to minimize and control their effects on regional groundwater and surface water quality.

Statewide Storm Water Management Plan

The Statewide Storm Water Management Plan (SWMP) (Caltrans 2016) describes a program to reduce the discharge of pollutants associated with the stormwater drainage systems that serve highways and highway-related properties, facilities and activities. It identifies how the California Department of Transportation will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) permit (Order No. 2009-0009-DWQ as amended by Order No.

2010-0014-DWQ) (permit) issued by the SWRCB on March 1, 2010. The permit requires that the previous edition of the Statewide SWMP be revised to include or describe procedures for implementing the requirements stated in several provisions of the permit. This Statewide SWMP has been revised to show compliance with this requirement, although the format employed differs somewhat from the specific chapter designations outlined in the permit.

***Local***

Eastern Municipal Water District Water Conservation Policies

Eastern Municipal Water District (EMWD) provides water supply within the City of Moreno Valley (City), including the existing Medical Center. EMWD serves a 500-square-mile service area with an estimated population of over 780,000 people in western Riverside County, and in most areas, provides retail water and sewer service. EMWD also provides wholesale and retail water service to multiple subagencies. EMWD was formed in 1950 and annexed into MWD in 1951 to deliver imported water. Imported potable water supplies are purchased from the Metropolitan Water District of Southern California through its Colorado River Aqueduct and its connections to the State Water Project. Approximately 75% of EMWD's potable water demand is imported water. Local potable water supply comes from groundwater and desalination efforts. Approximately 25% of EMWD's potable water demand is supplied by groundwater.

EMWD's water conservation policies, practices, and procedures were originally adopted in 1991, and have been periodically modified to provide long-term water reliability for existing and future customers (EMWD 2013). They include:

- Hosing down driveways and other hard surfaces is prohibited except for health or sanitary reasons.
- Repair water leaks within 48 hours of occurrence.
- Irrigate landscape only between 9:00 p.m. and 6:00 a.m. except when:
    a. manually watering;
    b. establishing new landscape;
    c. temperatures are predicted to fall below freezing;
    d. it's for very short periods of time to adjust or repair an irrigation system.
- Unattended irrigation systems using potable water are prohibited unless they are limited to no more than fifteen (15) minutes watering per day, per station. This limitation can be extended for:
    e. Very low flow drip irrigation systems when no emitter produces more than two (2) gallons of water per hour.

f. Weather based controllers or stream rotor sprinklers that meet 70% efficiency.

g. Runoff or over watering is not permitted in any case.

- Irrigation systems operate efficiently and avoid over watering or watering of hardscape and the resulting runoff.
- Excessive water flow or runoff is prohibited.
- Decorative fountains must be equipped with a recycling system.
- Allowing water to run while washing vehicles is prohibited.
- Install new landscaping with low-water demand trees and plants. New turf shall only be installed for functional purposes.
- Watering during rain is prohibited.

The requirements listed above should be followed at all times.

Landscaping and Irrigation Design Standards

The City of Moreno Valley Municipal Code Section 9.17.030 (Landscaping and Irrigation Design Standards), is in place to promote water efficient landscaping and conservation through the use of appropriate technology and management. The Code states that consideration should be given to climate, soil types, and topographic conditions. Landscapes should group plants using similar watering patterns to eliminate over watering and provide irrigation watering zones of similar use. The Irrigation systems shall be installed using water-conserving equipment including the installation of bubblers, drip systems, low volume sprays and smart irrigation controls. Smart irrigation controls are sensitive to the changing weather patterns and adjust watering cycles automatically to reduce water usage during colder/rainy weather. A water budget shall be completed that meets EMWD's guidelines and submitted with the landscape plans. Based on the landscape design, the water budget will determine the landscapes water demand. Once calculated, the annual maximum allowable water budget (AMAWB) is compared to the estimated annual water use (EAWU) to ensure the design does not exceed the allowed water use.

Mandatory Water-Efficient Landscaping Requirements

EMWD's water conservation policies, practices, and procedures also include Mandatory Water-Efficient Landscaping Requirements and identified below (EMWD 2019):

- EMWD [Eastern Municipal Water District] requires a separate dedicated meter for all landscape areas greater than or equal to 3,000 square feet, except for single family residential accounts.

- The efficient use of water should be considered in the design of any new landscape area. The District [EMWD] will calculate an Annual Maximum Allowable Water Budget (AMAWB) for customers that request a new account.
- Prior to the issuance of a meter, the new customer shall calculate a water budget for each landscape area and submit it to the District [EMWD] for review.
- New accounts that have to comply with similar or more stringent water use efficiency measures imposed by County and/or City Ordinances, do not need to comply with the above requirements, but do need to provide information about the landscape areas to the District [EMWD].

Water Shortage Contingency Plan (Title 5, Article 10 EMWD Administrative Code)

In accordance with Water Code 10632 requirements, EMWD is responsible for conserving the available water supply, protecting the integrity of water supply facilities, and implementing a contingency plan in times of drought, supply reductions, failure of water distribution systems, or emergencies.

Therefore, EMWD adopted the Water Shortage Contingency Plan to regulate the delivery and consumption of water use during water shortages. EMWD's Board of Directors has the authority to initiate or terminate the water shortage contingency measures described in the Water Shortage Contingency Plan.

EMWD will implement the appropriate Water Shortage Contingency Plan stage based on current water conditions such as:

- EMWD water supply conditions and storage levels
- Statewide water supply conditions
- Local water supply and demand conditions
- Metropolitan Water District of Southern California (MWD) Water Supply Allocation Plan implementation or other actions requiring a reduction in water demand
- Actions by surrounding agencies

Higher stages will be implemented as shortages continue and/or if customer response does not bring about desired water savings. Restrictions, penalties, and enforcement will build on each other as higher stages are implemented. The stages are: Stage 1, Supply Watch; Stage 2: Supply Alert (currently in Stage 2); Stage 3, Mandatory Waste Reduction; Stage 4, Mandatory Outdoor Reduction; Stage 5, Mandatory Indoor Reduction.

Moreno Valley General Plan Goals and Policies

The City General Plan (City of Moreno Valley 2006) contains goals and policies relevant to water, wastewater, and stormwater infrastructure, as well as, water conservation. The goals and polices identified in the Community Development Element of the General Plan that would be applied to the proposed project have been analyzed for consistency in Section 4.10, Land Use and Planning.

**Wastewater**

***Federal***

National Pollution Discharge Elimination System

Section 402 of the Clean Water Act established the NPDES to regulate the discharge of pollutants from point sources. The U.S. Environmental Protection Agency (EPA) has authorized the State of California to administer its NPDES permitting program. The NPDES permitting program prohibits the unauthorized discharge of pollutants from a point source (pipe, ditch, well, etc.) to waters of the United States. The permitting program addresses municipal, commercial, and industrial wastewater discharges and discharges from large animal feeding operations. Permittees must verify compliance with permit requirements by monitoring their effluent, maintaining records, and filing periodic reports. The program is administered at the local level by the RWQCBs.

***State***

State Water Resources Control Board

The SWRCB preserves, enhances, and restores the quality of California's water resources, and ensures the proper allocation and efficient use for the benefit of present and future generations. Wastewater generators must obtain a permit to discharge their wastewater. Pursuant to the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, the SWRCB regulates wastewater discharges to surface waters through our NPDES program. Some wastewater discharges are exempt from federal NPDES requirements, but California law may still apply. Under California law, the SWRCB requires Waste Discharge Requirements for some discharges in addition to those subject to NPDES permits. Permits contain specific requirements that limit the pollutants in discharges. They also require dischargers to monitor their wastewater to ensure that it meets all requirements. Wastewater dischargers must maintain their treatment facilities, and treatment plant operators must be certified. The SWRCB routinely inspects treatment facilities and strictly enforce permit requirements.

Recycled Water Policy Resolution No. 2009-0011

The purpose of the Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code Section 13050(n), in a manner that implements state and federal water quality laws. When used in compliance with the policy, Title 22, and all applicable state and federal water quality laws, the SWRCB finds that recycled water is safe for the approved uses, and strongly supports recycled water as a safe alternative to potable water for such approved uses.

California Water Action Plan

California Water Action Plan: Actions for Reliability, Restoration and Resilience, was released by Governor Brown in January 2014. A collaborative effort of the California Natural Resources Agency, the California Environmental Protection Agency, and California Department of Food and Agriculture, the California Water Action Plan was developed to meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades.

For the past five years, and continuing into the future, the actions outlined below are designed to move California toward more sustainable water management by providing a more reliable water supply for farms and communities, restoring important wildlife habitat and species, and helping the state's water systems and environment become more resilient.

1. Make conservation a California way of life;
2. Increase regional self-reliance and integrated water management across all levels of government;
3. Achieve the co-equal goals for the Delta;
4. Protect and restore important ecosystems;
5. Manage and prepare for dry periods;
6. Expand water storage capacity and improve groundwater management;
7. Provide safe water for all communities;
8. Increase flood protection;
9. Increase operational and regulatory efficiency; and
10. Identify sustainable and integrated financing opportunities.

### *Local*

Moreno Valley General Plan Goals and Policies

Wastewater service in Moreno Valley is provided by the EMWD, which serves most of the City and surrounding areas, and the Edgemont Community Services District, which provides service to a small area in southwestern Moreno Valley. The City General Plan (City of Moreno Valley 2006) contains goals and policies relevant to the sewer system and wastewater treatment. The goals and polices identified in the Community Development Element of the General Plan that would be applied to the proposed project have been analyzed for consistency in Section 4.10.

## Solid Waste Disposal

### *State*

Title 14: Natural Resources – Division 7

Title 24 of the California Code of Regulations regarding natural resources sets minimum standards for solid waste handling and disposal, including specific regulations regarding waste tire storage and disposal, hazardous waste disposal facilities, construction and demolition and inert debris transfer/processing, construction and demolition waste and inert debris disposal, transfer/processing operations and facilities, siting and design, operation standards, record keeping, and additional operating requirements for facilities. Additional guidance and requirements for compostable materials handling operations and facilities, asbestos handling and disposal, resource conservation programs, farm and ranch solid waste cleanup and abatement, used oil recycling program, electronic waste recovery and recycling, solid waste cleanup among others are also addressed in Title 14.

Title 27: Environmental Protection – Division 2, Solid Waste

Title 27 of the California Code of Regulations regarding Environmental Protection and Solid Waste set the criteria for all waste management units, facilities, and disposal sites including regulations of the California Integrated Waste Management Board and SWRCB. Waste classification, siting, construction standards, water quality monitoring and response programs, operating criteria, daily and immediate cover, handling and equipment, controls, gas monitoring and control, closure and post-closure standards, and financial assurances are all aspects covered in Title 27.

California Integrated Waste Management Act

Assembly Bill (AB) 939, known as the California Integrated Waste Management Act of 1989, required all California cities and counties to divert 50% of the waste generated within their boundaries by the year 2000.

The act requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a Source Reduction and Recycling Element (SRRE) that demonstrates how the jurisdiction will meet the California Integrated Waste Management Act's mandated diversion goals. Each jurisdiction's SRRE must include specific components, as defined in California Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for the management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation; and (4) land disposal.

Assembly Bill 341

AB 341 (2012) established a statewide goal to divert 75% of solid waste from landfills by 2020. Part of the City's compliance with the requirements of AB 341 includes the establishment of a City Recycling Ordinance, Municipal Code Section 66.0701, which requires that recyclable materials be collected separately from the waste of residential and commercial waste generators.

Assembly Bill 1826

AB 1826 (2014) requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate on a weekly basis. Additionally, AB 1826 requires that, after January 1, 2016, all local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings with five or more units. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time.

Because the minimum threshold of organic waste generation by businesses will be decreased over time (e.g., in 2016, affected businesses were those generating 8 cubic yards or more of organic waste per week; in 2019, affected businesses will be those generating 4 or more cubic yards of organic waste), an increasingly greater proportion of the commercial sector will be required to comply. AB 1826 is part of California's efforts intended to achieve its recycling and greenhouse gas emissions reduction goals. Reducing the amount of organic materials sent to landfills and increasing the production of compost and mulch are part of the AB 32 Scoping Plan.

Senate Bill 1383

SB 1383 (2016) requires a 50% reduction in disposal of organic waste from the 2014 level by 2020, and a 75% reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20% of currently disposed edible food is recovered for human consumption by 2025. Food waste alone accounts for approximately 17%–18% of total landfill disposal. Increasing food waste prevention, encouraging edible food rescue, and expanding the composting and in-vessel digestion of organic waste throughout the state will help reduce methane emissions from organic waste disposed in California's landfills. In addition, compost has numerous benefits including water conservation, improved soil health, and carbon sequestration (CalRecycle 2019a).

### *Local*

City of Moreno Valley Municipal Code

The City of Moreno Valley Municipal Code Ordinance 6.02.050 provides standards for the provision of solid waste (refuse) and recyclable material storage areas in compliance with state law (California Solid Waste Reuse and Recycling Access Act, Public Resources Code Sections 42900 through 42911). The City's Municipal Code requires that all persons in possession of any place within the city shall store standard containers or commercial bins on their properties, when not placed for collection, in a manner which will be screened from public view and which will not allow such containers or bins to roll, fall or protrude onto the public streets, sidewalks or alleys of the city. Any standard container or commercial bin which partially or wholly blocks or obstructs any public street, sidewalk or alley in violation of the foregoing requirement is a nuisance abatable under Section 1.01.250 and shall also subject the person responsible therefor, whether or not the owners thereof, to punishment under Section 1.01.200 et seq., whenever the standard container or commercial bin was placed in the public street, alley or sidewalk as a result of the intent or negligence of the person charged with the violation of this section. An exemption may be allowed to the requirement that commercial recycling bins be stored in a manner which will screen them from public view in cases where existing trash enclosures do not allow adequate space to maintain two bins or in such cases where a commercial property has no existing trash enclosure. However, in no event will any exemption be allowed to the requirement that commercial bins be stored in a manner that will not allow such containers to roll, fall, or protrude onto the public streets, sidewalks, or alleys of the city. Bins covered by this exemption shall be placed in such a manner as to minimize visibility from public view. Any such exemptions will be evaluated at such time that a property owner files for a major entitlement or the buildings on the property are expanded over 50%. In such cases, a condition of approval may be placed on the property to build larger enclosure(s) to accommodate both a trash and recycling bin.

Moreno Valley General Plan Goals and Policies

The City General Plan (City of Moreno Valley 2006) contains goals and policies relevant to solid waste disposal. The goals and polices identified in the Community Development Element of the General Plan that would be applied to the proposed project have been analyzed for consistency in Section 4.10.

## 4.16.2 Existing Conditions

### Water Services

#### *Metropolitan Water District of Southern California*

Metropolitan Water District (MWD) supplies water to approximately 18.7 million people in a 5,200-square-mile service area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. Although only 14% of the land area of the six Southern California counties is within MWD's service area, nearly 85% of the populations of those counties reside within MWD's boundaries. Supply and demand projections for MWD are included in its 2015 Regional UWMP, adopted in June 2016.

MWD gets its water from two sources. The first source is the Colorado River, which is connected to MWD's six-county service area through a 242-mile aqueduct, known as the Colorado River Aqueduct (CRA). The CRA system is known as the Central Valley Project, which is operated by the U.S. Bureau of Reclamation and began to deliver water to member agencies beginning in 1941. The second source is water from Northern California, which supplies water through a series of dams, aqueducts, pipelines, and other facilities known as the State Water Project (SWP) and is operated by the Department of Water Resources. SWP water deliveries began in 1972.

MWD has a legal entitlement to receive water from the CRA under a permanent service contract with the Secretary of the Interior. From the CRA, MWD is apportioned 550,000 acre-feet (af) of water per year. Despite this low apportionment, MWD was able to transport up to 1.2 million af through the CRA in past years by relying on unused apportionments from Arizona, Nevada, and California agricultural agencies. However, because MWD's firm water supply from the CRA is only 550,000 af, that is the number planning agencies must rely on for development purposes. To supplement this supply, MWD has several existing programs and programs being developed in cooperation with other agencies.

The share of SWP water that MWD has contracted to receive is approximately 46%, or 1,911,000 af of an ultimate capacity of 4.2 million af. However, as a result of ongoing extraordinary dry conditions throughout the state of California, the SWP allocation for calendar year 2014 was 5% and allocation for 2015 was 20%, which represents about 96,000 af and 382,200 af, respectively, of SWP water allocation for MWD, the lowest in the history of the SWP.

In June 2016, MWD adopted its 2015 Regional UWMP, which is an update to its prior 2010 Regional UWMP. In the 2015 UWMP, MWD evaluated water supply reliability, over a 20- year period, for average, single-dry, and multiple-dry years within its service area. To complete its most recent water supply reliability assessment, MWD developed estimates of total retail demands for the region, factoring in the impacts of conservation. After estimating demands, the water reliability analysis identified current supplies and supplies under development to meet projected demands. MWD's reliability assessment showed that MWD can maintain reliable water supplies to meet projected demands through the year 2040. MWD also identified a planning buffer supply intended to protect against the risks associated with implementation of local and imported water supply projects and programs, and for the risk that future demands could be higher than projected. MWD's planning buffer identifies an additional increment of water that potentially could be developed when needed and if other supplies are not fully implemented as planned. As part of the implementation of the planning buffer, MWD periodically evaluates water supply development, supply conditions, and projected demands to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the Southern California region, including Riverside County, will have adequate water supplies to meet long-term future demands.

Appendix A-3 to the MWD 2015 Regional UWMP contains detailed justifications for the sources of supply projected to meet water demands in the region, including Colorado River Aqueduct deliveries (Colorado River supplies) and SWP California Aqueduct deliveries, which is available for public inspection upon request to the City and incorporated in this environmental impact report (EIR) by reference.

***Eastern Municipal Water District***

Eastern Municipal Water District (EMWD) provides water supply within the City, including the existing Medical Center.

Imported water received from MWD is treated at two treatment plants: Henry J. Mills (Mills) and Robert F. Skinner (Skinner). At Mills, SWP water is treated, while at Skinner a combination of SWP water and CRA water is treated. Untreated water supplied by MWD is treated by EMWD at a microfiltration plant in Perris. An additional microfiltration plant is located in Hemet, which provides untreated MWD water directly to a number of agricultural and wholesale customers.

EMWD is increasing the use of recycled water, through expansion and maximization of the four regional water reclamation facilities. In June 2016, EMWD's Board of Directors adopted the 2015 UWMP. This plan provides information on EMWD's projected supplies and demands in five-year increments through the year 2040, and reports EMWD's progress on water use efficiency targets as defined in the Water Conservation Act of 2009. As stated in the EMWD UWMP, EMWD's recycled water distribution system includes 135 miles of large diameter transmission pipelines, 6,000 af of surface storage reservoirs (10 separate sites), and four regional pumping plants.

As set forth in the EMWD UWMP, EMWD has the supply needed to meet the demand of its customers through 2040. The conclusion is based on the assurances of MWD that it would be able to supply member agency demands, the reliability of local groundwater supplies achieved through groundwater management plans and the development of recycled water resources.

Based on the imported and member agency local water sources discussed above, EMWD estimates that it, along with member agency local sources, will be able to supply 268,200 af of water in 2040. Therefore, according to the MWD and EMWD 2016 UWMPs, there is available water to meet all of the region's anticipated demand, in average/normal and dry water years, as shown in Table 4.16-1.

**Table 4.16-1**
**Retail Normal Year Supply and Demand Comparison (af/yr)**

| Local Supplies | | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|
| *Average/Normal (AF/YR)* | | | | | | |
| | Total Projected Supplies | 145,745 | 159,834 | 172,917 | 185,800 | 197,800 |
| | Total Estimated Demands | 145,745 | 159,834 | 172,917 | 185,800 | 197,800 |
| | **Difference** | **0** | **0** | **0** | **0** | **0** |
| *Dry Year Hydrology (AF/YR)* | | | | | | |
| | Total Projected Supplies | 166,300 | 182,40 | 197,400 | 212,000 | 225,700 |
| | Total Estimated Demands | 166,300 | 182,40 | 197,400 | 212,000 | 225,700 |
| | **Difference** | **0** | **0** | **0** | **0** | **0** |
| *Multi-Dry Year Hydrology (AF/YR)* | | | | | | |
| *1st Year* | Total Projected Supplies | 166,300 | 182,40 | 197,400 | 212,000 | 225,700 |
| | Total Estimated Demands | 166,300 | 182,40 | 197,400 | 212,000 | 225,700 |
| | **Difference** | **0** | **0** | **0** | **0** | **0** |
| *2nd Year* | Total Projected Supplies | 142,500 | 155,400 | 167,400 | 179,00 | 190,100 |
| | Total Estimated Demands | 142,500 | 155,400 | 167,400 | 179,00 | 190,100 |
| | **Difference** | **0** | **0** | **0** | **0** | **0** |
| *3rd Year* | Total Projected Supplies | 149,500 | 162,700 | 175,100 | 186,900 | 198,600 |
| | Total Estimated Demands | 149,500 | 162,700 | 175,100 | 186,900 | 198,600 |
| | **Difference** | **0** | **0** | **0** | **0** | **0** |

**Source:** Data adapted from EMWD 2016.

To supplement MWD sources and improve reliability, EMWD has several local resource programs. Production of local groundwater has been a source of supply for EMWD's service area for decades, but overproduction in groundwater has led to a need for groundwater management. Native production is expected to be limited but plans are in place to recharge local groundwater basins with imported or recycled water to increase supply reliability. Desalination of high TDS groundwater also provides a reliable local supply of water.

Recycled water production and sales reduce the demand for imported water and provide a sustainable supply. EMWD's continued investment in improved facilities will continue to grow the market for recycled water, and innovative planning and recycled water management will allow EMWD's recycled water supply to bring an even greater benefit to the service area. In addition to the development of local resource, EMWD promotes the efficient use of water. Through the implementation of local ordinances, conservation programs and an innovative tiered pricing structure, EMWD is reducing demand by retail accounts. Reducing demand allows existing and proposed water supplies to stretch farther and reduces the potential for water supply shortage (EMWD 2016).

### Wastewater Service

#### *Eastern Municipal Water District*

Eastern Municipal Water District (EMWD) is responsible for all wastewater collection and treatment in its service area. EMWD's wastewater collection systems includes: 1,534 miles of gravity sewer, 53 lift stations, and 4 operational regional water reclamation facilities (RWRFs), with interconnections between local collection systems serving each treatment plant. Inter-connections between the local collections systems serving each treatment plant allow for operational flexibility, improved reliability, and expanded deliveries of recycled water. All of EMWD's RWRFs produce tertiary effluent, suitable for all Department of Health Services permitted uses, including irrigation of food crops and full-body contact. The four RWRFs have a combined capacity of 81,800 AFY as summarized in Table 4.16-2.

**Table 4.16-2**
**EMWD Treatment Facilities – Capacity and Flow**

| Treatment Plant | Level of Treatment | Capacity (AFY) | Current Flow (AFY) |
|---|---|---|---|
| San Jacinto Valley RWRF | Secondary | 15,700 | 9,400 |
| Moreno Valley RWRF | Tertiary | 17,900 | 14,200 |
| Perris Valley RWRF | Tertiary | 28,000 | 15,457 |
| Temecula Valley RWRF | Tertiary | 20,200 | 15,600 |
| | **Total** | **81,800** | **50,000** |

**Sources:** EMWD 2016.

EMWD treats all of the wastewater collected in its service area to tertiary standards and disposes of its recycled water in one of three ways: (1) customer sales, (2) discharge to Temescal Creek, or (3) percolation and evaporation while stored in ponds throughout EMWD. In 2015 EMWD collected 48,665 af, treated 45,385, and recycled within service area 34,001 af. The total wastewater collected differs from the total amount treated due to losses in the treatment process. In addition, the balance between the total wastewater treated and the amount recycled within in service area represents EMWD's system losses, such as, storage pond evaporation and incidental recharge (EMWD 2016).

## Solid Waste Disposal Service

### *Solid Waste*

The City provides trash, recycling and special waste handling services to residents and businesses through a contract with Waste Management. No other haulers are authorized to operate within the City. The majority of solid waste generated within the City is disposed of at Badlands Sanitary Landfill. The Badlands Sanitary Landfill is located north of SR-60 and west of I-10 off Ironwood Avenue. Two other landfills within the County of Riverside have the capacity to serve the City; however, a majority of waste is brought to the Badlands Sanitary landfill. Combined, these three landfills have a remaining capacity of approximately 179 million cubic yards, as shown in Table 4.16-3.

**Table 4.16-3**
**Existing Landfills**

| Landfill | Location | Estimated Close Date | Maximum Permitted Daily Load (tons/day) | Maximum Permitted Capacity (cubic yards) | Current Remaining Capacity (cubic yards) |
|---|---|---|---|---|---|
| Badlands Landfill | 31125 Ironwood Avenue Moreno Valley, California | 2022 | 4,800 | 34.4 million | 15.7 million as of January 2015 |
| El Sobrante Landfill | 10910 Dawson Canyon Road Corona, California | 2051 | 16,054 | 209.9 million | 143.9 million as of April 2018 |
| Lamb Canyon Landfill | 16411 Lamb Canyon Road (SR 79) San Jacinto, California | 2029 | 5,000 | 38.9 million | 19.2 million as of January 2015 |
| | | **Total** | **25,854** | **283.2 million** | **178.8 million** |

**Sources:** CalRecycle 2019b, 2019c, 2019d.

## Stormwater Drainage

The project site is relatively flat terrain draining from southeast to the northwest towards the adjacent property. There is expected to be no off-site flow oncoming to the property as the perimeter of the project site currently contains berms and other measures to keep off-site flow away. Currently, no storm drain network exists on the project site.

## Utilities

### *Electrical Power*

Southern California Edison (SCE) and the Moreno Valley Electric Utility (MVU) provide electricity to the City. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. MVU serves over 6,500 customers within its service area.

***Natural Gas***

The Southern California Gas Company (SoCalGas) provides the City with natural gas service. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities.

***Telecommunication***

Verizon currently provides telecommunication services to the hospital via a facility in the basement of the existing hospital.

## 4.16.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities and service systems are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to utilities and service systems would occur if the project would:

- UTL-1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- UTL-2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- UTL-3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- UTL-4. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- UTL-5. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

## 4.16.4 Impacts Analysis

***Threshold UTL-1.*** ***Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

**Project- and Program-Level Analysis**

***Water Supply Infrastructure***

The water distribution system surrounding the project site is comprised primarily of 4-inch and 6-inch domestic water and 6- inch and 10-inch looped fire service mains. The local distribution system mains within the study area connect to the 18-inch water pipeline at the Kaiser Permanente Moreno Valley Community Hospital main entrance along the south side of Iris Avenue. The proposed project will expand the on-site water distribution system and connect the new facilities to the existing domestic water and fire flow system.

Phases I includes the installation of a portion of the new on-site 6-inch domestic water main that feeds directly into the proposed 20,000-gallon emergency water tanks at the north end of the project site. Additional waterline segments will be required to support future phases. The supply and discharge lines to the emergency water tanks will both provide a point of connection to service the new Energy Center and new cooling towers, respectively, on the west side of the facility. This 6-inch water main would also connect to the new temporary trailers and temporary MOB 1 at the north edge of the project site, which would be constructed during Phase I and removed during later phases. Additional 10-inch fire lines would be added to provide flows for additional fire hydrants responsible for servicing new facilities at the north end of the project site. At the south end of the site, fire line connections are provided for the future parking structures as well as medical Office Buildings 3 and 4.

Phase III would include two additional water line connections to the Medical Office Buildings 3 and 4. An extension of the 10-inch fire line to feed proposed hydrants at the north end and central location of the site would also be included in Phase III.

<u>On-Site Domestic Water Storage</u>

The California Office of Statewide Health Planning and Development (OSHPD) provides specific design requirements and oversight for health care facilities. Specific criteria have been developed for mission critical health care facilities that require a 96-hour reserve of on-site stored water to meet critical hospital water needs. As a result of the OSHPD requirements, the proposed Kaiser

Permanente Moreno Valley Community Hospital will incorporate 60,000 gallons of potable storage contained in two underground storage tanks for Phases I and II. Phase III would include an additional 60,000 gallons of potable storage contained in two underground storage tanks for a total of four underground storage tanks with 120,000 gallons of potable water storage,. As this design requirement is driven by OSHPD, the storage sizing requirements are beyond the scope of this Water Study. However, this requirement should be understood as meeting the necessity for domestic water supply redundancy for this project.

OSHPD required two connections to the existing water system for redundancy. Currently there are two on-site connections to the City system with a looped fire system around the current hospital. However, per EMWD requirements a water study and a WSA is required to be submitted and approved.

***Wastewater Treatment***

EMWD's sanitary sewer system includes a sewer manhole located north of the project site. According to as-builts and survey data, this manhole includes two points of connection. The southerly connection transports generated wastewater from the project site via an 8-inch sewer. The easterly connection transports wastewater developed from the adjacent Fresenius Medical Care – Moreno Valley Dialysis center (which is not part of the project) via 10-inch sewer.

The wastewater generation flow for Phase I was determined using the unit flow factor for "Non-Residential Hospital" (205 gal/bed) and "Non-Residential Commercial" (1,700 gdp/gross acre). A peaking factor of 1.2[1] was used to calculate the peak flow rate. At full buildout of the project (Phase III) the average and peak dry weather flows are estimated to be 132,374 gpd and 377,517 gpd, respectively, and average wet weather flows are estimated to be 453,020 gpd (Appendix K, Sewer Study).

Sewer flows would be diverted to one of EMWD's four RWRFs. EMWD has remaining capacity between all four RWRFs to treat 81,000 af of wastewater, which would be sufficient to accommodate sewer flows from the project at full buildout. No new wastewater treatment facilities would be required or are included as part of the project.

***Storm Water Drainage Facilities***

At full buildout of the project, 25% of the site would be pervious landscape area, and 75% of the site would become impervious. A majority of the flows will be conveyed through a new storm drain system, which would travel through various basins and an underground storage facility to treat runoff. Storm water drainage improvements would be constructed at each phase of the project

[1] Dry weather peaking factor and wet weather peaking factor are not applied to the Energy Center wastewater flow as the peaking factor for the cooling and heating blowdowns are calculated separately since they are impacted by temperature and climatic conditions rather than population and rain events.

to support the proposed construction for that phases. Velocities in the drainage pipes will vary from 6 feet per second (fps) to 9 fps and will outlet to existing stormwater overflow paths, which are separated by east and west. Under existing conditions, the eastern overflow path receives a flow of 16.22/23.77 CFS for the 10-year and 100-year storm respectively. The western overflow path receives a flow of 32.58/48.25 CFS for the 10-year and 100-year storm, respectively, under existing conditions.

Once the project is built out in Phase III, flows would travel to the same overflow paths separated by east and west. Under fully developed conditions, the eastern overflow path would receive a flow of 36.56/54.73 CFS for the 10-year and 100-year storm respectively. The western overflow path would receive a flow of 19.21/28.18 CFS for the 10-year and 100-year storm respectively.

Therefore, the eastern overflow path at buildout would receive an increased flow from existing to developed conditions of 19.34/30.96 CFS during the 10-year and 100-year storm event, respectively. These increased flows on the eastern and northern portion of the project site at buildout would drain to an underground storage vault and piping system, in order to contain the increased flows on site. Further, once developed, flows from the western and southern portions of the site would decrease by 16.37/20.7 CFS for the 10-year and 100-year storm events, respectively. These reduced flows would be accommodated by several sand filtration basins.

***Electrical Power, Natural Gas, and Telecommunication Facilities***

Currently, Verizon provides telecommunication service via facilities located in the basement of the existing hospital. During Phase I, a new Verizon facility would be constructed in the basement of the proposed Diagnostic and Treatment Building. This new facility would also have the capacity to serve the existing hospital.

New electrical and natural gas facilities required for the building envelopes, lighting, heating, cooling, appliances, the new energy center etc., would also be constructed during Phase I and Phase II to serve future buildout. Potential impacts associated with the future construction/operation of electrical, natural gas, and telecommunication facilities, have been analyzed as part of this project, and throughout this EIR (Section 4.2, Air Quality; Section 4.3, Biological Resources; Section 4.4, Cultural Resources; Section 4.5, Energy; Section 4.7, Greenhouse Gas Emissions; Section 4.11, Noise; and herein). Impacts analyzed within these sections take into consideration all project components, including installation and operation of electrical, natural gas, and telecommunication facilities during Phases I through III. Some impacts would be reduced to less than significant with mitigation, while other impacts would be less than significant and not require mitigation. In addition, potential impacts associated with the decommissioning of the existing facilities, which are within the boundaries of the current hospital campus, have been analyzed herein and impacts have been determined to be less than significant.

### *Conclusion*

As discussed above, EMWD has sufficient capacity and infrastructure to provide and treat water and to accept and treat wastewater generated from the proposed project and no new or expanded infrastructure associated with treatment would be required for the additional demand or flow generated by the proposed project. In addition, new stormwater drainage facilities that would be required to redirect flows across the site have been incorporated into the overall project description and design of the project. Impacts to resources, such as, biological resources, cultural resources, air quality and greenhouse gas, and noise, associated with the construction and operation of facilities have been analyzed and disclosed within this EIR. Therefore, impacts associated with the construction or expansion of water, wastewater treatment, stormwater facilities, electrical power facilities, natural gas facilities, and telecommunication facilities would be **less than significant**.

***Threshold UTL-2. Would the project require sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

The projected water demand for the project at full buildout is approximately 318 acre-feet a year (AFY), as shown below in Table 4.16-4.

**Table 4.16-4**
**Project Projected Demand**

| Description | Average Day Demand | Annual Demand | |
|---|---|---|---|
| | *gpd* | *Mgal* | *AFY* |
| Hospital Use | 94,348 | 34 | 106 |
| Medical Office Buildings | 11,111 | 4 | 12 |
| Cooling Tower Make-Up | 126,875 | 46 | 142 |
| Steam Boiler Make-Up | 36,165 | 13 | 41 |
| Recycled Water Usage Irrigation | 15,225 | 6 | 17 |
| **Total** | **283,724** | **103** | **318** |

**Source:** EMWD 2019.

A Water Supply Assessment (WSA) Report was prepared for the proposed project and is included within Appendix J. The WSA states that EMWD relies on MWD to meet the needs of its growing population. MWD stated in their 2015 UWMP that with the addition of all water supplies, existing and planned, MWD has the ability to meet all of its member agencies' projected supplemental demand through 2040, even under a repeat of historic multiple year drought scenarios. Based on present information and the assurance that MWD is engaged in identifying solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies, EMWD has determined that it will be able to provide adequate water supplies to meet the potable water demand of 318 AFY for the proposed project as part of its existing and future demands (Appendix J).

In addition, all phases of the proposed project would require a fire flow of 4,000 gpm for a four-hour duration and under maximum daily demand flows, pressures have to remain above 20 pounds per square inch (psi). During Phase I, one new hydrant would be installed and one hydrant would be relocated. Additional fire hydrants would be installed with associated buildings during each phase of the project. Based on computer model tests, Phase III (buildout) of the proposed project under maximum daily demand conditions could receive a total fire flow of 7,860 gpm and 7,825 gpm with an on-site pressure that ranges between 82.5 and 91.1 psi (Appendix J).

Thus, sufficient water supplies are available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. In addition, the off-site water system has the ability to support fire flows required for buildout of the proposed project. Impacts would be **less than significant**, and no mitigation is required.

***Threshold UTL-3. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

The proposed project would add additional demand for wastewater services within the service area for EMWD. The availability of adequate wastewater treatment capacity along with continuous assessment of capacity flows is determined on a project-by-project basis. Individual development projects are required to verify that existing capacity exists to convey and treat the potential wastewater generated with development. Sewer flows would be diverted to one of EMWD's four RWRFs. EMWD has capacity between all four RWRFs to treat 81,800 AFY of wastewater, which is equivalent to 73 MGD. Currently, EMWD treats approximately 50,000 AFY, or 44 MGD, which leaves capacity to treat approximately 31,800 AFY, or 29 MGD of additional wastewater. Based on the remaining capacity to treat wastewater, at buildout, the proposed project's average wet weather flows (greatest of the average flows) would only be approximately 1.7 AFY of water, or 1,500 GPD, or 0.002% of the remaining capacity available to EMWD. Therefore, the EMWD's RWRFs would have adequate capacity to treat wastewater generated by the proposed project at buildout, in addition to existing commitments, and impacts would be **less than significant**, and no mitigation is required.

***Threshold UTL-4. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

## Construction Impacts

Construction and demolition during each phase of the project would generate waste (e.g., concrete rubble, asphalt rubble, wood, drywall) that would result in an increased demand for solid waste collection and disposal capacity. The City's Building Code Requirements require completion and submittal of a Waste Management and Recycling Plan (Form CD-1) to the City for approval prior to issuance of building permits for the site, which will be required as a Condition of Approval. The Waste Management and Recycling Plan will identify the type of project and estimate the amount of materials to be recycled during construction. A Diversion Report (Form CD-2) must then be prepared and reviewed by the City's Building Department in order to demonstrate that the project recycled a minimum of 50% of its construction waste. Thus, with compliance with applicable regulations, the project would not conflict with reduction goals for construction waste, and impacts would be **less than significant**, and no mitigation is required.

## Operational Impacts

Once construction is complete, the project would generate solid wastes associated with the hospital and medical office uses on the site. Wastes would include paper, cardboard, food, bio/hazardous wastes, and green waste. Table 4.16-5 lists the anticipated solid waste quantities generated at the site through all phases of the project.

**Table 4.16-5**
**Project Anticipated Solid Waste Generation**

| Proposed Development | Square Feet/ Number of Beds[1] | Total Anticipated Solid Waste Generated (lbs/day) | Total Anticipated Solid Waste Generated (tons/year) |
|---|---|---|---|
| *Existing* | | | |
| Existing Hospital[2] | 100 beds (130,000 square feet) | 1,600 | 292.0 |
| Medical Office Buildings (x2) | 89,500 sq. ft. | 537 | 98.0 |
| *Total* | *219,500 sq. ft.* | *2,137* | *390.0* |
| *Phase I* | | | |
| Diagnostic and Treatment Building | 95,000 sq. ft. | 570 | *104.2* |
| Energy Center | 22,000 sq. ft. | 132 | *24.1* |
| *Total* | *117,000 sq. ft.* | *702* | *128.3* |
| *Phases II* | | | |
| Hospital Tower | 220 beds (260,000 sq. ft.) | 3,520 | 624.4 |
| Diagnostic and Treatment Building Expansion | 380,000 sq. ft. | 2,280 | 416.1 |

**Table 4.16-5**
**Project Anticipated Solid Waste Generation**

| Proposed Development | Square Feet/ Number of Beds[1] | Total Anticipated Solid Waste Generated (lbs/day) | Total Anticipated Solid Waste Generated (tons/year) |
|---|---|---|---|
| Medical Office Building | 65,000 sq. ft. | 390 | 71.2 |
| Energy Center Expansion | 8,000 sq. ft. | 48 | 8.8 |
| *Total* | *260,000 sq. ft.* | *6,238* | *1,138.4* |
| *Phase III* | | | |
| Hospital Tower | 240 beds (375,000 sq. ft.) | 3,840 | 700.8 |
| Medical Office Building | 95,000 sq. ft. | 570 | 104.0 |
| *Total* | *470,000 sq. ft.* | *4,410* | *804.8* |
| **Total** | **1,125,000 sq. ft.** | **11,887**[2] | **2,169.5**[2] |

**Note:**

1 Waste generation rates: Hospital uses generate 16 lbs per bed per day and all other uses generate 0.006 lbs per square foot per day.

2 Solid Waste generated by the existing hospital, is not counted in overall total solid waste generated during all phases, because it would be demolished and reconstructed as part of Phase III

As shown in the table above, at full buildout the proposed project would generate approximately 11,887 lbs of solid waste per day (5.9 tons per day), and approximately 2,169.5 tons per year. As stated in Section 4.16.2, Existing Conditions, a majority of solid waste generated in the within the City is taken to the Badlands Landfill, which has a remaining capacity of 15.7 million cubic yards. Based on the daily permitted capacity at the Badlands Landfill (4,800 tons/day), buildout of the proposed project would contribute 5.9 tons per day, which represents approximately 0.12% of daily permitted capacity. On an annual basis, the proposed project would contribute 2,169.5 tons per year, which represents an annual contribution of approximately 0.013% towards the remaining capacity.

In the event that the Badlands Landfill closed, or reached capacity prior to full buildout of the project, the two other landfills in the County (El Sobrante and Lamb Canyon) have a combined remaining capacity of 163.1 million cubic yards. Therefore, existing landfills would have adequate capacity to accommodate the proposed project.

All recyclable non-hazardous solid waste generated from the project site (such as plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard) would be recycled per local and state regulations mentioned above, with a goal of 75%, in compliance with the Integrated Waste Management Act. Remaining non-hazardous solid waste would be disposed of at one of the Riverside County landfills as discussed above (hazardous waste is managed and disposed of in compliance with all applicable federal, state, and local laws and is discussed in greater detail in Section 4.8, Hazards and Hazardous Materials, of this EIR).

As of January 2016, local jurisdictions were required to implement an organic waste recycling program to divert organic waste from businesses and multifamily residential developments. AB 1826 phases in new organics recycling requirements over the next several years to help the state meet its goal of recycling 75% of its waste by 2020. Organic waste includes food waste, green waste, landscape and pruning waste, non-hazardous wood waste, and food-soiled paper waste that is mixed with food waste. As of January 2019 business that generate four cubic yards or more of solid waste per week shall arrange for organic waste recycling services. In order to comply, Phases I through III would include the development and implementation of an organic waste recycling program.

The City will review building plans and ensure that proper space is set aside to allow for the collection and storage of recyclable and organic materials prior to issuance of building permits to ensure that there is adequate space for recycling on the project site. Overall, impacts associated with would be **less than significant**, and no mitigation is required.

***Threshold UTL-5. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

Although the increase in solid waste generated would be minimal compared to the daily permitted capacity of available landfills, buildout of the proposed project would increase the volume of solid waste generated in the City that is diverted to existing landfills, thus contributing to the acceleration of landfill closures. Compliance with applicable waste reduction programs and policies would reduce the amount of solid waste being transferred to the landfills. The proposed project would be required to comply with applicable state and local regulations associated with the reduction of solid waste entering landfills, including the California Integrated Waste Management Act, as well as, the City's plans, policies, and programs related to the recycling/diversion and the disposal of solid waste.

As noted above, during construction all wastes will be recycled to the maximum extent possible, achieving a minimum of 50% diversion in accordance with the City's requirements. The project shall prepare a Waste Management and Recycling Plan, which discloses tonnage of solid waste to be disposed of, as well as, commit Kaiser to diverting 50% of construction and demolition waste.

All non-hazardous solid waste generated from the project site once operational (such as plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard) would be recycled, with a goal of 75%, in compliance with the Integrated Waste Management Act. In addition, in compliance with existing regulations (i.e., AB 1826) Phases I through III would be required to implement an organic waste recycling program and subscribe to services to collect the organic waste in order to comply with state regulations and to accommodate expansion. Thus, the project will comply with state and local statutes and regulations related to solid waste during construction and operation of all phases, impacts would be **less than significant,** and no mitigation is required.

## 4.16.5 Mitigation Measures

Impacts would be less than significant, and no mitigation measures would be required**.**

## 4.16.6 Level of Significance After Mitigation

Impacts would be less than significant, and no mitigation measures would be required**.**

## 4.16.7 References Cited

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# CHAPTER 5
# MANDATORY CEQA DISCUSSION TOPICS

This chapter discusses other issues for which the California Environmental Quality Act (CEQA) requires analysis in addition to the specific issue areas discussed in Chapter 4, Environmental Impact Analysis. These additional issues include (1) significant effects that cannot be avoided, (2) significant irreversible environmental changes that would be caused by the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) should it be implemented, and (3) growth-inducing impacts.

## 5.1 SIGNIFICANT EFFECTS THAT CANNOT BE AVOIDED

Section 15126.2(c) of the CEQA Guidelines requires an environmental impact report (EIR) to identify significant environmental effects that cannot be avoided if the project is implemented (14 CCR 15000 et seq.). As discussed in Chapter 4 of this EIR, implementation of the project would result in significant impacts to air quality and transportation. Project implementation would also result in cumulative impacts to air quality and transportation. Where significant impacts were identified for other issues, mitigation measures were developed that would reduce impacts to less than significant.

## 5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE CAUSED BY THE PROJECT SHOULD IT BE IMPLEMENTED

CEQA Guidelines Section 15126.2(d) requires the evaluation of (14 CCR 15000 et seq.):

> [u]ses of nonrenewable resources during the initial and continued phases of the project [that] may be irreversible since a large commitment of such resources makes removal or non-use thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Approval of the project would cause irreversible environmental changes consisting of the following:

- Alteration of the human environment as a consequence of the expansion of the hospital campus development process. The project would irreversibly alter the previously undeveloped portions of the site to a medical center consisting of medical office buildings, an expanded hospital, and hospital-related facilities. This would constitute a permanent change. Once construction occurs, reversal of the land to its original condition is highly unlikely.

- Increased requirements of public services and utilities by the project, representing a permanent commitment of these resources. Service providers have adequate supply of resources to supply the project (see Section 4.13, Public Services and Recreation, and Section 4.16, Utilities and Service Systems).
- Use of various new raw materials, such as lumber and forest products, metals (such as iron and steel), sand and gravel, asphalt, petrochemicals, and other materials for construction. Some of these resources are already being depleted worldwide. The energy consumed in developing and maintaining the site may be considered a permanent investment that would incrementally reduce existing supplies of fossil fuels, natural gas, and gasoline (see Section 4.5, Energy).

## 5.3 GROWTH-INDUCING IMPACTS

Section 15126.2(e) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Induced growth is distinguished from the direct employment, population, or housing growth of a project (14 CCR 15000 et seq.). If a project has characteristics that "may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively," then these aspects of the project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it stimulates population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities, such as the Southern California Association of Governments (SCAG).

The CEQA Guidelines also indicate that growth should not be assumed to be either beneficial or detrimental (14 CCR 15126.2(d)). According to Section 15126.2(e) of the CEQA Guidelines, a project may foster economic or population growth, or additional housing, either indirectly or directly, in a geographical area if it meets any one of the following criteria:

- The project would remove obstacles to population growth.
- Increases in the population may tax existing community service facilities, causing significant environmental effects.
- The project would encourage and facilitate other activities that could significantly affect the environment.

The project would involve a three-phased expansion of the existing Medical Center to include additional medical office buildings, an expanded hospital, new parking structures, and additional hospital-related facilities. The project does not propose any new housing or residential units and therefore would not result in a direct increase in population. The project would provide a comprehensive range of health care services to Kaiser Permanente members in the City of Moreno Valley (City) and surrounding communities. As the local population grows and ages, the demand for medical services and hospital beds in the area will also increase, while more efficient means to meet these demands will also be needed to otherwise keep potentially rising costs down. The project would also require approximately 4,006 additional employees to serve the project at full buildout. However, meeting projected demands for hospital and medical services would not be growth-inducing. Indirectly, the project could result in an added attractive community asset that is currently not in existence, and the project would also require approximately 4,006 additional employees to serve the project. However, the project is not expected to result in population or employment growth above City General Plan forecasts, as discussed below.

According to the SCAG Growth Forecast (Appendix to the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy), total population within the City is expected to increase from 197,600 in 2012 to 256,600 in 2040 (SCAG 2016) and total employment is anticipated to grow from 31,400 in 2012 to 83,200 in 2040 in the City (SCAG 2016). As such, according to the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, the City is expected to add a total of 51,800 new jobs during the 24 year planning horizon. Currently, approximately 755 employees work at the existing Medical Center. Total employees/staff at the end of Phase I would increase by 300 for a total of 1,055 and total employees/staff at full build-out of the project (completion of Phase II and Phase III) would add an additional 3,706 employees for a total employment population of 4,761. The 4,006 increase in employment at full build-out of the project would be represent approximately 7% of the anticipated increase in the number of jobs within the City according to the SCAG Growth Forecast in 2040. Therefore, the project would not stimulate population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities.

Indirect growth can also occur by a project installing infrastructure that can support further growth. The project site is served by existing public services and utilities and no new utilities would be needed in order to serve the project. Therefore, indirect growth inducement as a result of the extension of these facilities into a new area would not occur.

Overall, the project would indirectly stimulate population growth through the addition of new hospital staff members. However, the growth would be consistent with employment growth envisioned in local and regional land use plans and in projections made by regional planning authorities, since the planned growth of the project site and its land use intensity have been factored into the underlying growth projections of the SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy.

## 5.4 REFERENCES CITED

SCAG (Southern California Association of Governments). 2016. *Demographics & Growth Forecast, Appendix to 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*. Adopted April 2016. Accessed March 26, 2019. http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf.

# CHAPTER 6
# CUMULATIVE IMPACTS

## 6.1 INTRODUCTION

Although the environmental effects of an individual project may not be significant when that project is considered independently, the combined effects of several projects may be significant when considered collectively. Such impacts are cumulative impacts. Section 15355 of the California Environmental Quality Act (CEQA) Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines provides guidance for analyzing significant cumulative impacts in an environmental impact report (EIR). According to this section of the CEQA Guidelines, the discussion of cumulative impacts "need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness." The discussion should also focus only on significant effects resulting from the project's incremental effects and the effects of other projects. According to Section 15130(a)(1), "An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR."

Cumulative impacts can occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and future projects located in proximity to the project under review. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments whose impacts might compound or interrelate with those of the project under review.

## 6.2 CUMULATIVE METHODOLOGY

Section 15130(b)(1)(A) of the CEQA Guidelines allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This discussion uses the following approach: an initial list and description of all related (cumulative) projects is presented, followed by a discussion of the effects that the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) may have on each environmental category of concern, such as traffic, noise, etc. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness.

## 6.3 CUMULATIVE PROJECTS

Other than air quality, greenhouse gas emissions, noise, and transportation/traffic, cumulative impacts for all other environmental issue areas are based on a list of projects within the proposed project's study area that either have applications submitted or approved, are under construction, or have recently been completed. Based on information provided by the City of Moreno Valley (City), 80 cumulative projects were considered in this analysis. The cumulative projects identified in the study area are listed in Table 6-1, and the numbers correspond to the numbers shown on Figure 6-1, Cumulative Projects.

**Table 6-1**
**Cumulative Projects List**

| ID | Project Name | Project Type | DUs/TSF | |
|---|---|---|---|---|
| 1 | PA15 - Global Investment & DEV LLC | Single-Family Housing | 272 | DU |
| 2 | Tract 31305 - RSI | Single-Family Housing | 168 | DU |
| 3 | Tract 36933 - Beazer Homes | Single-Family Housing | 275 | DU |
| 4 | Tract 32548 - Gabel, Cook, and Associates | Single-Family Housing | 107 | DU |
| 5 | PA 15-0046 - LA Jolla Development/Rocas Grandes | Multi-Family Housing | 426 | DU |
| 6 | PA 13-0006 - Rancho Belago Developers Inc. | Multi-Family Housing | 141 | DU |
| 7 | PEN 16 - MV Bella Vista GP LLC | Multi-Family Housing | 220 | DU |
| 8 | Moreno Valley Medical Plaza | Medical Office Building | 217.00 | TSF |
| 9 | Tract 33436 - Winchester Associates | Single-Family Housing | 105 | DU |
| 10 | Riverside University Health System Expansion | Medical Office Building | 200.00 | TSF |
| 11 | Eucalyptus Industrial Park | Warehousing, High-Cube Warehousing | 2,244.60 | TSF |
| 12 | World Logistics Center | Warehousing | 40,600.00 | TSF |
| 13 | TownGate Square | Office | 463.48 | TSF |
| 14 | Westcoast Textiles (DPR-0001) | Single-Family Housing | 135 | DU |
| 15 | Tract 22180 - RSI | Single-Family Housing | 140 | DU |
| 16 | Tract 30268 | Multi-Family Housing | 82 | DU |
| 17 | PA15-0042 - Latco SC Inc. | Multi-Family Housing | 112 | DU |
| 18 | Winchester Associates - "Scottish Village" | Multi-Family Housing | 194 | DU |
| 19 | Tract 36401 - Continental East | Multi-Family Housing | 125 | DU |
| 20 | Tract 36708 - Nova Homes | Multi-Family Housing | 122 | DU |
| 21 | Latco SC Inc. | Multi-Family Housing | 272 | DU |
| 22 | Mainstreet Post-acute Care | Office/Medical | 57.00 | TSF |
| 23 | Gateway Business Park | Warehousing, High-Cube Warehousing | 184.00 | TSF |
| 24 | Elsworth Plaza | Warehousing, High-Cube Warehousing | 30.00 | TSF |
| 25 | Cactus Commerce Center | Warehousing, High-Cube Warehousing | 44.30 | TSF |
| 26 | MV Professional Office | Office | 84.00 | TSF |
| 27 | March Commerce Center | Commercial | 42.15 | TSF |
| 28 | Plaza Del Sol | Commercial | 56.00 | TSF |
| 29 | Iris Plaza | Commercial | 87.12 | TSF |
| 30 | Prologis Centerpointe | Warehousing, High-Cube Warehousing | 601.81 | TSF |

**Table 6-1**
**Cumulative Projects List**

| ID | Project Name | Project Type | DUs/TSF | |
|---|---|---|---|---|
| 31 | Brodiaea Business Park | Warehousing, High-Cube Warehousing | 99.98 | TSF |
| 32 | Alessandro Plaza | Commercial | 122.16 | TSF |
| 33 | Moreno Valley Commerce Center | Commercial | 110.86 | TSF |
| 34 | Moreno Valley Industrial Park | Warehousing, High-Cube Warehousing | 207.68 | TSF |
| 35 | Moreno Valley Industrial Park | Warehousing, High-Cube Warehousing | 400.94 | TSF |
| 36 | March Business Center | Warehousing, High-Cube Warehousing | 1,703.00 | TSF |
| 37 | 17825 Indian St | Warehousing, High-Cube Warehousing | 1,109.38 | TSF |
| 38 | First Nandina Logistics | Warehousing, High-Cube Warehousing | 1,388.21 | TSF |
| 39 | Indian Street Commerce Center | Warehousing, High-Cube Warehousing | 433.92 | TSF |
| 40 | 17825 Indian St | Warehousing, High-Cube Warehousing | 360.45 | TSF |
| 41 | Wal-Mart | Commercial | 193.00 | TSF |
| 42 | Tract 32515 - Lennar Homes-Meadow Creek | Single-Family Housing | 148 | DU |
| 43 | Tract 32005 - Red Hill Village | Single-Family Housing | 214 | DU |
| 44 | Tract 31592 - KB Homes | Single-Family Housing | 139 | DU |
| 45 | Tract 33256 - Pacific Communities | Single-Family Housing | 100 | DU |
| 46 | Tract 35823 - Lansing Companies | Single-Family Housing | 562 | DU |
| 47 | Tact 33222 - 26th Corp | Single-Family Housing | 235 | DU |
| 48 | Tract 36436 - KB Homes | Single-Family Housing | 159 | DU |
| 49 | Tract 34748 - Rados | Single-Family Housing | 135 | DU |
| 50 | Tract 35414 - Oak Park Partners | Multi-Family Housing | 266 | DU |
| 51 | PEN16-0039 - Latco SC Inc. | Multi-Family Housing | 272 | DU |
| 52 | PEN17-004 - City of Moreno Valley "Boulder Bridge" | Multi-Family Housing | 141 | DU |
| 53 | Tract 36760 | Single-Family Housing | 221 | DU |
| 54 | Centerpointe Office Area | Office | 258.00 | TSF |
| 55 | First Industrial | Warehousing, High-Cube Warehousing | 350.00 | TSF |
| 56 | Towngate Highlands | Commercial | 251.90 | TSF |
| 57 | Stoneridge Towne Center | Commercial | 124.17 | TSF |
| 58 | Alessandro and Lasselle | Commercial | 140.00 | TSF |
| 59 | Stravisky Development Group | Warehousing, High-Cube Warehousing | 330.00 | TSF |
| 60 | Phelan Development | Warehousing, High-Cube Warehousing | 98.00 | TSF |
| 61 | Meridian March Business Park SP | Warehousing, High-Cube Warehousing | 41,917.00 | TSF |
| 62 | March Lifecare Medical Office | Medical Office Building | 275.00 | TSF |
| 63 | March Airport General Plan | Airport | 559.00 | TSF |
| 64 | Freeway Business Center | High Cube | 710.00 | TSF |
| 65 | Meridian Business Park North | Industrial park | 5,985.00 | TSF |

**Table 6-1**
**Cumulative Projects List**

| ID | Project Name | Project Type | DUs/TSF | |
|---|---|---|---|---|
| 66 | PLN 16-00013 | Warehousing, High-Cube Warehousing | 241.00 | TSF |
| 67 | Bookend DPR 15-00010 | Warehousing, High-Cube Warehousing | 172.00 | TSF |
| 68 | DPR 17-00001 | Warehousing, High-Cube Warehousing | 811.00 | TSF |
| 69 | IPT Perris DC II | Warehousing, High-Cube Warehousing | 273.00 | TSF |
| 70 | Circle Industrial DPR 13-02-0005 | Warehousing, High-Cube Warehousing | 600.00 | TSF |
| 71 | TTM 36648 Stratford Ranch | Single-Family Housing | 275 | DU |
| 72 | Harvest Landing Specific Plan | Single-Family Housing | 345 | DU |
| | | Multi-Family Housing | 1,856 | DU |
| | | Sports Park | 727.45 | TSF |
| | | Business Park | 1,233.40 | TSF |
| | | Commercial | 73.18 | TSF |
| 73 | Mission Pacific Commercial | Single-Family Housing | 192.00 | TSF |
| | | Retail | 15.00 | TSF |
| | | Supermarket | 50.00 | TSF |
| | | Pharmacy | 20.00 | TSF |
| | | High Turnover Restaurant | 15.00 | TSF |
| 74 | Tract Map 32917 | Multi-Family Housing | 227 | DU |
| 75 | Alere | High Cube | 644.00 | TSF |
| 76 | Jordan Distribution Center | High Cube | 378.00 | TSF |
| 77 | Investment Development Services (IDS) II | High Cube | 350.00 | TSF |
| 78 | TR 30592 | Single-Family | 131 | DU |
| 79 | Alessandro Commerce Center | Warehouse or High Cube | 808.00 | TSF |
| 80 | Villages at Lakeview | SFDH (MDR, MHDR) | 2,200 | DU |
| | | High Density Residential | 3,750 | DU |
| | | Mixed Use - Dwelling Units | 2,775 | DU |
| | | Mixed Use - Commercial | 555.00 | TSF |
| | | Commercial Office | 825.00 | TSF |
| | | Schools | 114.20 | AC |

**Source**: Appendix I, Traffic Impact Analysis. DU = dwelling unit; TSF = thousand square feet.

## 6.4 CUMULATIVE IMPACT ANALYSIS

The discussion below evaluates the potential for the project to contribute to an adverse cumulative impact on the environment. For issues addressed in this EIR, the thresholds used to determine significance are those presented in each of the sections of Chapter 4, Environmental Impact Analysis. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative impact in that resource area. Discussion is then presented regarding the potential for the identified cumulative projects to result in such a cumulative impact, followed by discussion of whether the project's contribution to any cumulative impact would be cumulatively considerable.

## 6.4.1 Aesthetics

As stated in Section 4.1, Aesthetics, impacts associated with a scenic vista or scenic resource, degradation of existing visual character or quality and compliance with regulations governing scenic quality, and contribution to new sources of light or glare, would all be less than significant with no mitigation required. A significant cumulative impact to aesthetics would occur where the development of the cumulative projects would degrade the visual quality or character of an area, where projects would combine to block important views, or where projects would cumulatively result in a new source of light or glare. The geographic scope for analyzing cumulative impacts related to aesthetics focuses on lands in proximity to the project area and within the surrounding viewshed that would have views of the site from public locations (e.g., public roadways).

The list of cumulative projects identified in Table 6-1 would be interspersed mostly throughout an established urban setting, however there are a number of cumulative projects that would be developed on vacant land and would contribute to the overall character and quality of the City once developed. Building materials, bulk, scale, and setbacks for each cumulative project would be required to comply with the General Plan, Municipal Code, and any applicable specific plans as it relates to design standards and scenic quality. Thus minimizing potential impacts due to incompatibility with existing character or quality. Impacts to scenic vistas could be exacerbated by other projects being constructed within the same general line of sight towards the nearby scenic resources. These projects include a World's Logistic Center (40,600 ksf), 159 unit single-family development, 235 unit single-family development, and a 57,000 ksf Medical Office Building. Neither of the single-family developments, nor the Medical Office Building, would be of similar height, bulk and scale as the large structures proposed for the project site. The World's Logistic Center would be a maximum of 60 feet, similar to the proposed Parking Structure 2. However, the Final EIR for the World's Logistic Center stated that the project would not block views of the Russell Mountains from public viewing areas that abut the project site to the west, north, and south, because views of the mountains would still be visible beyond the proposed buildings along the horizon. Regarding lighting and glare, all projects would be subject to the light and glare threshold identified in the City of Moreno Valley Municipal Code, Section 9.10.110, which would prevent or minimize potential impacts from light and/or glare. Overall, development of the proposed project and cumulative projects would not result in a cumulatively considerable impact on visual character and quality, scenic vistas or lighting and glare. Cumulative impacts would be **less than significant.**

## 6.4.2 Air Quality

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the South Coast Air Basin (SCAB) is designated as nonattainment for selected air pollutants under the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

If the proposed project does not exceed thresholds and is determined to have a less-than-significant project-specific impact, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

As discussed in Section 4.2, Air Quality, implementation of the proposed project would generate construction-related air pollutant emissions from three general activity categories: entrained dust, equipment and vehicle exhaust emissions, and architectural coatings. Entrained dust would result from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in $PM_{10}$ and $PM_{2.5}$ emissions. To account for dust control measures to comply with SCAQMD Rule 403 in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction. Exhaust from internal combustion engines used by construction equipment and hauling trucks (dump trucks) and vendor trucks (delivery trucks) and worker vehicles would result in emissions of $NO_x$, VOCs, CO, $PM_{10}$, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113 (Architectural Coatings) (refer to SC-AQ-1 in Section 4.2).

### Construction Emissions

Daily construction emissions during Phases I, II, and III of the proposed project would not exceed the SCAQMD significance thresholds for VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, or $PM_{2.5}$. As such, impacts of the proposed project would be less than significant during construction. Since the proposed project does not exceed thresholds project construction, and does not account for a significant proportion of the cumulative total emissions, **a cumulatively considerable impact would not occur**.

### Operational Emissions

Following the completion of construction activities, the project would generate VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ emissions from mobile and stationary sources including vehicular traffic generated by patients, visitors, physicians/staff, and emergency vehicles (i.e., ambulance), area sources (space heating, water heating, landscaping), diesel generators, hot water boilers, and steam boilers.

The combined mobile, area, and stationary source emissions would not exceed the SCAQMD operational thresholds for VOC, $NO_x$, CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ at Phase I buildout of the project. The combined mobile, area, and stationary source emissions would not exceed the SCAQMD operational thresholds for CO, $SO_x$, $PM_{10}$, and $PM_{2.5}$ but would exceed the SCAQMD operational thresholds for $NO_x$ at the buildout of Phases II and III of the project. The exceedances of $NO_x$ at the buildout of Phases II and III is primarily due to mobile source and natural gas combustion emissions.

There are no feasible measures to reduce the operational emissions of the project, which are primarily driven by natural gas combustion at the Energy Center and mobile sources. Impacts would remain significant and unavoidable because $NO_x$ emissions would remain above the SCAQMD's threshold of significance.

With regard to cumulative impacts associated with nonattainment pollutants, in general, if a project is consistent with the community and general plans, it has been accounted for in the attainment demonstration contained within the state implementation plan and would therefore not cause a cumulatively significant impact on the ambient air quality. As the project does not conflict with the existing zoning for the site, it would be consistent with the City's General Plan and underlying assumptions. The project would also not exceed the growth projections within the SCAQMD 2016 RTP/SCS. However, as discussed above the project would exceed the SCAQMD $NO_x$ thresholds during operation. Therefore, impacts would be **cumulatively considerable and significant.**

### 6.4.3 Biological Resources

The proposed project would not have any direct or indirect impacts on special-status plant species. The project would have potentially significant impacts on special-status wildlife, including the burrowing owl which are MSHCP covered species. Compliance with mitigation measures identified in Section 4.3, Biological Resources, would reduce potentially significant to below a level of significance.

If cumulative projects are located within an MSHCP they would be required to comply with the policies and regulations therein. Consistency with the MSHCP results in the ability of a project to rely on the MSHCP for mitigation related to cumulative biological impacts.

Cumulative projects that would occur on previously undeveloped land would be required to identify and mitigate any potentially significant impacts to biological resources. Projects that would occur on previously developed land or in a highly urbanized area would have less potential to significantly impact biological resources; however, there is a potential for nesting birds to be present in ornamental landscaping or on existing buildings. The combined construction of projects within the vicinity of the proposed project could deprive some species of a significant amount of habitable space. However, it is anticipated that species that are potentially affected by related projects would also be subject to the same requirements of CEQA as the project. These determinations would be made on a case-by-case basis and the effects of cumulative development on nesting birds would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements.

Therefore, for the reasons described above, cumulative adverse effects on biological resources would be **less than significant.**

## 6.4.4 Cultural Resources

The proposed project would not have any impacts on historical resources; however, as stated in Section 4.4, Cultural Resources, impacts associated with the potential to uncover archaeological resources, as well as, unknown human remains were determined to be potentially significant.

The proposed project's impacts to the cultural resources would be reduced to less than significant through mitigation measures that include monitoring of grading activities. Cumulative projects would be subject to similar mitigation measures.

Because the proposed project and those projects identified within the cumulative impact study area are primarily mitigated by the monitoring of grading activities, adequate mitigation has occurred and the proposed project would not contribute to a cumulatively significant impact to cultural resources. Cumulative impacts would be **less than significant.**

## 6.4.5 Energy

A significant cumulative impact to energy resources would result if wasteful, inefficient or unnecessary consumption of energy resources were to occur, or if the project would, in combination with other cumulative projects, conflict, or obstruct state local plans for renewable energy or energy efficiency. Implementation of the proposed project, as well as, cumulative development in the surrounding area would result in an increased energy demand. As stated in Section 4.5, Energy, prior to project approval, Kaiser would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. For these reasons, the electricity consumption of the project would not be considered inefficient or wasteful. In addition, because the project would voluntarily implement design features and programs to reduce energy consumption beyond what is required by the state, the project would be consistent with existing energy standards and regulations.

All other cumulative projects considered in this analysis would be required to meet the mandatory energy standards, current CCR Title 24, Part 6 California Energy Code, and Part 11 California Green Building Standards. Compliance with these policies and other energy reduction strategies would ensure that energy use as a result of cumulative development would not be wasteful, inefficient, or unnecessary, and cumulative impacts would be **less than significant.**

## 6.4.6 Geology and Soils

Potential cumulative impacts on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions, or substantially contribute to erosion. Most geology and soil hazards associated with development on surrounding projects would be site-specific and can be mitigated on a project-by-project basis. Such hazards include exposure of people or structures to rupture of an earthquake fault, liquefaction, landslides, unstable geologic units, and expansive soils. Individual project mitigation for these hazards would ensure that there are no residual cumulative impacts. Proper engineering design, utilization of standard construction practices, and implementation of the recommendations found in the site-specific geotechnical reports would ensure that the potential for cumulatively considerable geological impacts resulting from the project would be less than significant. Since geologic hazards are site-specific and not necessarily cumulative in nature, the proposed project would not have a cumulatively considerable impact.

Excavation and ground-disturbing activities during construction of the proposed project, and cumulative projects, could potentially leave loose soil exposed to the erosive forces of rainfall and high winds, which would increase the potential for soil erosion and loss of topsoil. Adequate drainage on project site is critical in reducing potential soil erosion or the loss of topsoil. The project sites would be graded and maintained such that surface drainage is directed away from structures, in accordance with 2016 CBC Chapter 18, Soils and Foundations, or other applicable standards. Earth-disturbing activities associated with construction would be temporary and in compliance with the General Construction Permit and BMPs outlined in the SWPPP. Therefore, impacts related to soil erosion and the loss of topsoil would not be cumulatively considerable and impacts would be **less than significant**.

## 6.4.7 Greenhouse Gas Emissions

Greenhouse gas emissions are a cumulative impact—resulting from past, current, and future projects—and the cumulative projects listed in Table 6-1 would likely contribute to this widespread cumulative impact given the cumulative nature of greenhouse gas emissions. Given the global scope of climate change, it is not anticipated that a single project would have an individually discernible effect on global climate change. It is more appropriate to conclude that if a project is anticipated to result in a substantial increase in greenhouse gas emissions, it would combine with global emissions to cumulatively contribute to global climate change.

As stated in Section 4.7, Greenhouse Gas Emissions, and as shown in Table 4.7-8, the estimated Phase I through III annual project-generated GHG emissions during operational year 2035 would be approximately 13,420 MT $CO_2e$ per year as a result of buildout of Phase III project operations. With amortized construction emissions added, the total buildout operational emissions would be 13,612 MT $CO_2e$ per year. When the demolished hospital tower and Central Utility Plant is subtracted from the Phase III emissions, the net total would be 10,823 MT $CO_2e$ per year. The project was shown to be consistent with the California Air Resources Board (CARB) Scoping Plan, Southern California Association of Governments (SCAG) 2016 RTP/SCS, and the City's Energy Efficiency and Climate Action Strategy. Therefore, impacts associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases were determined to be less than significant. Thus, the proposed project would not result in a significant increase in project-level greenhouse gas emissions, which would combine with other emissions form cumulative projects to create a significant cumulative impacts. Cumulative impacts would be **less than significant**.

## 6.4.8 Hazards and Hazardous Materials

Cumulative impacts related to hazards and hazardous materials would result from projects that combine to increase exposure to hazards and hazardous materials, which could result in potential impacts to the public or the environment. The potential for cumulative impacts to occur is limited since the impacts from hazardous materials use on a project site are site specific. As stated in Section 4.8, Hazards and Hazardous Materials, the proposed project would result in less than significant impacts with compliance to local, state, and federal regulations, including updating the Hazardous Materials Business Plan and the Medical Waste Management Plan. Although each development site from the cumulative projects list (Table 6-1) has potentially unique hazardous materials considerations, it is expected that future development within the area will comply with federal, state, and local statutes and regulations applicable to hazardous materials. Development of the project site would not, therefore, create a cumulative impact related to exposing the public to hazardous materials. For these reasons, cumulative impacts to the public or environment resulting from the accidental release of hazardous materials would be **less than significant.**

## 6.4.9 Hydrology and Water Quality

The geographic scope of cumulative effects on hydrology and water quality is typically watershed based, whereby projects contributing flow to the same water bodies as the project would be considered. Groundwater basins typically serve localized areas; therefore, any cumulative impacts related to groundwater would generally be localized.

As stated in Section 4.9, Hydrology and Water Quality, although stormwater treatment BMPs have been proposed as part of the project, as indicated in the Water Quality Management Plan (Appendix G-1), it is not clear that these BMP features would be constructed in sequence with phased construction. In the absence of stormwater treatment BMPs following individual construction phases, residual concentrations of oil and grease and other contaminants could be transported off site in stormwater, potentially impacting downstream beneficial uses of water bodies. Mitigation measures **MM-HYD-1** through **MM-HYD-3** would reduce potentially significant impacts to below a level of significance. Also stated in Section 4.9, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Impacts are considered less than significant and no mitigation is required.

On a cumulative scale, the proposed project in conjunction with other future projects, may potentially have an impact on water quality; however, future projects are also required to comply with applicable federal, state, and local regulations for stormwater and construction discharges, including the application of appropriate site-specific BMPs, which would help to reduce cumulatively related water quality impacts.

In addition, the project site is underlain by relatively impermeable, silty soils that are not conducive to groundwater recharge. Most of the site is currently developed and paved. Paving over the remaining undeveloped areas would not interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. Given this consideration, the project would not combine with other projects in the area to create cumulative impacts on the depletion of groundwater supplies. Thus, the proposed project would not have a cumulatively considerable impact on water quality, hydrology, or groundwater and cumulative impacts would be **less than significant.**

### 6.4.10 Land Use and Planning

Cumulative land use impacts would result from projects that contribute to development that is inconsistent with applicable plans or incompatible with existing or planned uses; or would combine to physically divide a community. Cumulative projects identified in Table 6-1 would be required to comply with the local General Plan and prove to be consistent with the goals and policies identified therein. Projects would also be required to comply with the SCAG 2016 RTP/SCS.

As stated in Section 4.10, Land Use and Planning, and as shown in Table 4.10-1 and Table 4.10-2, the proposed project would be consistent with the goals and polices outlined in the City's General Plan, as well as, the SCAG 2016 RTP/SCS, and would implement the zoning and general plan designation for medical center uses on the project site. Section 4.10 also states that the project would not physically divide an established community; rather, the project would continue to provide health care and emergency medical services to the surrounding residential communities and to the City at large on an existing site, currently developed with a hospital and medical office buildings.

In combination with other cumulative projects identified in Table 6-1, the proposed project would not incrementally contribute or result in an inconsistency or conflict with an adopted land use plan, land use designation, or policy. The proposed project would not contribute to a cumulatively considerable impact related to land use, and cumulative impacts would be **less than significant.**

## 6.4.11 Noise

The geographic extent for the analysis of cumulative impacts related to noise is generally limited to areas within approximately 0.25 mile of the project components and access routes. This is because noise impacts are generally localized, mainly within approximately 500 feet from any noise source; however, it is possible that noise from different sources within 0.25 mile of each other could combine to create a significant impact to receptors at any point between the projects. At distances greater than 0.25 mile, construction noise would be briefly audible and steady construction noise from the project would generally dissipate into quiet background noise levels.

As discussed in Section 4.11, Noise, on-site noise-generating activities associated with all phases of the project would include short-term construction as well as long-term operational noise associated with hospital operations, such as noise from emergency vehicles (i.e., ambulance sirens), proposed parking structures and surface parking, and other on-site noise sources (i.e., emergency standby generators and HVAC equipment). All phases of the project would also generate off-site traffic noise along various roads in the area. On-site noise generating activities would be minimized through implementation of mitigation measures.

**Construction Impacts**

As stated in Section 4.11, and as shown in Table 4.11-6, the predicted construction noise for any listed phase does not exceed the Federal Transportation Administration's general assessment guidance metric of 80 dBA $L_{eq8h}$. Nevertheless, to help ensure construction activity noise is adequately controlled and/or abated and results in actual noise exposures at nearby noise-sensitive receivers that are consistent with predicted levels presented in Table 4.11-6, Kaiser Permanente shall incorporate two construction noise mitigation measures (**MM-NOI-1** and **MM-NOI-2**) as outlined in Section 4.11.5, Mitigation Measures. Furthermore, construction activities would be short-term, and would cease upon construction completion. Therefore, short-term construction noise from on-site sources would be less than significant with mitigation. The combination of project generated temporary construction noise and noise generated from surrounding projects, impacts would not be cumulatively considerable. Cumulative construction noise impacts would be **less than significant.**

**Operational Impacts**

Long-term operational noise associated with increased emergency vehicle use would be less than significant and no mitigation is required. Regarding noise from parking structures or surface parking, noise levels would range from approximately 45 dBA $L_{max}$ to 60 dBA $L_{max}$. These noise levels, while audible, would generally be very brief and are not louder than measured ambient noise levels in the project area, as shown in Table 4.11-4. Potential noise impacts from parking structures or surface parking are considered to be less than significant. As the existing hospital currently operates 24-hours per day, and the proposed added facilities will also operate 24 hours a day to serve the needs of its patients and the surrounding community. When the two emergency generators associated with the Energy Center are running in "non-emergency" conditions, they have the potential to exceeded noise levels greater than City's allowable nighttime requirement at a distance of 200 feet from the property line. Mitigation would serve to reduce this impact to below a level of significance. In addition, regarding off-site traffic related noise, the additional traffic volume along the adjacent roads would not increase the existing noise level in the project vicinity by 5dB, impacts from traffic noise level increase is considered less than significant; no mitigation measures are required.

Over time, as cumulative development continues, the ambient noise level would increase due to an increase in traffic volumes and a general increase in urban activity/human presence. For example, proposed residential projects in the area that have yet to be constructed would add to the ambient noise level in the community due to the addition of cars, traffic, schools, parks etc. However, the project and all future projects would be required to adhere to the City's noise thresholds and mitigate as necessary. As such, the project would not contribute to a cumulatively considerable increase in noise levels in conjunction with the other reasonably foreseeable projects. Cumulative operational noise impacts would be **less than significant.**

## 6.4.12 Population and Housing

Planned projects identified in Table 6-1 could combine to create substantial population growth in the City. However, as stated in Section 4.12, Population and Housing, construction employment would not induce substantial population growth in the area. In addition, while, the project would provide employment opportunities to the local and regional area for an extended period, the employment growth caused by the project falls well within current projections for employment growth in the City and Riverside County. For these reasons, the proposed project would not induce substantial unplanned population growth, and impacts would be less than significant. Therefore, it is not anticipated that the proposed project, in combination with other future foreseeable projects, would create a cumulatively considerable impact. Cumulative impacts would be **less than significant.**

## 6.4.13 Public Services and Recreation

As detailed in Section 4.13, Public Services and Recreation, the proposed project could result in slight residential population growth, which could increase demand for fire and police protection services, as well as, generate demand for school and park facilities. However, the increase in on-site and citywide population would be minimal and is ultimately not expected to increase demand for any of these services or facilities beyond their current capacity.

The proposed project would be subject to the payment of a Development Impact Fee (DIF), which would be used exclusively for future public facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses.

Regarding schools, it is not anticipated that Phase I or other phases would result in the need for new or physically altered school facilities, and the project would be required to pay school fees pursuant to SB 50, which would constitute full mitigation for any impacts should they occur, impacts related to school facilities would be less than significant, and no mitigation is required. Regarding parks, the project would not result in the increased demand for or use of existing parks or recreational facilities such that new or physically altered park facilities would be required.

Similarly, the cumulative projects identified above in Table 6-1 would also be required to contribute a fair share contribution of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City based on the projected demand each project would have on public services and facilities (e.g., housing developments would have a greater impact on public services and facilities than a hospital). Therefore, since each project would be required to contribute to the DIF program, or expand or construct new facilities, if determined to be necessary, impacts would not be cumulatively considerable and would be **less than significant.**

## 6.4.14 Transportation

Cumulative traffic impacts result when multiple projects contribute trips to the same circulation system features. A cumulative traffic impact analysis was conducted for this project as part of the traffic impact analysis, which is provided as Appendix I of this EIR. This cumulative analysis estimated cumulative impacts on the studied roadway system (intersections and street segments) and analyzed whether the project's contribution would be significant (or, for purposes of this analysis, cumulatively considerable).

### Intersections

Cumulative traffic conditions at buildout of the proposed project include ambient traffic growth, and the traffic from the proposed project. Mitigation measures are proposed under Existing with Project, Phase I Project Completion (2023) with Project Traffic Conditions, Phase II Project Completion (2032) with Project Traffic Conditions, Phase III Project Completion (2038) with Project Traffic Conditions, and General Plan Buildout (2040) with Project Traffic Conditions. While mitigation would avoid or reduce impacts at some intersections, at the following intersections additional improvements are required but are not feasible due to right-of-way constraints. Therefore, the following intersections would continue to operate at a deficient LOS, and project impacts would also be significant and unavoidable:

- Intersection No. 6: Day Street/Alessandro Boulevard:
- Intersection No. 7 – Elsworth Street/Alessandro Boulevard
- Intersection No. 8 – Elsworth Street/Cactus Avenue
- Intersection No. 12 – Graham Street-Riverside Drive/Cactus Avenue
- Intersection No. 13: Heacock Street/Alessandro Boulevard
- Intersection No. 17 – Indian Street/Cactus Avenue
- Intersection No. 19 – Perris Boulevard/Alessandro Boulevard
- Intersection 20: Perris Boulevard/Cactus Avenue
- Intersection No. 21- Perris Boulevard/Iris Avenue
- Intersection No. 27 – Kitching Street/ Cactus Avenue
- Intersection No. 28 – Kitching Street/Iris Avenue
- Intersection No. 30 – Lasselle Street/Cactus Avenue
- Intersection No. 32 – Lasselle Street/Iris Avenue
- Intersection No. 33 – Lasselle Street/Krameria Avenue
- Intersection No. 38 – Lasselle Street/Via De Anza - Rancho Verde High School
- Intersection No. 39 – Evans Road/Ramona Expressway
- Intersection No. 45: Nason Street/Eucalyptus Avenue
- Intersection No. 49 – Nason Street-Hillrose Lane/Iris Avenue
- Intersection No. 57: Moreno Beach Drive/Eucalyptus Avenue

**Roadway Segments**

While mitigation would avoid or reduce impacts at some roadway segments, the following roadway segments would not be able to be feasibly mitigated due to right-of-way constraints. Therefore, these roadway segments would continue to operate at a deficient LOS, and project impacts would also be significant and unavoidable.

- Perris Boulevard between Iris Avenue and Krameria Avenue
- Perris Boulevard between Krameria Avenue to San Michele Road
- Perris Boulevard between San Michele Road to Nandina Avenue
- Perris Boulevard between Nandina Avenue to Harley Knox Boulevard
- Lasselle Street between Iris Avenue and Krameria Avenue
- Lasselle Street between Krameria Avenue and Via Xavier Lane
- Lasselle Street between Via Xavier Lane and Lasselle Sports Park – Rojo Tierra
- Lasselle Street between Lasselle Sports Park – Rojo Tierra and Cremello Way – Avenida De Plata
- Lasselle Street between Cremello Way – Avenida De Plata and Avenida Classica – Kentucky Derby Drive
- Alessandro Boulevard between Heacock Street and Indian Street
- Cactus Avenue between Elsworth Street and Frederick Street
- Cactus Avenue between Frederick Street and Graham Street – Riverside Drive
- Iris Avenue between Perris Boulevard and Kitching Street
- Iris Avenue between Lasselle Street and Camino Flores
- Iris Avenue between Camino Flores and Coachlight Court – Avenida De Circo
- Iris Avenue between Coachlight Court – Avenida De Circo and Grade Vista Drive
- Iris Avenue between Grande Vista Drive and Nason Street – Hillrose Lane
- Iris Avenue between Nason Street-Hillrose Lane and Driveway 1

As stated in Section 4.14, Transportation, even with the implementation of the mitigation measures impacts at some intersections and roadway segments would remain significant and unavoidable. Overall, combined with other reasonably foreseeable projects and with the implementation of mitigation, the project's contribution to the cumulative condition would remain cumulatively considerable, and impacts would be **significant and unavoidable**.

## 6.4.15 Tribal Cultural Resources

Cumulative impacts would result if projects listed in Table 6-1 would result in impacts to tribal cultural resources (TCRs), in combination with impacts associated with the proposed project. As stated in Section 4.15, Tribal Cultural Resources, no TCRs (pursuant to the criteria set forth in Public Resources Code Section 5024.1) were identified by California Native American tribes as part of Dudek’s tribal outreach or as part of the City’s AB 52 notification and consultation process. However, the AB 52 consultation between the City and Native American Representatives suggests that there is still some potential for unknown subsurface TCRs to be impacted by the proposed project. In the event that unknown subsurface TCRs are uncovered during ground disturbance associated with the proposed project, and such resources are not identified and avoided or properly treated, a potentially significant impact could result. However, with implementation of mitigation measures identified in Section 4.15, impacts to TCRs would be reduced to less than significant.

Cumulative projects identified in Table 6-1 would be required to complete a similar evaluation of potential TCRs in the vicinity of their respective project sites. If required, these future foreseeable projects would also have to conduct AB 52 notification and consultation prior to initiating a project. This process would determine if mitigation measures need to be applied in order to reduce potential impacts, both directly, and cumulatively. Since all cumulative projects would be required to implement any necessary mitigation to prevent potential impacts to TRCs, impacts would not be cumulatively considerable and impacts would be **less than significant.**

## 6.4.16 Utilities and Service Systems

**Expansion of Water, Wastewater, Stormwater, Electrical Power, Natural Gas, and Telecommunication Facilities**

As stated in Section 4.16, Utilities and Service Systems, EMWD has sufficient capacity to treat water and wastewater generated from the proposed project and no new or expanded infrastructure associated with treatment would be required for the additional flow generated by the proposed project. In addition, new stormwater drainage facilities that would be required to redirect flows across the site have been incorporated into the overall project description and design of the project. Therefore, impacts associated with the construction or expansion of water, wastewater treatment, stormwater facilities, electrical power facilities, natural gas facilities, and telecommunication facilities would be less than significant. The project’s expansion of such facilities within the project site would not result in a cumulatively considerable impact. Cumulative impacts would be **less than significant.**

### Water Supplies

Cumulative impacts may result from water demand that exceeds pertinent requirements. The Water Supply Assessment (WSA) that was prepared for the proposed project evaluates EMWD's ability to meet the water demands of the proposed project in conjunction with all other cumulative projects including buildout of the General Plan. EMWD has determined that it would be able to provide adequate water supply to meet the potable water demand for the proposed project as part of its existing and future demands. Cumulative projects would be required to adhere to the City's current Urban Water Management Plan and, therefore, are not expected to result in significant cumulative impacts to the City's water supply. Cumulative impacts would be **less than significant.**

### Wastewater Treatment

Regarding wastewater, based on the remaining capacity, at buildout, the proposed project's average wet weather flows (greatest of the average flows) would only be approximately 1.7 AFY of water, or 0.002% of the remaining capacity available to EMWD. Therefore, the EMWD's regional water reclamation facilities would have adequate capacity to treat wastewater generated by the proposed project at buildout. Cumulative projects would be required to demonstrate that adequate wastewater capacity can be provided. As such, the project, in combination with other reasonably foreseeable projects, would not contribute to a significant cumulative impact related to wastewater. Cumulative impacts would be **less than significant.**

### Solid Waste

#### *Construction*

A Diversion Report (Form CD-2) must then be prepared and reviewed by the City's Building Department in order to demonstrate that the project recycled a minimum of 50% of its construction waste. With compliance with this Condition of Approval, impacts during construction would be less than significant.

#### *Operation*

During operation, all non-hazardous solid waste generated from the project site (such as plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard) would be recycled per local and state regulations mentioned above, with a goal of 75%, in compliance with the Integrated Waste Management Act. Remaining non-hazardous solid waste would be disposed of at one of the Riverside County landfills (hazardous waste is managed and disposed of in compliance with all applicable federal, state, and local laws and is discussed in greater detail in Section 4.8 of this EIR). The City will review building plans and ensure that proper space is set aside to allow for the collection and storage of recyclable materials prior to issuance of building permits to ensure that there is adequate space for recycling on the project site. Overall, impacts associated with solid waste disposal during operation would be less than significant. Furthermore, the project will comply with state and local statutes and regulations related to solid waste during construction and operation of all phases.

Projects identified in Table 6-1 would contribute to solid waste to local landfills and impact landfill capacity, waste management facilities, and waste management services. However, similar to the Medical Center's MWMP, which is being updated as part of this project, other projects may also be required to prepare a waste management plan in order to demonstrate compliance with state and local regulations governing solid waste disposal and recycling practices. The waste collection procedures and programs for all planned and proposed developments would be required to comply with the municipal requirements for recycling and collection of solid waste. In addition, all planned and proposed projects would be required to be consistent with all applicable statutes and regulations. Impacts associated with solid waste would not be cumulatively considerable based on the proposed project's projected generation and compliance with applicable laws and ordinances. Cumulative impacts would be **less than significant**.

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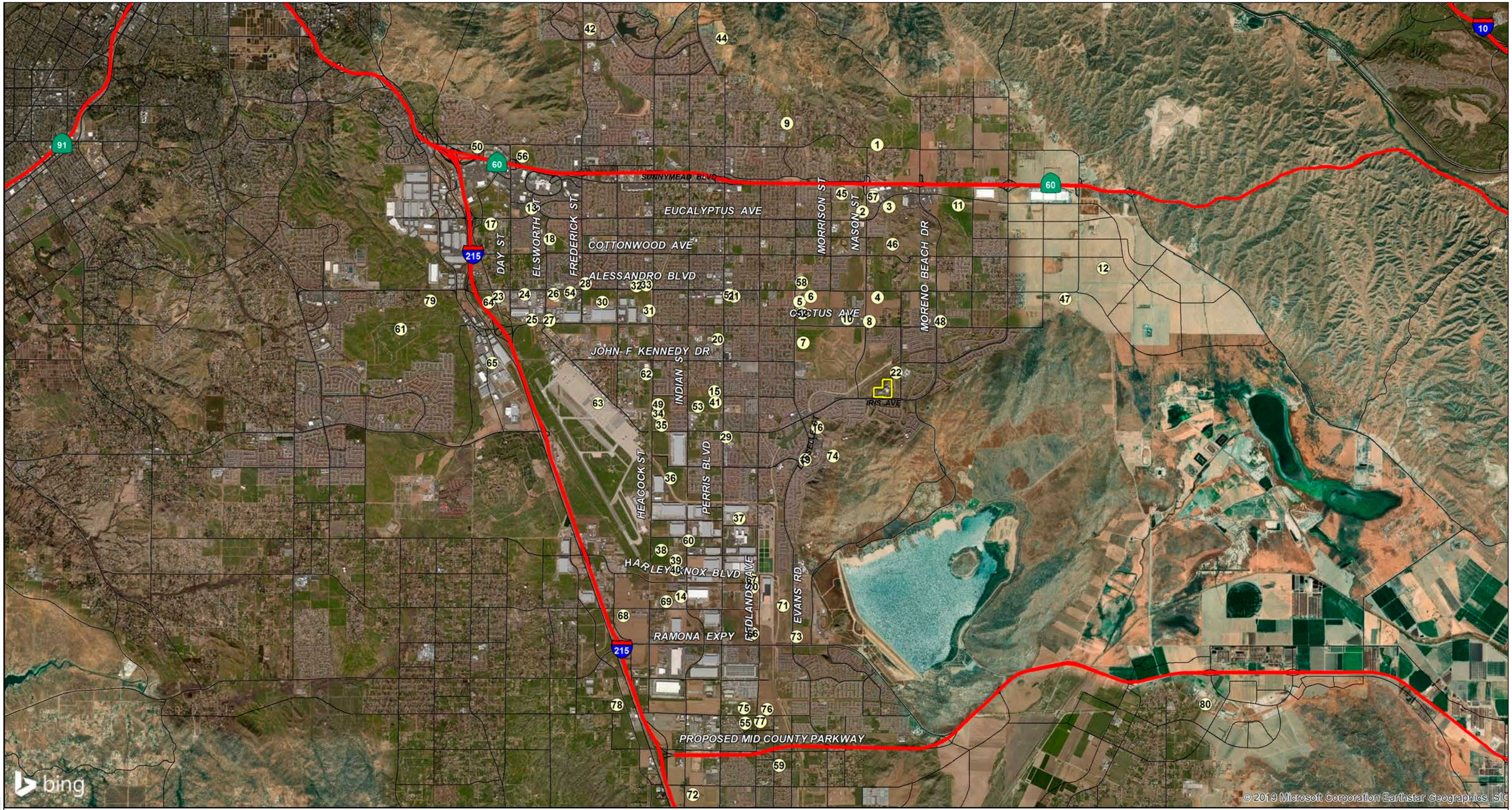


LEGEND

Project Location

Cumulative Project Location

SOURCE: LSA 2019

**FIGURE 6-1**

Cumulative Projects

Kaiser Permanente Moreno Valley Medical Center Project EIR

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# CHAPTER 7
# ALTERNATIVES

## 7.1 INTRODUCTION

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, an environmental impact report (EIR) is required to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project" (14 CCR 15126.6(a)). An EIR "must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (14 CCR 15126.6(a)). This alternatives discussion is required even if these alternatives "would impede to some degree the attainment of the project objectives, or would be more costly" (14 CCR 15126.6(b)).

The CEQA Guidelines further provide that the range of alternatives is guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are included. (14 CFR 15126.6(f)). The EIR need only examine alternatives that could feasibly attain most of the basic objectives of the project. "Among the factors that may be taken into account when addressing feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site."

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The final decision regarding the feasibility of alternatives lies with the decision maker for a given project, who must make the necessary findings addressing the potential feasibility of an alternative, including whether it meets most of the basic project objectives or reduces the severity of significant environmental effects pursuant to CEQA (California Public Resources Code, Section 21081; see also 14 CCR 15091).

Beyond these factors, the Guidelines require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the "no project" alternative, then the EIR shall identify an environmental superior alternative among the other alternatives.

## 7.2 PROJECT OBJECTIVES

In developing the alternatives to be addressed in this chapter, consideration was given to the ability to meet the basic objectives of the proposed Kaiser Permanente Moreno Valley Medical Center Project (project) and eliminate or substantially reduce the identified significant environmental impacts. As stated in Chapter 3, Project Description, of this draft EIR, the project objectives against which the alternatives were analyzed include the following:

- Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus.
- Reduce the need for Kaiser members to travel outside the City of Moreno Valley (City) for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus.
- Develop underutilized land located within the Medical Use Overlay district consistent with the City's objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital..
- Provide for the long-range development capacity on the project site's undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses.
- Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region.
- Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety.
- Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region.
- Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area.
- Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand.

- Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing.
- Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies.

Pursuant to the CEQA Guidelines previously stated, as well as the project objectives, a range of alternatives to the project are considered and evaluated in this EIR. To summarize these project alternatives, as suggested in CEQA Section 15126.6(d), a matrix was prepared to summarize and compare the impacts of each project alternative (Table 7-1).

**Table 7-1**
**Comparison of Project and Alternatives Impacts**

| Environmental Issue Area | Proposed Project | Alternative 1 No Project | Alternative 2 Distributed Services | Alternative 3 Reduced Project |
|---|---|---|---|---|
| Aesthetics | Less than Significant | ▼ | ▼ | ▼ |
| Air Quality | Significant and Unavoidable | ▼ | ▼ | ▼ |
| Biological Resources | Less than Significant with Mitigation | ▼ | = | = |
| Cultural Resources | Less than Significant with Mitigation | ▼ | = | ▼ |
| Energy | Less than Significant | ▼ | ▼ | ▼ |
| Geology and Soils | Less than Significant with Mitigation | ▼ | = | ▼ |
| Greenhouse Gas Emissions | Less than Significant | ▼ | ▼ | ▼ |
| Hazards/Hazardous Materials | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Hydrology/Water Quality | Less than Significant with Mitigation | ▼ | = | ▼ |
| Land Use and Planning | Less than Significant | ▼ | = | ▼ |
| Noise | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Population/Housing | Less than Significant | ▼ | ▼ | ▼ |
| Public Services/Recreation | Less than Significant | ▼ | ▼ | ▼ |
| Transportation | Significant and Unavoidable | ▼ | ▼ | ▼ |

**Table 7-1**
**Comparison of Project and Alternatives Impacts**

| Environmental Issue Area | Proposed Project | Alternative 1 No Project | Alternative 2 Distributed Services | Alternative 3 Reduced Project |
|---|---|---|---|---|
| Tribal Cultural Resources | Less than Significant with Mitigation | ▼ | ▼ | ▼ |
| Utilities/Service Systems | Less than Significant | ▼ | ▼ | ▼ |

**Notes: =** = Alternative is likely to result in similar impacts to issue when compared to project; ▼ = Alternative is likely to result in reduced impacts to issue when compared to project; ▲ = Alternative is likely to result in greater impacts to issue when compared to project.

## 7.3 ALTERNATIVES CONSIDERED BUT REJECTED

As set forth in CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate an alternative from detailed consideration is the alternative's failure to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. The following discussion presents information on alternatives to the project that were considered but rejected. These alternatives are not discussed in further detail and have been eliminated from further consideration.

### 7.3.1 Alternate Site

In accordance with CEQA Guidelines, Section 15126.6(f)(2), the applicant and the City attempted to identify a comparably-sized feasible alternative location within the project area and within the Medical Use Overlay district that could be available for the proposed Medical Center expansion project. Per CEQA Guidelines, Section 15126.6 (f)(2)(A), the key question and first step in analysis of the alternative location is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location.

There are few if any similarly sized sites under single ownership in the project area. Kaiser could foreseeably assemble, lease, or purchase land for certain components of the proposed project, such as medical office space, in nearby office parks. However, unless the existing Medical Center campus were also relocated to an alternative site along with the proposed expansion, an alternative site would split the proposed medical center into two separate sites. This could result in greater automobile trips than the proposed project since this would force doctors to travel between the medical offices and main hospital campus. Additionally, while Kaiser owns the project site it does not own any alternative sites, and thus would have to acquire new land. It is not guaranteed that Kaiser could acquire an alternative site in the future; nor is there any guarantee that the hospital use would be allowed by the City on any acquired site. It does not appear that the applicant can reasonably acquire, control, or otherwise have access to other sites in the area that would meet the project objectives. Therefore, alternate sites capable of accommodating the entire project are considered infeasible, and no off-site location alternatives were carried forward in this analysis.

Regardless, the availability of an alternate site does not in and of itself reduce impact potential. It is expected that developing a similar project at an alternative site would result in a similar array, if not more, project impacts and would simply transfer the impact potential to areas surrounding the alternate site location. For these reasons, an alternative site location was rejected from further consideration.

### 7.3.2 Underground Parking Alternative

As discussed in Section 4.1, Aesthetics, of this EIR, project implementation would alter views in the vicinity of the existing Medical Center. In considering design options to reduce impacts to views, the project applicant and City considered constructing underground parking structures. Construction associated with underground parking structures would require the removal and export of substantial quantities of earthen material, thereby resulting in a more intense construction period with increased air quality and noise impacts associated with equipment used to complete excavations and increased air quality, noise and transportation impacts associated with trucks hauling excavated material from the project site. Additionally, excavation activities would have the potential to result in new and more severe environmental impacts to archaeological, paleontological and tribal cultural resources. As such, while underground parking could result in reduced alterations of existing views in the project vicinity, increased impacts to air quality, cultural resources, noise, transportation and tribal cultural resources would occur. For these reasons, providing underground parking would increase more impacts than it would reduce and therefore this alternative is rejected from further consideration.

## 7.4 ALTERNATIVES UNDER CONSIDERATION

This section discusses the alternatives to the project, including the No Project Alternative, under consideration. The No Project (No Development) Alternative, which is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines, examines the environmental effects that would occur if the project were not to proceed and no development activities were to occur. The other alternatives are discussed as part of the "reasonable range of alternatives" selected by the lead agency. The following alternatives are addressed in this section, followed by a more detailed discussion of each:

- Alternative 1 – No Project
- Alternative 2 – Medical Office Buildings
- Alternative 3 – Reduced Project

## 7.4.1 Alternative 1: No Project

Under Alternative 1, expansion and redevelopment of the existing Medical Center would not occur as discussed in Chapter 3 of this EIR. The project site would remain unchanged. As no new development would occur on the project site, no discretionary actions would be triggered.

**Environmental Analysis**

***Aesthetics***

As discussed in Section 4.1, impacts associated with aesthetics, scenic vistas, scenic resources, visual character and light and glare would be less than significant. As discussed in Section 4.1, visual changes in the immediate vicinity of the project site would occur; however, due to the limited duration and limited locations from which these visual changes would occur and the fact that the project would not substantially obstruct public views from public viewing areas or areas protected under the City's General Plan, impacts would remain less than significant.

Under Alternative 1, the project site would remain unchanged. No new buildings or facilities would be constructed at the project site, and as such, no impacts to aesthetics, scenic vistas, scenic resources, visual character and light and glare would occur. As such, Alternative 1 would result in fewer aesthetics impacts when compared to the proposed project.

***Air Quality***

As discussed in Section 4.2, Air Quality, implementation of the proposed project would not conflict with or obstruct implementation of an air quality plan, and with implementation of mitigation measures, construction air quality impacts would be less than significant. However, during operations, even with implementation of a Transportation Demand Management Program designed to reduce the number of vehicle trips to and from the project site, impacts associated with emissions of $NO_x$ from the project would remain significant and unavoidable because $NO_x$ emissions would remain above the SCAQMD's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, no new sources of construction air emissions or operational air emissions would be generated such that air quality impacts would occur. Alternative 1 would result in no new air quality impacts, and as such, Alternative 1 would reduce impacts to air quality when compared to the proposed project.

### *Biological Resources*

As discussed in Section 4.3, Biological Resources, impacts to special-status plant species, sensitive natural communities, wildlife corridors and migratory routes, and consistencies with local policies and ordinances would be less than significant. Additionally, with incorporation of mitigation, impacts to special-status wildlife species and jurisdictional wetlands and waters, would be less than significant. **Mitigation measure** (**MM) BIO-1** and **MM-BIO-2** require pre-construction surveys and nesting bird season avoidance, while **MM-BIO-3** requires regulatory agency permitting.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, no new impacts to biological resources would occur, and Alternative 1 would reduce impacts to biological resources when compared to the proposed project.

### *Cultural Resources*

As discussed in Section 4.4, Cultural Resources, impacts to cultural resources associated with the proposed project would be reduced to less-than-significant levels with implementation of **MM-CUL-1** and **MM-CUL-2**. Specifically, upon project approval, **MM-CUL-1** requires that in the event archaeological resources are exposed during construction, all construction activities within 100 feet of the find shall immediately halt until a qualified archaeologist can assess the find. **MM-CUL-2** requires that if human remains are found within the project site, the County coroner shall be immediately notified of the discovery.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, the potential to unearth any archaeological resources or human remains would be avoided. Alternative 1 would result in no new impacts to cultural resources and as such, Alternative 1 would reduce impacts to cultural resources when compared to the proposed project.

### *Energy*

As discussed in Section 4.5, Energy, the project would have less-than-significant impacts with regard to wasteful, inefficient or unnecessary consumption of energy resources, obstruction of a state or local plan for energy efficiency, and demand on energy supplies and capacity.

Under Alternative 1, the project site would remain unchanged and continue to operate as Medical Center. No new or expanded facilities would be constructed, and as such, no additional consumption of energy resources would occur. However, as a component of the proposed project includes the replacement of the outdated Central Utility Plant with a new and more energy efficient Energy Center, the energy efficiencies associated with the proposed project would not be realized under Alternative 1. While project impacts would be less than significant, no new impacts would be introduced under Alternative 1 yet the existing energy inefficient equipment would continue to be utilized at the project site. Nonetheless, energy impacts under Alternative 1 would be reduced when compared to the proposed project.

### *Geology and Soils*

As discussed in Section 4.6, Geology and Soils, the project would result in less-than significant impacts related to geology and soils with implementation of mitigation measures **MM-GEO-1** through **MM-GEO-3**. Specifically, **MM-GEO-1** and **MM-GEO-2** require that all project design recommendations from geotechnical investigations be incorporated into the design and construction of the proposed Medical Center components in Phases I, II and III. Mitigation measure **MM-GEO-3** requires review and approval of plans and specifications of the Medical Center buildings by the Office of Statewide Health Planning and Development (OSHPD) Facilities Development Division. The project would also result in less-than-significant impacts related to paleontological resources with implementation of mitigation measures **MM-GEO-4** through **MM-GEO-7**. These mitigation measures outline the procedures to be followed in the event of the discovered of a unique paleontological resource.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, the potential for Alternative 1 to result in impacts related to geology, soils and paleontological resources would be reduced when compared to the proposed project.

### *Greenhouse Gas Emissions*

As discussed in Section 4.7, Greenhouse Gas Emissions, the project would generate additional greenhouse gas emissions, but would have less-than-significant impacts with regard to direct and indirect generation of greenhouse gases, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Under Alternative 1, the project site would remain unchanged and continue to operate as a Medical Center. No new or expanded facilities would be constructed. As such, no additional greenhouse gas emissions would occur. While project impacts would be less than significant, no new impacts would be introduced under Alternative 1; therefore, greenhouse gas emission impacts under Alternative 1 would be reduced when compared to the proposed project.

### *Hazards and Hazardous Materials*

As discussed in Section 4.8, Hazards and Hazardous Materials, the project could result in an increase in the amount of hazardous materials used or stored and the amount of hazardous waste generated on the project site. However, the project would have less-than-significant impacts with regard to hazards and hazardous materials through compliance with standard conditions of approval governing the storage and use of hazardous materials and disposal of hazardous waste at medical center sites.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, Alternative 1 would not be expected to result in an increase in the storage or use of hazardous materials or generation of hazardous waste; therefore, impacts associated with hazards and hazardous materials would be reduced when compared to the proposed project.

***Hydrology and Water Quality***

As discussed in Section 4.9, Hydrology and Water Quality, impacts associated with hydrology and water quality would be less than significant with implementation of mitigation measures **MM-HYD-1** through **MM-HYD-3**. Specifically, **MM-HYD-1** requires the installation of treatment control Best Management Practices including an underground storage vault and an underground storage pipe system during Phase I of the project. **MM-HYD-2** requires the installation of treatment control BMPs including multiple sand-filled detention basins during Phase II of the project. **MM-HYD-3** requires inspection and maintenance of the installed basins throughout project operations.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, the potential for Alternative 1 to result in impacts related to hydrology and water quality would be reduced when compared to the proposed project.

***Land Use and Planning***

As discussed in Section 4.10, Land Use and Planning, impacts associated with land use and planning with implementation of the proposed project would be less than significant. The proposed project would not divide an established community or conflict with any applicable land use plans or policies. No mitigation measures would be required.

Under Alternative 1, no construction or operational changes would occur at the project site. While Alternative 1 would result in a lower intensity of uses on the project site, the nature of the uses would be the same. Therefore, because land uses would be less intense under Alternative 1, impacts associated with land use and planning would be reduced when compared to the proposed project.

***Noise***

As discussed in Section 4.11, Noise, impacts associated with noise and vibration can be reduced to less than significant levels with implementation of mitigation measures **MM-NOI-1** through **MM-NOI-4**. Mitigation measure **MM-NOI-1** requires that prior to issuance of a grading permit, the construction contractor shall implement noise reduction techniques at the project site and for construction equipment. Mitigation measure **MM-NOI-2** requires that the construction contractor ensure that all equipment operate with appropriate noise control devices. Mitigation measure **MM-NOI-3** requires that during operations either on-site field noise testing or via engineering specifications to demonstrate that on-site noise generating equipment not exceed 55 dBA $L_{eq}$ at a distance of 200 feet. Mitigation measure **MM-NOI-4** requires that the applicant prepare an acoustical analysis upon completion of final design to demonstrate compliance with applicable daytime and nighttime threshold noise levels.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, there is no potential for Alternative 1 to result in new noise or vibration impacts. Noise would continue to be generated at the project site, but no new sources would be introduced during construction or operation. As such, because no changes would occur to noise at the project site, impacts associated with noise and vibration would be reduced when compared to the proposed project.

***Population and Housing***

As discussed in Section 4.12, Population and Housing, impacts associated with population and housing would be less than significant. The project would not result in the displacement of existing housing or directly or indirectly increase the City's population beyond growth projections. No mitigation measures would be required.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, there is no potential for Alternative 1 to result in impacts related to population and housing. Therefore, because no changes would occur at the project site, impacts associated with population and housing would be reduced when compared to the proposed project.

***Public Services and Recreation***

As discussed in Section 4.13, Public Services and Recreation, impacts associated with public services and recreation would be less than significant. The project would not substantially affect police protection, fire protection, school, parkland, library or recreation facilities such that impacts would occur and mitigation measures would be required.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, there is no potential for Alternative 1 to result in impacts related to public services and recreation. Therefore, because no changes would occur at the project site, impacts associated with public services and recreation would be reduced when compared to the proposed project.

### *Transportation*

As discussed in Section 4.14, Transportation, at full project buildout, a total of 32 intersections would operate at an unsatisfactory LOS. Even with implementation of **MM-TRA-1** through **MM-TRA-51**, 32 of the 64 intersections would operate at an unacceptable LOS. Based on the roadway segment LOS analysis, 32 of the study roadway segments would operate at an unacceptable LOS, and even with implementation of mitigation, 30 of the study roadway segments would operate at an unacceptable LOS. As such, the project would result in significant impacts even with implementation of mitigation.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, no significant and unavoidable impacts would occur, and there is no potential for Alternative 1 to result in any impacts related to transportation. Therefore, because no changes would occur at the project site, impacts associated with transportation would be reduced when compared to the proposed project.

### *Tribal Cultural Resources*

As discussed in Section 4.15, Tribal Cultural Resources, impacts associated with tribal cultural resources would be less than significant with implementation of **MM-TRC-1** through **MM-TCR-7**. These mitigation measures require preconstruction archaeological and tribal cultural resource training, preparation of a Native American Monitoring Program, procedures to be followed in the event of an inadvertent discovery of an archaeological resource or human remains, and the preparation of archaeological resource treatment plans, monitoring efforts and monitoring reports.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, there is no potential for Alternative 1 to result in impacts related to tribal cultural resources. Therefore, because no changes would occur at the project site, impacts associated with tribal cultural resources would be reduced when compared to the proposed project.

### *Utilities and Service Systems*

As discussed in Section 4.16, Utilities and Service Systems, impacts associated with utilities and service systems would be less than significant, and no mitigation would be required. The project would not require or result in the relocation or construction of new or expanded utilities or service systems, sufficient water supplies and wastewater treatment systems exist to serve the project, and solid waste generated by the project could be accommodated within existing landfills.

Under Alternative 1, no construction or operational changes would occur at the project site. As such, there is no potential for Alternative 1 to result in impacts related to utilities and service systems. Therefore, because no changes would occur at the project site, impacts associated with utilities and service systems would be reduced when compared to the proposed project.

### Project Objectives

Under Alternative 1, the project site would remain unchanged and continue to operate in the same way as the existing Medical Center. Table 7-2 provides a list of the project objectives and whether Alternative 1 meets each objective.

**Table 7-2**
**Summary of Alternative 1 Success at Meeting Project Objectives**

| Project Objective | Alternative Meets Objective? |
|---|---|
| Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus. | **No**. Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. No new facilities or medical services would be provided for Kaiser Permanente members residing in Moreno Valley and the immediately surrounding communities. Alternative 1 does not meet this project objective. |
| Reduce the need for Kaiser members to travel outside the City for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus. | **No**. Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. No additional services or supplemental support would be provided to Kaiser's existing clinics and medical facilities in Riverside County. Kaiser members would need to continue to travel outside the City for medical services beyond those currently provided at the site. Alternative 1 does not meet this project objective. |
| Develop underutilized land located within the Medical Use Overlay district consistent with the City's objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital. | **Partially**. Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. Approximately one-third of the project site would remain undeveloped and underutilized. While medical uses would continue to be provided within the Medical Use Overlay district, no expansion of services would occur. Alternative 1 partially meets this project objective. |
| Provide for the long-range development capacity on the project site's undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses. | **No**. Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. Without new facilities at the project site, the existing Medical Center would not be able to accommodate future growth of Kaiser members in Moreno Valley and the surrounding communities. No new, complimentary medical services would be added to the project site. Alternative 1 does not meet this project objective. |
| Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region. | **No**. Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. The existing out of date buildings would remain in place, no seismic upgrades would occur, and no new state-of-the-art advanced care medical facilities would be introduced to the Moreno Valley area. Alternative 1 does not meet this project objective. |

## Table 7-2
## Summary of Alternative 1 Success at Meeting Project Objectives

| Project Objective | Alternative Meets Objective? |
|---|---|
| Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety. | **No.** Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. The existing aging buildings and infrastructure would not be upgraded and no new functional or seismic safety improvements would be implemented. Alternative 1 does not meet this project objective. |
| Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region. | **No.** Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. No new, comprehensively planned advanced-care medical services would be introduced to the Medical Center, and no new employment opportunities in the City and surrounding region would be realized. Alternative 1 does not meet this project objective. |
| Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area. | **No.** Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. No new employment opportunities would be created at the site, and the jobs/housing balance within the City would remain unchanged. Alternative 1 does not meet this project objective. |
| Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand. | **No.** Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. Existing aging infrastructure would not be upgraded, and no new services would be provided to the Kaiser Members in the Moreno Valley area. Alternative 1 does not meet this project objective. |
| Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing. | **Partially.** Under Alternative 1, the existing Medical Center, in its current condition, would remain at the project site. The existing surface parking at the Medical Center would remain and no new parking spaces or circulation improvements would be implemented. Given that no new facilities would be introduced under Alternative 1, no additional demand would occur at the Medical Center; therefore, the existing parking could accommodate existing users. Alternative 1 partially meets this project objective. |
| Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies. | **No**. Under Alternative 1, the existing Medical Center, including the Energy Center, in its current condition, would remain at the project site. No new energy efficiency measures or LEED certification would be achieved, and the ability of the Medical Center to implement sustainable building strategies would be impaired. Alternative 1 does not meet this project objective. |

## 7.4.2 Alternative 2: Medical Office Buildings

Under Alternative 2, improvements would occur at the existing Medical Center, however to a lesser degree than those outlined in Chapter 3. Specifically, under Alternative 2, the existing hospital building would remain unchanged with 99 beds, the existing Medical Office Building (MOB) No. 1 would remain on the Medical Center site, and two new medical office buildings (MOB No. 3 and MOB No. 4) would be constructed. To accommodate the increased demand for parking associated with the four medical office buildings, three new above-ground parking structures would be constructed to provide a total of 1,510 parking spaces on the Medical Center site. One new parking structure would be located north of the existing hospital building, one new parking structure would be located in the western portion of the project site to provide access to MOB No. 2 and MOB No. 3, and the third new parking structure would be located in the southeastern corner of the project site adjacent to MOB No. 4. Table 7-3 summarizes the components of Alternative 2.

**Table 7-3**
**Alternative 2 Components**

| Component | Size | Parking Standard | Parking Provided |
|---|---|---|---|
| **Hospital** | **(99 beds) 133,000 sf** | **3 spaces/bed** | **297 spaces** |
| **Medical Office Buildings** | **242,600 sf** | **5 spaces/1,000 sf** | **1,213 spaces** |
| *MOB No. 1* | *7,600 sf* | *5 spaces/1,000 sf* | *38 spaces* |
| *MOB No. 2* | *75,000 sf* | *5 spaces/1,000 sf* | *375 spaces* |
| *MOB No. 3* | *65,000 sf* | *5 spaces/1,000 sf* | *325 spaces* |
| *MOB No. 4* | *95,000 sf* | *5 spaces/1,000 sf* | *475 spaces* |
| **Totals** | **375,600 sf** | | **1,510 spaces** |

### Environmental Analysis

#### *Aesthetics*

As discussed in Section 4.1, impacts associated with aesthetics, scenic vistas, scenic resources, visual character and light and glare would be less than significant. As discussed in Section 4.1, visual changes in the immediate vicinity of the project site would occur; however, due to the limited duration and limited locations from which these visual changes would occur and the fact that the project would not substantially obstruct public views from public viewing areas or areas protected under the City's General Plan, impacts would remain less than significant.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris

Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Construction of the new MOBs and parking structures would result in visual changes to the project site along all perimeters of the site. However, unlike the proposed project, no new hospital towers would be constructed in the central portion of the project site. The introduction of new buildings and parking structures would result in changes to the visual character, however, to a lesser extent than the proposed project. As such, even though aesthetic changes would occur at the project site, Alternative 2 would result in fewer aesthetic impacts than the proposed project because the visual character and change would be less intense and less dense.

***Air Quality***

As discussed in Section 4.2, implementation of the proposed project would not conflict with or obstruct implementation of an air quality plan, and with implementation of mitigation measures, construction air quality impacts would be less than significant. However, during operations, even with implementation of a Transportation Demand Management Program designed to reduce the number of vehicle trips to and from the project site, impacts associated with emissions of $NO_x$ from the project, impacts would remain significant and unavoidable because $NO_x$ emissions would remain above the SCAQMD's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable.

Under Alternative 2, the existing hospital building would remain unchanged with 99 beds, the existing MOB No. 1 would remain on the Medical Center site, two new medical office buildings (MOB No. 3 and MOB No. 4) and three new parking structures would be constructed. With implementation of a smaller-sized project, fewer construction and operational air quality impact would occur because construction would be less intense, and during operations, fewer stationary source emissions, fewer vehicle trips generating air emissions would occur. While construction impacts would be less than significant with implementation of mitigation, given that fewer impacts would occur under Alternative 2, construction air quality impacts for this alternative would be reduced when compared to the proposed project.

**Construction Emissions**

As shown in Table 7-4, the Alternative 2 would not exceed any SCAQMD significance thresholds during construction.

**Table 7-4**
**Alternative 2 Estimated Maximum Daily Construction Emissions (pounds/day unmitigated)**

| Year | VOCs | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| 2019 | 4.85 | 54.59 | 34.27 | 0.10 | 9.64 | 6.13 |
| 2020 | 4.03 | 33.07 | 31.56 | 0.09 | 5.44 | 2.28 |
| 2021 | 45.99 | 29.92 | 29.97 | 0.09 | 5.23 | 2.08 |
| **Maximum daily emissions** | **45.99** | **54.59** | **34.27** | **0.10** | **9.64** | **6.13** |
| *Pollutant threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:** See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by SCAQMD Rule 403 (refer to **SC-AQ-2**).
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

## Operational Emissions

During project operations, the project would result in significant and unavoidable NOx emissions because the project's NOx emissions would remain above the SCAQMD's threshold of significance. NOx emissions are primarily a result of vehicle emissions. Given the reduced size of the project under Alternative 2, the reduction in the number of buildings and facilities that would exist, and the resultant decrease in the number of vehicle trips, NOx emissions under Alternative 2 would be reduced that those of the proposed project. As shown in Table 7-5, emissions of $NO_x$ would not exceed the significance thresholds and thus would result in a less than significant impact. As such, Alternative 2 would result in fewer overall air quality impacts.

**Table 7-5**
**Alternative 2 Estimated Daily Maximum Operational Emissions (pounds/day)**

| Emission Source | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| Area Sources | 3.65 | 0.00 | 0.17 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 0.02 | 0.15 | 0.13 | 0.00 | 0.01 | 0.01 |
| Mobile Sources | 8.73 | 51.81 | 92.09 | 0.41 | 31.02 | 8.45 |
| **Total** | **12.40** | **51.96** | **92.39** | **0.41** | **31.03** | **8.46** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Source:** See Appendix B for complete results.
The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MMBtu/hr = million British thermal units per hour.

***Biological Resources***

As discussed in Section 4.3, impacts to special-status plant species, sensitive natural communities, wildlife corridors and migratory routes, and consistencies with local policies and ordinances would be less than significant. Additionally, with incorporation of mitigation, impacts to special-status wildlife species and jurisdictional wetlands and waters, would be less than significant. Mitigation measures **MM-BIO-1** and **MM-BIO-2** require pre-construction surveys and nesting bird season avoidance, while **MM-BIO-3** requires regulatory agency permitting.

***Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Under Alternative 2, the same ground disturbances would occur, thereby resulting in the same potential as the proposed project to affect biological resources. As with the proposed project, implementation of mitigation would result impacts to biological resources to a less than significant level. Because the same areas on the project site would be disturbed under this alternative, Alternative 2 would result in comparable impacts to biological resources. Cultural Resources***

As discussed in Section 4.4, impacts to cultural resources associated with the proposed project would be reduced to less-than-significant levels with implementation of **MM-CUL-1** and **MM-CUL-2**. Specifically, upon project approval, **MM-CUL-1** requires that in the event archaeological resources are exposed during construction, all construction activities within 100 feet of the find shall immediately halt until a qualified archaeologist can assess the find. **MM-CUL-2** requires that if human remains are found within the project site, the County coroner shall be immediately notified of the discovery.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Under Alternative 2, the same ground disturbances would occur, thereby resulting in the same potential as the proposed project to affect cultural resources. As with the proposed project, implementation of mitigation would result impacts to cultural resources to a less than significant level. Because the same areas on the project site would be disturbed under this alternative, Alternative 2 would result in comparable impacts to cultural resources.

### *Energy*

As discussed in Section 4.5, the project would have less-than-significant impacts with regard to wasteful, inefficient or unnecessary consumption of energy resources, obstruction of a state or local plan for energy efficiency, and demand on energy supplies and capacity.

Under Alternative 2, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized development, reduced demand for and consumption of energy resources would occur. While project impacts would be less than significant, given that less energy consumption would occur under Alternative 2, energy impacts for this alternative would be reduced when compared to the proposed project.

### *Geology and Soils*

As discussed in Section 4.6, the project would result in less-than significant impacts related to geology and soils with implementation of mitigation measures **MM-GEO-1** through **MM-GEO-3**. Specifically, **MM-GEO-1** and **MM-GEO-2** require that all project design recommendations from geotechnical investigations be incorporated into the design and construction of the proposed Medical Center components in Phases I, II and III. Mitigation measure **MM-GEO-3** requires review and approval of plans and specifications of the Medical Center buildings by the Office of Statewide Health Planning and Development (OSHPD) Facilities Development Division. The project would also result in less-than-significant impacts related to paleontological resources with implementation of mitigation measures **MM-GEO-4** through **MM-GEO-7**. These mitigation measures outline the procedures to be followed in the event of the discovered of a unique paleontological resource.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Under Alternative 2, the same ground disturbances would occur, thereby resulting in the same potential geology and soils impacts as the proposed project. As with the proposed project, implementation of mitigation would result geology and soils impacts to a less than significant level. Because the same areas on the project site would be disturbed under this alternative, Alternative 2 would result in comparable geology and soils impacts.

***Greenhouse Gas Emissions***

As discussed in Section 4.7, the project would have less-than-significant impacts with regard to direct and indirect generation of greenhouse gases, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

***Under Alternative*** 2***, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized*** project***, there would be fewer vehicle trips and fewer stationary source emissions, thereby resulting in fewer GHG emissions. As such, Alternative*** 2 ***would result in fewer GHG impacts. While project impacts would be less than significant, GHG emissions would be reduced occur under Alternative*** 2***, and thus GHG impacts for this alternative would be reduced when compared to the proposed project.***

***Hazards and Hazardous Materials***

As discussed in Section 4.8, the project could result in an increase in the amount of hazardous materials used or stored and the amount of hazardous waste generated on the project site. However, the project would have less-than-significant impacts with regard to hazards and hazardous materials through compliance with standard conditions of approval governing the storage and use of hazardous materials and disposal of hazardous waste at medical center sites.

***Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Given that Alternative 2 would result in less intensive medical uses at the project site, the potential for the project to generate hazards and hazardous wastes would be reduced when compared to the proposed project. Medical office buildings would generate some hazardous waste in the form of medical wastes; however, the smaller-scale hospital under Alternative 2 would result in less hazards when compared to the proposed project. As such, overall, hazards and hazardous materials impacts under Alternative 2 would be reduced when compared to the proposed project. Hydrology and Water Quality***

As discussed in Section 4.9, impacts associated with hydrology and water quality would be less than significant with implementation of mitigation measures **MM-HYD-1** through **MM-HYD-3**. Specifically, **MM-HYD-1** requires the installation of treatment control Best Management Practices including an underground storage vault and an underground storage pipe system during Phase I of the project. **MM-HYD-2** requires the installation of treatment control BMPs including multiple sand-filled detention basins during Phase II of the project. **MM-HYD-3** requires inspection and maintenance of the installed basins throughout project operations.

***Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Under Alternative 2, the same ground disturbances would occur, thereby resulting in the same potential hydrology and water quality impacts as the proposed project. As with the proposed project, implementation of mitigation would result hydrology and water quality impacts to a less than significant level. Because the same areas on the project site would be disturbed under this alternative, Alternative 2 would result in comparable hydrology and water quality impacts. Land Use and Planning***

As discussed in Section 4.10, impacts associated with land use and planning with implementation of the proposed project would be less than significant. The proposed project would not divide an established community or conflict with any applicable land use plans or policies. No mitigation measures would be required.

***Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. The project site, which is zoned Office/Residential and Commercial, and which is located within the Medical Use Overlay district, would continue to be developed with medical uses consistent and compatible with the existing medical uses on the project site. As such, no new land use and planning impacts would occur, and land use and planning impacts under Alternative 2 would be comparable to those of the proposed project. Noise***

As discussed in Section 4.11, impacts associated with noise and vibration can be reduced to less than significant levels with implementation of mitigation measures **MM-NOI-1** through **MM-NOI-4**. Mitigation measure **MM-NOI-1** requires that prior to issuance of a grading permit, the construction contractor shall implement noise reduction techniques at the project site and for construction equipment. Mitigation measure **MM-NOI-2** requires that the construction contractor ensure that all equipment operate with appropriate noise control devices. Mitigation measure **MM-NOI-3** requires that during operations either on-site field noise testing or via engineering specifications to demonstrate that on-site noise generating equipment not exceed 55 dBA $L_{eq}$ at a distance of 200 feet. Mitigation measure **MM-NOI-4** requires that the applicant prepare an acoustical analysis upon completion of final design to demonstrate compliance with applicable daytime and nighttime threshold noise levels.

***Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Construction activities under Alternative 2 would be less intense than those under the proposed project and would last for a shorter duration; however, the location of the construction activities relative to the location of noise-sensitive receptors would remain unchanged. During operation of Alternative 2, as discussed below, fewer vehicle trips would occur, thereby reducing noise along the roadways in the vicinity of the project site. As with the proposed project, with implementation of mitigation measures MM-NOI-1 through MM-NOI-4, construction and operational noise impacts would be less than significant. However, given that less construction would be required and that operational noise would be reduced under Alternative 2, noise impacts associated with this alternative would be less than those of the proposed project. Population and Housing***

As discussed in Section 4.12, impacts associated with population and housing would be less than significant. The project would not result in the displacement of existing housing or directly or indirectly increase the City's population beyond growth projections. No mitigation measures would be required.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. With implementation of a smaller-sized expansion of the Medical Center, fewer jobs would be created, thereby marginally reducing the overall growth in the City's population. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 2, population and housing impacts for this alternative would be reduced when compared to the proposed project.

***Public Services and Recreation***

As discussed in Section 4.13, impacts associated with public services and recreation would be less than significant. The project would not substantially affect police protection, fire protection, school, parkland, library or recreation facilities such that impacts would occur and mitigation measures would be required.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris

Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. With implementation of a smaller-sized expansion of the Medical Center, fewer demands for public services and recreational facilities would occur. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 2, public services and recreational impacts for this alternative would be reduced when compared to the proposed project.

### *Transportation*

As discussed in Section 4.14, Transportation, at full project buildout, a total of 32 intersections would operate at an unsatisfactory LOS. Even with implementation of **MM-TRA-1** through **MM-TRA-51**, 32 of the 64 intersections would operate at an unacceptable LOS. Based on the roadway segment LOS analysis, 32 of the study roadway segments would operate at an unacceptable LOS, and even with implementation of mitigation, 30 of the study roadway segments would operate at an unacceptable LOS. As such, the project would result in significant impacts even with implementation of mitigation.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. As shown in Table 7-6 below, overall vehicle trips would be reduced by 3,001 daily vehicle trips in comparison to the proposed project.

**Table 7-6**
**Alternative 2 – Trip Generation**

| Land Use | Units | | AM Peak Hour | | | PM Peak Hour | | | Daily |
|---|---|---|---|---|---|---|---|---|---|
| | | | *In* | *Out* | *Total* | *In* | *Out* | *Total* | |
| *Existing* | | | | | | | | | |
| Medical Office Building No. 1 and Trailers | 10.5 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 23 | 6 | 29 | 10 | 26 | 36 | 365 |
| Medical Office Building No. 2 | 74.50 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 162 | 46 | 208 | 72 | 186 | 258 | 2,593 |
| Hospital | 130.0 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | 79 | 37 | 116 | 40 | 86 | 126 | 1,394 |
| **Existing Net Trip Generation** | | | **264** | **89** | **353** | **122** | **298** | **420** | **4,352** |

**Table 7-6**
**Alternative 2 – Trip Generation**

| Land Use | Units | | AM Peak Hour | | | PM Peak Hour | | | Daily |
|---|---|---|---|---|---|---|---|---|---|
| | | | *In* | *Out* | *Total* | *In* | *Out* | *Total* | |
| *Alternative 2* | | | | | | | | | |
| Medical Office Building No. 3 | 65.0 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 141 | 40 | 181 | 63 | 162 | 225 | 2,262 |
| Medical Office Building No. 4 | 95.0 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 206 | 58 | 264 | 92 | 237 | 329 | 3,306 |
| **Alternative 2 Net Trip Generation** | | | **347** | **98** | **445** | **155** | **399** | **554** | **5,568** |
| **Existing + Alt 2 Trip Generation** | | | **611** | **187** | **798** | **277** | **697** | **974** | **9,920** |
| *Comparison with Proposed Project* | | | | | | | | | |
| Proposed Project | | | 759 | 297 | 1,056 | 368 | 848 | 1,216 | 12,921 |
| Alternative 2 | | | 611 | 187 | 798 | 277 | 697 | 974 | 9,920 |
| **Difference (+/-)** | | | **-148** | **-110** | **-258** | **-91** | **-151** | **-242** | **-3,001** |

**Notes:** TSF=thousand square feet
1 Rates based on Land Use 720 - "Medical-Dental Office Building" from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."

### *Tribal Cultural Resources*

As discussed in Section 4.15, impacts associated with tribal cultural resources would be less than significant with implementation of **MM-TRC-1** through **MM-TCR-7**. These mitigation measures require preconstruction archaeological and tribal cultural resource training, preparation of a Native American Monitoring Program, procedures to be followed in the event of an inadvertent discovery of an archaeological resource or human remains, and the preparation of archaeological resource treatment plans, monitoring efforts and monitoring reports.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Construction would still occur at the project site, however, to a lesser extent. Fewer new buildings would be constructed; therefore, there would be a reduced potential to unearth previously undisturbed tribal cultural resources. As with the proposed project, with implementation of mitigation, impacts would be reduced to less than significant. However, given that Alternative 2 would result in less ground-distributing activities, there would be reduced impacts to tribal cultural resources when compared to the proposed project.

### *Utilities and Service Systems*

As discussed in Section 4.16, impacts associated with utilities and service systems would be less than significant, and no mitigation would be required. The project would not require or result in the relocation or construction of new or expanded utilities or service systems, sufficient water supplies and wastewater treatment systems exist to serve the project, and solid waste generated by the project could be accommodated within existing landfills.

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. The scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer demands for utilities and service systems would occur. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 2, utilities and service system impacts for this alternative would be reduced when compared to the proposed project.

## Project Objectives

Under Alternative 2, the existing hospital building and MOB No. 1 and MOB No. 2 would remain unchanged, and two new MOBs and three new above-ground parking structures would be constructed. New MOBs would be constructed in the southern portion of the project site along Iris Avenue; new parking structures would be constructed in the northern, western and southeastern portions of the project site. Table 7-7 provides a list of the project objectives and whether Alternative 2 meets each objective.

**Table 7-7**
**Summary of Alternative 2 Success at Meeting Project Objectives**

| Project Objective | Alternative Meets Objective? |
|---|---|
| Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus. | **Partially**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. The new buildings constructed on the Medical Center campus would improve public health and safety as well as provide additional and expanded medical services; however, the existing hospital and medical office buildings would not undergo upgrades or provide new and enhanced services. As such, Alternative 2 partially meets this project objective. |

## Table 7-7
## Summary of Alternative 2 Success at Meeting Project Objectives

| Project Objective | Alternative Meets Objective? |
|---|---|
| Reduce the need for Kaiser members to travel outside the City for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus. | **Yes**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. Kaiser members would be provided with two new medical office buildings, thereby increasing the number of medical services that would be available to the Kaiser membership in the City and surrounding communities. Alternative 2 does meet this project objective. |
| Develop underutilized land located within the Medical Use Overlay district consistent with the City's objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital. | **Yes**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. Alternative 2 would develop new medical facilities on existing undeveloped portions of the project site in a manner that is compatible with the Medical Use Overlay district. Alternative 2 does meet this project objective. |
| Provide for the long-range development capacity on the project site's undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses. | **Partially**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. By providing new medical office buildings, services would increase for the Kaiser members in Moreno Valley and the surrounding communities; however, the existing hospital capacity would not be enhanced, thereby partially limiting the ability to accommodate growth in the City and surrounding communities. Alternative 2 partially meets this project objective. |
| Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region. | **Partially**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. The existing out of date buildings would remain in place, and no seismic upgrades would occur. The new medical office buildings would provide new state-of-the art facilities, but overall, the Medical Center campus would not undergo necessary seismic upgrades. Alternative 2 partially meets this project objective. |
| Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety. | **No.** Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. The existing aging buildings and infrastructure would not be upgraded and no new functional or seismic safety improvements to the existing hospital facilities and supporting infrastructure would be implemented. Alternative 2 does not meet this project objective. |

## Table 7-7
## Summary of Alternative 2 Success at Meeting Project Objectives

| Project Objective | Alternative Meets Objective? |
|---|---|
| Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region. | **Partially.** Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. While new medical buildings and parking structures would be constructed, the new buildings would not be comprehensively planned and integrated into the existing medical office buildings and hospital. The provision of new medical office buildings, however, would increase the range of employment opportunities in the City and surrounding communities. As such, Alternative 2 partially meets this project objective. |
| Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area. | **Yes.** Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. With the construction of the new medical office buildings, there would be an opportunity for increased for more jobs, thereby improving the jobs/housing balance (although not to the same degree as the proposed project). As such, Alternative 2 meets this project objective. |
| Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand. | **Partially.** Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. Existing aging infrastructure would not be upgraded, yet new services would be provided to the Kaiser Members in the Moreno Valley area. As such, Alternative 2 partially meets this project objective. |
| Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing. | **Yes.** Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. The three new above-ground parking structures would provide sufficient parking to accommodate membership and patient demands, staff parking during shift changes, reduce delay and improve circulation throughout the campus. Alternative 2 meets this project objective. |
| Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies. | **No**. Under Alternative 2, the existing hospital building would remain in its current size and condition and two new medical office buildings and three new above-ground parking structures would be constructed. The Energy Center would not be constructed, and no new energy efficiency measures or LEED certification would be achieved, and the ability of the Medical Center to implement sustainable building strategies would be impaired. Alternative 2 does not meet this project objective. |

### 7.4.3 Alternative 3: Reduced Project

Under Alternative 3, improvements would occur at the existing Medical Center, however to a lesser degree that those outlined in Chapter 3. Specifically, under Alternative 3, a new 95,000 square foot Diagnostics and Treatment (D&T) Building, a 30,000 square foot Energy Center, two new hospital towers with a total of 200 beds, and one new parking structure would be constructed in a total of two phases. Under Phase I, the following would be constructed:

- **D&T Building**: The proposed approximately 95,000 square foot expansion of the existing hospital would allow for a D&T Building wing, which would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices. The D&T Building would be two stories in height, approximately 38 feet tall, and located east of the existing hospital and accessed via a new temporary entrance and covered drop-off canopy. Surface parking would be provided to the south and include seven new accessible surface parking spaces south of the new covered drop-off canopy.
- **Energy Center**: The hospital is currently serviced by an existing CUP, located in the northwestern corner of the existing hospital building. As part of Phase I, an Energy Center, which would be approximately 22,000 square feet in size, would be constructed to replace the existing CUP. The Energy Center would include three emergency generators, bulk oxygen, and two cooling towers. The Energy Center would contain all of the major mechanical and electrical equipment for the existing hospital facility, which includes electric-centrifugal water cooler chillers, cooling towers, water boilers and steam boilers, and microturbines. Upon completion and operation of the Energy Center, the existing CUP would be decommissioned but remain on site until Phase II.
- **Temporary Parking**: During Phase I, a total 45 parking temporary surface parking spaces would be provided.

Under Phase II, the following would be constructed:

- **Hospital and D&T Expansion**: North of the existing hospital, two new hospital tower wings, the North Tower and the East Tower, would be constructed. Collectively, these two new towers would be approximately 380,000 square feet and have approximately 220 new patient beds. The new towers would include seven stories and be approximately 137 feet in height. Access to the new hospital towers would be provided via the main Medical Center driveway accessed via Iris Avenue. A new main hospital entrance with a circular turnaround area would be constructed in the northern portion of the site adjacent to the new North Tower. Connected to, and south of the East Tower, would be an approximately

95,000 square foot expansion of the D&T Building. Additionally, connected to, and north of, the North Tower would be a new hospital loading dock and service yard.

- **Energy Center Expansion**: The Energy Center constructed under Phase I would be expanded during Phase II to accommodate ultimate buildout of the Master Plan. The expansion of the Energy Center under Phase II would include the addition of approximately 8,000 square feet with an additional cooling tower and additional mechanical, electrical and plumbing equipment would be added.
- **Parking Structure**: During Phase II, one new multilevel aboveground parking structures would be constructed. Parking Structure No. 2 would be located in the western most portion of the project site and be approximately 61.5 feet in height. This multilevel aboveground parking structure would include approximately 1,400 parking spaces. Internal access roads would be constructed throughout the Medical Center to connect the existing and new buildings to the existing surface parking lots and new parking structures.

At ultimate buildout of Alternative 3, the Medical Center would include a newly constructed approximately 400,000 square foot hospital building with two new towers, the existing hospital building, a new Emergency Department and a D&T Building, an Energy Center totaling approximately 30,000 square feet, and a total of 1,550 parking spaces provided in one multilevel aboveground parking structures and surface parking lots.

The new hospital would include full-service general acute care facilities and would accommodate approximately 320 beds. In addition to the inpatient nursing functions, the hospital buildings would include ancillary services, such as medical imaging/radiology, clinical laboratory and blood bank, operating rooms and associated recovery spaces, inpatient pharmacies, and an emergency department, which would have associated treatment rooms. The hospital buildings would also include administrative offices and conference rooms, as well as general building support departments such as environmental and material services, cafeteria and inpatient food services, communication, linen, and biomedical engineering.

The approximately 475,000 square foot D&T Building of the hospital would provide direct support to the hospital, including ambulatory surgery and outpatient clinical departments such as physician offices, exam and treatment rooms, imaging/radiology, pharmacies, and additional administrative offices. The D&T Building would also provide member services departments including a business office, health education, and conference rooms.

## Environmental Analysis

### *Aesthetics*

As discussed in Section 4.1, impacts associated with aesthetics, scenic vistas, scenic resources, visual character and light and glare would be less than significant. As discussed in Section 4.1, visual changes in the immediate vicinity of the project site would occur; however, due to the limited duration and limited locations from which these visual changes would occur and the fact that the project would not substantially obstruct public views from public viewing areas or areas protected under the City's General Plan, impacts would remain less than significant. Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With the construction of fewer new buildings and parking structures under Alternative 3, scenic vistas would be less affected than under the proposed project. As such, Alternative 3 would result in fewer aesthetic impacts when compared to the proposed project.

### *Air Quality*

As discussed in Section 4.2, implementation of the proposed project would not conflict with or obstruct implementation of an air quality plan, and with implementation of mitigation measures, construction air quality impacts would be less than significant. However, during operations, even with implementation of a Transportation Demand Management Program designed to reduce the number of vehicle trips to and from the project site, impacts associated with emissions of $NO_x$ from the project, impacts would remain significant and unavoidable because $NO_x$ emissions would remain above the SCAQMD's threshold of significance. No additional feasible mitigation is available to reduce anticipated vehicle trips and stationary source emissions during project operations; therefore, impacts would be significant and unavoidable.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer construction and operational air quality impact would occur because construction would be less intense, and during operations, fewer station source emissions, fewer vehicle trips generating air emissions would occur. While construction impacts would be less than significant with implementation of mitigation, given that fewer impacts would occur under Alternative 3, construction air quality impacts for this alternative would be reduced when compared to the proposed project.

## Construction Emissions

As shown in Table 7-8, the Alternative 2 would not exceed any SCAQMD significance thresholds during construction.

**Table 7-8**
**Phase I and II Estimated Maximum Daily Construction Emissions (pounds/day unmitigated)**

| Year | VOCs | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| *Phase I* | | | | | | |
| 2020 | 4.32 | 45.50 | 29.41 | 0.08 | 9.90 | 5.98 |
| 2021 | 3.45 | 22.38 | 28.04 | 0.08 | 4.42 | 1.72 |
| 2022 | 73.19 | 19.98 | 26.93 | 0.08 | 4.38 | 1.63 |
| *Phase II* | | | | | | |
| 2026 | 3.28 | 23.47 | 32.37 | 0.07 | 3.38 | 1.42 |
| 2027 | 3.24 | 23.41 | 32.03 | 0.07 | 3.28 | 1.39 |
| 2028 | 71.71 | 23.36 | 31.73 | 0.07 | 3.29 | 1.39 |
| **Maximum daily emissions** | **73.19** | **45.50** | **32.37** | **0.08** | **9.90** | **5.98** |
| *Pollutant threshold* | *75* | *100* | *550* | *150* | *150* | *55* |
| **Threshold exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Notes:** See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect control of fugitive dust required by SCAQMD Rule 403 (refer to **SC-AQ-2**).
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

## Operational Emissions

During project operations, the project would result in significant and unavoidable NOx emissions because the project's NOx emissions would remain above the SCAQMD's threshold of significance. NOx emissions are primarily a result of vehicle emissions. Given the reduced size of the project under Alternative 3, the reduction in the number of buildings and facilities that would exist at the Medical Center, and the resultant decrease in the number of vehicle trips, NOx emissions under Alternative 3 would be reduced that those of the proposed project. As shown in Table 7-9, emissions of $NO_x$ would not exceed the significance thresholds and thus would result in a less than significant impact. As such, Alternative 3 would result in fewer overall air quality impacts.

**Table 7-9**
**Estimated Daily Maximum Operational Emissions (pounds/day)**

| Emission Source | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| *Phase I Buildout* | | | | | | |
| Area Sources | 2.62 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 0.80 | 7.28 | 6.11 | 0.04 | 0.55 | 0.55 |
| Mobile Sources | 0.83 | 4.84 | 4.50 | 0.02 | 1.02 | 0.28 |
| Stationary Sources | 2.19 | 1.07 | 5.58 | 0.01 | 0.04 | 0.04 |
| **Total** | **6.44** | **13.19** | **16.20** | **0.07** | **1.61** | **0.87** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Table 7-9**
**Estimated Daily Maximum Operational Emissions (pounds/day)**

| Emission Source | VOC | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| *Phases I and II Buildout* | | | | | | |
| Area Sources | 13.67 | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 |
| Energy Sources | 2.20 | 20.04 | 16.84 | 0.12 | 1.52 | 1.52 |
| Mobile Sources | 3.88 | 27.75 | 20.48 | 0.10 | 6.28 | 1.71 |
| Stationary Sources | 2.19 | 1.07 | 5.58 | 0.01 | 0.04 | 0.04 |
| **Total** | **21.94** | **48.87** | **43.10** | **0.23** | **7.84** | **3.28** |
| *Emission Threshold* | 55 | 55 | 550 | 150 | 150 | 55 |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Source:** See Appendix B for complete results.
The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.
VOC = volatile organic compound; $NO_x$ = oxides of nitrogen; CO = carbon monoxide; $SO_x$ = sulfur oxides; $PM_{10}$ = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MMBtu/hr = million British thermal units per hour.

### *Biological Resources*

As discussed in Section 4.3, impacts to special-status plant species, sensitive natural communities, wildlife corridors and migratory routes, and consistencies with local policies and ordinances would be less than significant. Additionally, with incorporation of mitigation, impacts to special-status wildlife species and jurisdictional wetlands and waters, would be less than significant. Mitigation measures **MM-BIO-1** and **MM-BIO-2** require pre-construction surveys and nesting bird season avoidance, while **MM-BIO-3** requires regulatory agency permitting.

Under Alternative 3, construction of a reduced-scale version of the proposed project would occur. Construction activities at the project site would result in the same potential to affect special-status wildlife species and jurisdictional wetlands and waters. As with the proposed project, with implementation of **MM-BIO-1** through **MM-BIO-3**, impacts could be reduced to less than significant levels. Nonetheless, because Alternative 3 has the same potential to result in impacts to biological resources as the proposed project, Alternative 3 would not avoid or reduce impacts and would result in comparable impacts as the proposed project.

### *Cultural Resources*

As discussed in Section 4.4, impacts to cultural resources associated with the proposed project would be reduced to less-than-significant levels with implementation of **MM-CUL-1** and **MM-CUL-2**. Specifically, upon project approval, **MM-CUL-1** requires that in the event archaeological resources are exposed during construction, all construction activities within 100 feet of the find shall immediately halt until a qualified archaeologist can assess the find. **MM-CUL-2** requires that if human remains are found within the project site, the County coroner shall be immediately notified of the discovery.

Under Alternative 3, construction would still occur at the project site, however, to a lesser extent. Fewer new buildings would be constructed; therefore, there would be a reduced potential to unearth previously undisturbed cultural resources. As with the proposed project, with implementation of mitigation, impacts would be reduced to less than significant. However, given that Alternative 3 would result in less ground-distributing activities because fewer areas of the site would be disturbed, there would be reduced impacts to cultural resources when compared to the proposed project.

***Energy***

As discussed in Section 4.5, the project would have less-than-significant impacts with regard to wasteful, inefficient or unnecessary consumption of energy resources, obstruction of a state or local plan for energy efficiency, and demand on energy supplies and capacity.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, reduced demand for and consumption of energy resources would occur. While project impacts would be less than significant, given that less energy consumption would occur under Alternative 3, energy impacts for this alternative would be reduced when compared to the proposed project.

***Geology and Soils***

As discussed in Section 4.6, the project would result in less-than significant impacts related to geology and soils with implementation of mitigation measures **MM-GEO-1** through **MM-GEO-3**. Specifically, **MM-GEO-1** and **MM-GEO-2** require that all project design recommendations from geotechnical investigations be incorporated into the design and construction of the proposed Medical Center components in Phases I, II and III. Mitigation measure **MM-GEO-3** requires review and approval of plans and specifications of the Medical Center buildings by the Office of Statewide Health Planning and Development (OSHPD) Facilities Development Division. The project would also result in less-than-significant impacts related to paleontological resources with implementation of mitigation measures **MM-GEO-4** through **MM-GEO-7**. These mitigation measures outline the procedures to be followed in the event of the discovered of a unique paleontological resource.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer impacts associated with geology and soils would occur because less cut and fill and less intense development would occur at the project site. While project impacts would be less than significant with implementation of mitigation, given that fewer impacts would occur under Alternative 3, geology and soils impacts for this alternative would be reduced when compared to the proposed project.

### *Greenhouse Gas Emissions*

As discussed in Section 4.7, the project would have less-than-significant impacts with regard to direct and indirect generation of greenhouse gases, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, there would be fewer vehicle trips and fewer stationary source emissions, thereby resulting in fewer GHG emissions. As such, Alternative 3 would result in fewer GHG impacts. While project impacts would be less than significant, GHG emissions would be reduced occur under Alternative 3, and thus GHG impacts for this alternative would be reduced when compared to the proposed project.

### *Hazards and Hazardous Materials*

As discussed in Section 4.8, the project could result in an increase in the amount of hazardous materials used or stored and the amount of hazardous waste generated on the project site. However, the project would have less-than-significant impacts with regard to hazards and hazardous materials through compliance with standard conditions of approval governing the storage and use of hazardous materials and disposal of hazardous waste at medical center sites.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, marginally fewer hazardous materials would be used and stored and marginally less hazardous waste would be generated. Thus, while project impacts would be less than significant, hazards and hazardous materials impacts for this alternative would be reduced when compared to the proposed project.

### *Hydrology and Water Quality*

As discussed in Section 4.9, impacts associated with hydrology and water quality would be less than significant with implementation of mitigation measures **MM-HYD-1** through **MM-HYD-3**. Specifically, **MM-HYD-1** requires the installation of treatment control Best Management Practices including an underground storage vault and an underground storage pipe system during Phase I of the project. **MM-HYD-2** requires the installation of treatment control BMPs including multiple sand-filled detention basins during Phase II of the project. **MM-HYD-3** requires inspection and maintenance of the installed basins throughout project operations.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer impacts associated with hydrology and water quality would occur because less impervious surfaces would be introduced at the Medical Center site and fewer changes to the existing hydrology and drainage patterns on the site would occur. While project impacts would be less than significant with implementation of mitigation, given that fewer impacts would occur under Alternative 3, hydrology and water quality impacts for this alternative would be reduced when compared to the proposed project.

### *Land Use and Planning*

As discussed in Section 4.10, impacts associated with land use and planning with implementation of the proposed project would be less than significant. The proposed project would not divide an established community or conflict with any applicable land use plans or policies. No mitigation measures would be required.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. While land uses would remain the same, they would be less intense. Thus, while project impacts would be less than significant, land use and planning impacts for this alternative would be reduced when compared to the proposed project.

### *Noise*

As discussed in Section 4.11, impacts associated with noise and vibration can be reduced to less than significant levels with implementation of mitigation measures **MM-NOI-1** through **MM-NOI-4**. Mitigation measure **MM-NOI-1** requires that prior to issuance of a grading permit, the construction contractor shall implement noise reduction techniques at the project site and for construction equipment. Mitigation measure **MM-NOI-2** requires that the construction contractor ensure that all equipment operate with appropriate noise control devices. Mitigation measure **MM-NOI-3** requires that during operations either on-site field noise testing or via engineering specifications to demonstrate that on-site noise generating equipment not exceed 55 dBA $L_{eq}$ at a distance of 200 feet. Mitigation measure **MM-NOI-4** requires that the applicant prepare an acoustical analysis upon completion of final design to demonstrate compliance with applicable daytime and nighttime threshold noise levels.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer impacts associated with construction and operational noise would occur because construction would be less intense, and during operations, fewer vehicle trips generating noise would occur. While project impacts would be less than significant with implementation of mitigation, given that fewer impacts would occur under Alternative 3, noise impacts for this alternative would be reduced when compared to the proposed project.

### *Population and Housing*

As discussed in Section 4.12, impacts associated with population and housing would be less than significant. The project would not result in the displacement of existing housing or directly or indirectly increase the City's population beyond growth projections. No mitigation measures would be required.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer jobs would be created, thereby marginally reducing the overall growth in the City's population. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 3, population and housing impacts for this alternative would be reduced when compared to the proposed project.

### *Public Services and Recreation*

As discussed in Section 4.13, impacts associated with public services and recreation would be less than significant. The project would not substantially affect police protection, fire protection, school, parkland, library or recreation facilities such that impacts would occur and mitigation measures would be required.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer demands for public services and recreational facilities would occur. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 3, public services and recreational impacts for this alternative would be reduced when compared to the proposed project.

### *Transportation*

As discussed in Section 4.14, Transportation, at full project buildout, a total of 32 intersections would operate at an unsatisfactory LOS. Even with implementation of **MM-TRA-1** through **MM-TRA-51**, 32 of the 64 intersections would operate at an unacceptable LOS. Based on the roadway segment LOS analysis, 32 of the study roadway segments would operate at an unacceptable LOS, and even with implementation of mitigation, 30 of the study roadway segments would operate at an unacceptable LOS. As such, the project would result in significant impacts even with implementation of mitigation.

Under Alternative 3, Phase I and a portion of Phase II of the proposed project would be implemented; Phase III would not be implemented. With the reduction in the number of facilities and buildings developed on the existing Medical Center campus, fewer vehicle trips would occur, and would therefore reduce impacts when compared to the proposed project. As shown in Table 7-10, under Alternative 3 a total of 2,954 fewer vehicle trips would occur upon implementation of Phase II, and a total of 10,279 fewer vehicle trips would occur upon build-out of the entire project. Given that significant and unavoidable impacts have been identified for the proposed project, with the reduction in the overall number of vehicle trips, a reduction in the severity of traffic impacts at study area intersections and roadway segments would be achieved, and specifically upon ultimate build-out. As such, Alternative 3 would result in fewer transportation impacts when compared to the proposed project and reduce identified significant and unavoidable impacts.

**Table 7-10**
**Alternative 3 – Trip Generation**

| Land Use | Units | | AM Peak Hour | | | PM Peak Hour | | | Daily |
|---|---|---|---|---|---|---|---|---|---|
| | | | *In* | *Out* | *Total* | *In* | *Out* | *Total* | |
| *Existing* | | | | | | | | | |
| Medical Office Building No. 1 and Trailers | 10.5 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 23 | 6 | 29 | 10 | 26 | 36 | 365 |
| Medical Office Building No. 2 | 74.50 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 162 | 46 | 208 | 72 | 186 | 258 | 2,593 |
| Hospital | 130.0 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | 79 | 37 | 116 | 40 | 86 | 126 | 1,394 |
| **Existing Net Trip Generation** | | | **264** | **89** | **353** | **122** | **298** | **420** | **4,352** |
| *Phase I – Year 2023* | | | | | | | | | |
| D&T Expansion | 95.00 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | 57 | 27 | 84 | 29 | 63 | 92 | 1,018 |
| Energy Center | 22.00 | TSF | | | | | | | |
| Trips/Unit[3] | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trip Generation | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Medical Office Building No. 1 and Trailers | -10.5 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | (23) | (6) | (29) | (10) | (26) | (36) | (365) |
| **Phase I Net Trip Generation** | | | **34** | **21** | **55** | **19** | **37** | **56** | **653** |
| *Phase II – Year 2032* | | | | | | | | | |
| Patient Bed Towers (North and East) and D&T Expansion | 315.5 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | 191 | 90 | 281 | 98 | 208 | 306 | 3,382 |

## Table 7-10
## Alternative 3 – Trip Generation

| Land Use | Units | | AM Peak Hour | | | PM Peak Hour | | | Daily |
|---|---|---|---|---|---|---|---|---|---|
| | | | *In* | *Out* | *Total* | *In* | *Out* | *Total* | |
| Medical Office Building No. 3 | 0.00 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Energy Center | 8.0 | TSF | | | | | | | |
| Trips/Unit[3] | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trip Generation | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Phase II Net Trip Generation** | | | **191** | **90** | **281** | **98** | **208** | **306** | **3,382** |
| **Phase I + II Net Trip Generation** | | | **225** | **111** | **336** | **117** | **245** | **362** | **4,035** |
| *Phase III – Year 2038* | | | | | | | | | |
| Patient Bed Towers (South and West) and D&T Expansion | 0.00 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Medical Office Building No. 4 | 0.00 | TSF | | | | | | | |
| Trips/Unit[1] | | | 2.17 | 0.61 | 2.78 | 0.97 | 2.49 | 3.46 | 34.8 |
| Trip Generation | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Hospital | -130.0 | TSF | | | | | | | |
| Trips/Unit[2] | | | 0.61 | 0.28 | 0.89 | 0.31 | 0.66 | 0.97 | 10.72 |
| Trip Generation | | | (79) | (37) | (116) | (40) | (86) | (126) | (1,394) |
| **Phase III Net Trip Generation** | | | **(79)** | **(37)** | **(116)** | **(40)** | **(86)** | **(126)** | **(1,394)** |
| **Phase I + II + III Net Trip Generation** | | | **146** | **74** | **220** | **77** | **159** | **236** | **2,642** |
| *Comparison with Proposed Project* | | | | | | | | | |
| Phase I Net Trip Generation | | | | | | | | | |
| Proposed Project | | | 34 | 21 | 55 | 19 | 37 | 56 | 653 |
| Alternative 3 | | | 34 | 21 | 55 | 19 | 37 | 56 | 653 |
| **Difference (+/-)** | | | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Phase I+II Net Trip Generation | | | | | | | | | |
| Proposed Project | | | 405 | 169 | 574 | 200 | 450 | 650 | 6,989 |
| Alternative 3 | | | 225 | 111 | 336 | 117 | 245 | 362 | 4,035 |
| **Difference (+/-)** | | | **-180** | **-58** | **-238** | **-83** | **-205** | **-288** | **-2,954** |
| Phase I+II+III Net Trip Generation | | | | | | | | | |
| Proposed Project | | | 759 | 297 | 1,056 | 368 | 848 | 1,216 | 12,921 |
| Alternative 3 | | | 146 | 74 | 220 | 77 | 159 | 236 | 2,642 |
| **Difference (+/-)** | | | **-613** | **-223** | **-836** | **-291** | **-689** | **-980** | **-10,279** |

**Notes:** TSF=thousand square feet; D&T=Diagnostic & Treatment

[1] Rates based on Land Use 720 - "Medical-Dental Office Building" from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."

[2] Rates based on Land Use 610 - "Hospital" from ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."

[3] It is anticipated that the Energy Center will not generate any trips

### *Tribal Cultural Resources*

As discussed in Section 4.15, impacts associated with tribal cultural resources would be less than significant with implementation of **MM-TRC-1** through **MM-TCR-7**. These mitigation measures require preconstruction archaeological and tribal cultural resource training, preparation of a Native American Monitoring Program, procedures to be followed in the event of an inadvertent discovery of an archaeological resource or human remains, and the preparation of archaeological resource treatment plans, monitoring efforts and monitoring reports.

Under Alternative 3, construction would still occur at the project site, however, to a lesser extent. Fewer new buildings would be constructed; therefore, there would be a reduced potential to unearth previously undisturbed tribal cultural resources. As with the proposed project, with implementation of mitigation, impacts would be reduced to less than significant. However, given that Alternative 3 would result in less ground-distributing activities, there would be reduced impacts to tribal cultural resources when compared to the proposed project.

### *Utilities and Service Systems*

As discussed in Section 4.16, impacts associated with utilities and service systems would be less than significant, and no mitigation would be required. The project would not require or result in the relocation or construction of new or expanded utilities or service systems, sufficient water supplies and wastewater treatment systems exist to serve the project, and solid waste generated by the project could be accommodated within existing landfills.

Under Alternative 3, portions of the proposed project would be constructed on site; however, the scope and scale of the new facilities would be reduced when compared to the proposed project. With implementation of a smaller-sized expansion of the Medical Center, fewer demands for utilities and service systems would occur. While project impacts would be less than significant, given that fewer impacts would occur under Alternative 3, utilities and service system impacts for this alternative would be reduced when compared to the proposed project.

## Project Objectives

Under Alternative 3, a reduced scale version of the expansion of the existing Medical Center would be implemented. Table 7-11 provides a list of the project objectives and whether Alternative 3 meets each objective.

## Table 7-11
## Summary of Alternative 3 Success at Meeting Project Objectives

| Project Objective | Alternative Meets Objective? |
|---|---|
| Improve public health and safety and serve the existing and projected Kaiser membership base in Moreno Valley and the immediately surrounding communities by providing additional and expanded medical services on the Moreno Valley Medical Center campus. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed, thereby improving public health and safety and providing new facilities for the existing and projected Kaiser membership base. However, under Alternative 3, no new medical office buildings adjacent to the hospital would be constructed. As such, only a limited number of new services would be provided at the Medical Center. Alternative 3 only partially meets this project objective. |
| Reduce the need for Kaiser members to travel outside the City for medical services by increasing the types and capacity of medical services available at the Moreno Valley Medical Center campus. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. As such, only a limited number of new services would be provided at the Medical Center and Kaiser members would need to continue to travel outside the City for outpatient medical services. Alternative 3 only partially meets this project objective. |
| Develop underutilized land located within the Medical Use Overlay district consistent with the City's objectives, as set forth in the general plan and zoning code, of maintaining a diversity of medical and supportive uses in the vicinity of the existing hospital and creating a medical corridor by limiting land uses to those that are supportive of and compatible with the existing hospital. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. As such, only a limited number of new services would be provided at the Medical Center. While a portion of the project site would be utilized under Alternative 3, much of the undeveloped and underutilized land on the project site, which lies within the Medical Use Overlay district, would remain undeveloped. As such, Alternative 3 only partially meets this project objective. |
| Provide for the long-range development capacity on the project site's undeveloped area which would accommodate the future growth of Kaiser Permanente members requiring health care services, while also providing the flexibility for a range of shorter term interim and conveniently sited, complementary uses. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. As such, only a limited number of new services would be provided at the Medical Center. The buildout potential at the site would not be realized and fewer new services would be available to City residents. As such, Alternative 3 only partially meets this project objective. |

## Table 7-11
## Summary of Alternative 3 Success at Meeting Project Objectives

| Project Objective | Alternative Meets Objective? |
|---|---|
| Provide a comprehensive range of high quality health care services in seismically safe, state-of-the-art, advanced-care medical center facilities for Kaiser Permanente members throughout the Moreno Valley region. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. As such, only a limited number of new services would be provided at the Medical Center. While the new construction associated with Alternative 3 would be seismically safe and include state-of-the-art advanced care services, no new medical office buildings would be constructed; the Medical Center would only serve as a hospital and not provide a comprehensive range of health care services. As such, Alternative 3 only partially meets this project objective. |
| Replace, repair and upgrade existing hospital facilities and supporting infrastructure to address age, functionality and seismic safety. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. While the new construction associated with Alternative 3 would involve replacing, repairing and upgrading portions of the existing Medical Center, and the new construction would be seismically safe, the existing dated hospital tower would remain and not undergo any upgrades. As such, Alternative 3 only partially meets this project objective. |
| Create a comprehensively planned, advanced-care medical center campus that provides community vitality, economic growth, and a wide range of employment opportunities in Moreno Valley and the surrounding region. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. However, under Alternative 3, older buildings and facilities would remain at the project site. The site would be underutilized as undeveloped or under developed areas would remain and would not be comprehensively planned. Alternative 3 would make a lesser contribution to the economic growth and employment opportunities in Moreno Valley. As such, Alternative 3 only partially meets this project objective. |
| Foster the creation of employment opportunities within Moreno Valley to improve the jobs/housing balance within the City and the surrounding area. | **Yes**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. As such, new employment opportunities would be created at the site (although not to the same degree as the proposed project), and the jobs/housing balance within the City would improve. Alternative 3 meets this project objective. |
| Maintain current services at the existing Moreno Valley Medical Center without interruption while simultaneously upgrading aging infrastructure and enhancing services available to Kaiser Members based on market demand. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. However, no new medical office buildings adjacent to the hospital would be constructed. Current services would be maintained at the site; however, aging infrastructure would not be upgrades. As such, Alternative 3 partially meets this objective. |

**Table 7-11**
**Summary of Alternative 3 Success at Meeting Project Objectives**

| Project Objective | Alternative Meets Objective? |
|---|---|
| Provide parking sufficient to accommodate membership and patient demands, staff parking demands during shift changes, reduce delay and improve circulation throughout the campus by alleviating vehicle queuing. | **Yes.** Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. Additionally, one new 1,000-space aboveground parking structure would be built. No new medical office buildings adjacent to the hospital would be constructed. Given that fewer new medical services and facilities would be introduced under Alternative 3 and that new parking would be provided, the existing parking and new parking structure could accommodate Medical Center users. As such, Alternative 3 meets this project objective. |
| Implement upgrades to the Medical Center's Energy Center to improve energy efficiency as well as implement green building features using the standards of the Green Guide for Healthcare, as such standards evolve over time, and Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent, as well as Kaiser's existing sustainable building strategies. | **Partially**. Under Alternative 3, portions of the hospital, emergency department and Energy Center components of project would be constructed. No new medical office buildings adjacent to the hospital would be constructed. Replacement of the existing Central Utility Plant with a new and more energy efficient Energy Center would occur, and the newly constructed buildings and facilities at the existing Medical Center would allow Kaiser to integrate green building features; however, the older hospital tower remaining on the project site would not incorporate such features. Therefore, Alternative 3 only partially meets this objective. |

## 7.5 EVALUATION OF ALTERNATIVES

In accordance with the CEQA Guidelines Section 15126.6(d), the discussion of the environmental effects of the alternatives may be less detailed than the discussion of the impacts of the project. Table 7-1 provides a summary of the comparison of the impacts of the alternatives with the project; an analysis of the Environmentally Superior Alternative is provided in Section 7.5, as follows.

## 7.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As indicated in Table 7-1, Alternative 1, the No Project Alternative, would result in the least environmental impacts, and therefore would be considered the Environmentally Superior Alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the Environmentally Superior Alternative is the No Project Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Of the alternatives previously evaluated, Alternative 3 was found to be environmentally superior over the proposed project (see Table 7-1) because it had the most reductions in impacts from the proposed project. Alternative 3 was found to result in fewer aesthetic, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and recreation, transportation, tribal cultural resources, and utilities and service systems impacts. Alternative 3 would also result in fewer significant and unavoidable air quality and transportation impacts through the reduction in over 10,000 daily vehicle trips. Under Alternative 3, comparable impacts to biological resources would occur when compared to the proposed project because the same resources would be potentially disturbed by project construction activities. While Alternative 3 would be the Environmentally Superior Alternative, this alternative would not achieve all primary objectives of the proposed project and would not fully develop available and unused land on site, which the City has planned for medical center uses. Alternative 3 would not provide new state-of-the-art medical facilities to the same extent as the proposed project and would not accommodate the needs of the existing and projected future Kaiser Permanente membership.

# CHAPTER 8
# LIST OF PREPARERS

Per Section 15129 of the California Environmental Quality Act (CEQA) Guidelines, an Environmental Impact Report (EIR) shall identify all federal, state, or local agencies, organizations, and private individuals consulted in preparing the EIR, and the persons, firm, or agency preparing the EIR.

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