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INTERNATIONAL

Technical Memorandum: AIR QUALITY

Kaiser Permanente Riverside Medical Center Expansion Project

Technical Memorandum

TO:	City of Riverside	DATE:	September 3, 2021
FROM:	Michael Baker International	SUBJECT:	Air Quality for the Kaiser Permanente Riverside Medical Center Expansion Project

PURPOSE

Kaiser Permanente (Applicant) is proposing the Kaiser Permanente Riverside Medical Center Expansion Project (project) in the City of Riverside (City). The project requires California Environmental Quality Act (CEQA) review and City approval of a conditional use permit and design review. The purpose of this technical memorandum is to evaluate potential air quality impacts resulting from the construction and operation of the proposed project.

PROJECT LOCATION

The City of Riverside is located in the northwestern portion of Riverside County. The City is bounded on the north by the Cities of Jurupa Valley and Grand Terrace, to the east by the City of Moreno Valley, to the south by the unincorporated community of Woodcrest, and to the west by the Cities of Corona and Norco.

The main project site is located at 10800 Magnolia Avenue (Assessor's Parcel Number [APN] 138-470-010) and is currently developed as the Kaiser Permanente Riverside Medical Center (Medical Center). Up to four off-site temporary staging areas may be utilized for worker parking: east of 10493 Magnolia Avenue (Staging Area 1, APN 143-180-028, and Staging Area 2, APN 143-180-032), at 10821 Magnolia Avenue (Staging Area 3, APN 142-293-028), and at 11510 Magnolia Avenue (Staging Area 4, APN 132-020-033) (Figure 1, Regional Map).

The approximately 37.5-acre existing Medical Center is located within the La Sierra District of the Magnolia Avenue Specific Plan. It is bounded by Magnolia Avenue, Park Sierra Dive and Polk Street while the nearest major cross street is La Sierra Avenue (Figure 2, Vicinity Map). Regional access to the project area is provided via State Route 91 (SR-91) approximately one-quarter mile to the south. Local access is provided via Magnolia Avenue, Polk Street, and Park Sierra Drive.

PROJECT DESCRIPTION

Kaiser Permanente is proposing the redevelopment of approximately 15.5 acres of the existing 37.5-acre Medical Center in the City of Riverside to expand acute care medical service facilities and ancillary uses (proposed project). The expansion of the existing Medical Center is proposed to address the need for additional adult single occupancy and neonatal intensive care unit (NICU) beds, increase the capacity of operating rooms and interventional radiology, and resolve parking needs and critical functional deficiencies in key clinical services, including the emergency department.

The expanded facilities and uses would consist of a new, approximately 296,000-square-foot, five-story hospital tower, a new two-story diagnostic and treatment (D&T) building, a multi-story 1,200-stall aboveground parking structure, and upgrades to the existing central utility plant. The project would also

include ancillary features such as a new patient drop-off canopy, driveways, walkways, surface parking, landscaping, lighting, and signage. The project would also include an emergency generator that would only be used during power outage

Existing Conditions

The existing Medical Center is situated on approximately 37.5 acres and includes four main buildings located in the center of the site. The existing buildings are surrounded by surface parking lots and one parking structure to the north (see Figure 3, Conceptual Site Plan).

The existing Medical Center is comprised of four Medical Office Buildings (MOB) located in the center of the site and surrounded by surface parking lots, and one parking structure to the north; refer to Table 1, Existing Building Dimensions. The existing facilities contain 226 hospital beds, including 51 single occupancy rooms, 78 double occupancy rooms, and 19 NICU rooms. In total, the existing Medical Center currently contains 2,556 parking stalls on-site (1,994 standard stalls, 377 compact, 169 (Americans with Disabilities Act [ADA] compliant, and 16 van spaces). An existing parking structure is located in the northeast portion of the existing Medical Center campus; refer to Table 2, Existing Parking. There are a total of eight electric vehicle (EV) charging stations, two of which are ADA accessible. The existing site has one bicycle rack at the back of the existing employee parking lot.

Table 1, Existing Building Dimensions

Building	Sq. Footage	# of Floors	Height		Beds	Parking Requirements	
			Roof	Screen		Multiplier	Stalls
MOB 1	402,909	5	70'-10"	93'-6"	226	1 per Bed	226
						1 per 180 SF	219
						1 per 180 SF	174
MOB 2	220,000	5	70'-10"	93'-6"	0	1 per 180 SF	1,222
MOB 3	88,000	3	43'-0"	N/A	0	1 per 180 SF	489
MOB 4	6,027	1	15'-0"	N/A	0	1 per 180 SF	34
Total	716,936						2,364

Table 2, Existing Parking

Type	# of Decks	Height	Parking Stalls
Structure	4	38'-6" Top of Parapet	700
Surface	N/A	N/A	1,856
		Total	2,556

The existing Medical Center supports an operational staff of approximately 3,097 full-time employees and generates approximately 2,521 patient visitors per day.

The Medical Center is accessed through five existing driveways. There are two full-access driveways off of Park Sierra Drive, two full-access driveways from Polk Street, and one right-in and right-out driveway off of Magnolia Avenue.

The majority of off-site staging areas are situated on previously developed land that has since been cleared and graded (see Figure 1, Regional Map). Invasive weeds and other plants have taken root in permeable surfaces and are dispersed intermittently across the staging area parcels. Staging Area 2 [APN 143-180-032] is developed as a paved parking lot with landscaping.

Table 3, Membership Characteristics, provides additional information on the Kaiser Permanente Riverside Hospital and local service area in relation to the surrounding hospital network.

Table 3, Membership Characteristics

City of Riverside	
Average Distance to Nearest KP Facility	4.8 miles
Average Drive Time to Nearest KP Facility	9.9 minutes
County of Riverside (excluding Coachella Valley)	
Average Distance to Nearest KP Facility	6.8 miles
Average Drive Time to Nearest KP Facility	12 minutes
Additional Membership Information	
23% of members in Riverside County (excluding Coachella Valley) live in the City of Riverside	
10% of members in Southern California live in Riverside County (excluding Coachella Valley)	
Coachella Valley accounts for 1% of SoCal membership and 8% of Riverside County membership	

Proposed Project Characteristics

Hospital Tower and D&T Building

The proposed tower would be five stories with a subgrade basement. The proposed power would stand 74.5 feet from ground level to the top of the roof. However, mechanical equipment on the roof would be screened by a parapet and screen which would result in a total building height of 89.5 feet. The proposed tower would provide an additional 152 acute care beds, consisting of 116 single occupancy rooms and 36 NICU rooms. The proposed tower would also include new emergency and surgical departments, 8 operating rooms, 58 emergency department treatment bays, and other hospital related functions, including an inpatient pharmacy. A rotunda connecting the new tower to the existing Medical Center and various outdoor seating areas with meandering pathways and landscaping would also be constructed (see Figure 3, Conceptual Site Plan).

The D&T building would be two stories, approximately 34 feet tall to the parapet top, and constructed adjacent to the northwestern side of the proposed hospital tower. The D&T building would provide direct support to the new emergency and surgical departments as well as expanded diagnostic services and interventional radiology treatment. Upgrades to the existing central utility plant and utility connections from the central utility plant to the new buildings would also be required.

Parking Facilities

As part of the proposed project, a new parking structure with five stories and rooftop parking would be constructed in the southeast corner of the project site. The maximum proposed height of the parking structure would be 70 feet above the ground surface. The parking structure would include approximately 2,500 square feet of interior office space. The parking structure would be constructed over an existing parking lot and modifications would be made to some of the on-site surface parking lots. In total, 1,200 new parking spaces are proposed. All parking would be provided in conformance with City parking regulations and with respect for the site being in a transit priority area.

Existing Medical Center Modifications

As part of the proposed project, the 19 NICU beds at the existing Medical Center would be delicensed and the area would remain as expanded inpatient services for the labor and delivery department.

Sustainability and Energy-Saving Features

In accordance with Kaiser Permanente's long-term environmental stewardship goals, the proposed facilities would be constructed in accordance with the rating system and performance standards to achieve a minimum of Gold certification under the Leadership in Energy and Environmental Design (LEED) Program. The LEED rating system and certification was developed by the US Green Building Council and serves as a guide for the design, construction, and operation of sustainable green buildings. Buildings are awarded points for environmentally significant practices and sustainable features.

Because the LEED certification program does not include parking structures, the proposed parking structure would be designed and constructed in accordance with the rating system and performance standards for certification under the Green Garage Certification Program, which is the parking industry's equivalent of LEED certification, provided by the Green Parking Council, an affiliate of the International Parking Institute.

The project would also be designed to meet or exceed requirements of the most current version of the Title 24 and CALGreen Building Codes. Energy-saving features incorporated into the proposed development are anticipated to include drought-tolerant landscaping, low water and recycled water irrigation systems, energy-saving lighting, mechanical systems, low-flow plumbing fixtures and fittings, and transportation-related sustainability features, such as EV charging stations and bicycle facilities.

Transportation Demand Management Plan

A transportation demand management (TDM) plan would be developed for the project to identify feasible strategies that result in a more efficient use of transportation resources to help relieve traffic congestion, parking demand, and transportation-related air emissions. The TDM plan would guide the efficient use of the existing transportation system and confirm that the transportation-related sustainability features proposed for the project are designed to maximize sustainable transportation usage. The TDM plan would identify different services, facilities, and actions that combined would result in a reduction of single-occupant vehicle trips and/or emissions. These measures may include employee incentives for rideshare or use of public transportation, EV charging stations, and bicycle facilities.

Operations

The proposed project would result in the addition of 152 new beds requiring the support of an operational staff of approximately 746 full-time employees. The employees would work in three shifts: day, evening, and night. The day shift supports approximately 439 employees, evening shift approximately 89 employees, and night shift approximately 218 employees. The expanded facilities would generate approximately 535 additional patient visitors per day.

Utilities

Water

Public water service would be provided by the City's public water system via connection to existing pipelines on Magnolia Avenue. Waterline and storage upgrades are not required to supply water to the project as the existing water system has adequate capacity to serve the project.

Sewer

Wastewater treatment for the project would be provided by the City. The proposed project would connect to an existing 21-inch sewer line located on Magnolia Avenue. Expansion or improvements to the City's sewer system is not required as the existing sewer system has adequate capacity to serve the project.

Stormwater Facilities

The proposed project area is predominantly paved in its existing condition. Approximately 10 percent of the total site would be landscaped. The proposed project would maintain existing on-site drainage patterns and be designed to utilize LID bioretention and biotreatment BMPs and landscaping features to redirect, capture, and treat surface runoff from new development prior to entering the existing storm drain system in Park Sierra Street and Magnolia Avenue. Roof runoff from new buildings would drain into landscaped areas prior to entering the existing storm drain system. No increase in stormwater runoff is anticipated with the implementation of the proposed project and no off-site improvements to the existing stormwater system would be required.

Electricity

Riverside Public Utilities currently provides electrical services to the project site. All electrical lines would be undergrounded and would connect to existing connections at the corner of Magnolia Avenue and Polk Street. The project would also include an emergency generator that would only be used during power outage

Construction

Construction Phases and Schedule

Project construction would occur over an approximate 58-month time frame in two major build phases comprising seven subphases. Construction of the proposed project has two major phases: one for the parking structure and the other for the new hospital tower and D&T building. Table 4, Construction Phases, describes the activities undertaken in each of the two major construction phases and seven subphases.

Table 4, Construction Phases

Phase	Description	Activities	Construction Duration (Months)
Phases 1-3	Make Ready – Parking Structure	Phases 1 and 2 include reconfiguring the existing hospital ambulance driveway and hospital patient drop-off area. A temporary patient drop-off canopy for the hospital and a new patient drop-off area for MOB 2 will be constructed as part of Phase 2. Following the opening of the new patient drop-off areas, parking reconfiguration and restriping of the ADA parking spots south of MOB 3 and MOB 2 patient drop-off area would be performed as part of Phase 3.	6
Phase 4	Parking Structure	Phase 4 would involve establishing parking structure laydown areas, demolition of existing surface parking, grading, construction of the cast-in-place concrete building structure, construction of the interior 2,500 square feet of office space on the first level, and exterior screening elements.	12
Phase 5	New Ambulance Driveway	Phase 5 involves the reconfiguration of the existing hospital ambulance egress and the construction of the new emergency vehicle driveway that will provide access from Magnolia Avenue.	4
Phases 6-7	New Hospital Tower, D&T Building and Entry Plaza Construction	Phases 6 and 7 involve construction of the new hospital tower and correlating interior and exterior site work, D&T building, upgrades to the existing central utility plant, utility connections from the central utility plant to the new hospital tower and undergrounding of existing aboveground utilities, construction of a new patient entry and drop-off canopy, reconfigured driveways, and landscaping.	36

The construction sequences would be as follows: demolition and grading, underground utility work, construction of building structure, interior buildout, exterior façade work, and final site work such as paving, coating, finishing, and/or landscaping. Final site work of Phase 4 would overlap with demolition of Phase 5 for one month, and architectural coating would occur simultaneously with building construction. All other construction phases would not overlap. Construction equipment would be delivered to the site on low-bed trucks (e.g., on boom trucks) unless the equipment can be driven to the site. All construction equipment and materials would be stored on-site in designated staging and laydown areas.

It is anticipated that the work would be completed between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between the hours 8:00 a.m. and 5:00 p.m. on Saturdays in accordance with the construction time limitations in the City's Municipal Code Section 7.35.020(G).

Earthwork and Grading

The majority of earthwork would be required during the construction of the basement for the new hospital tower. The total depth of excavation for the basement construction is anticipated to be up to 20 feet below the existing ground surface. Project earthwork would require approximately 70,650 cubic yards of cut and 18,500 cubic yards of fill; thus, approximately 52,150 cubic yards of soil export would be required. The demolished material would be disposed of at an approved landfill facility approximately 5 miles from the project site and the exported soil would be dumped at an approved landfill facility approximately 17 miles from the project site.

Grading would be accomplished with scrapers, motor graders, water trucks, dozers, and compaction equipment. Building materials would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

Demolition and New Construction

Demolition and construction would be accomplished with cranes, dozers, and other heavy equipment. Waste materials would be uploaded onto large trucks using small cranes, forklifts, and other construction equipment as needed. Pile driving would not be required for new building construction.

ENVIRONMENTAL SETTING

Regional Topography

The City is located within the South Coast Air Basin (Basin), a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O_3) observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

Criteria Air Pollutants

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" O_3 is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight.

High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3 and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging. On July 8, 2016, EPA made a finding that the South Coast has attained the 1997 24-hour and annual $PM_{2.5}$ standards based on 2011-2013 data. However, the Basin remains in nonattainment as the EPA has not determined that California has met the Federal Clean Air Act requirements for redesignating the Basin nonattainment area to attainment.

Sulfur Dioxide (SO_2). Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and reactive organic gases (ROG) (see below) are often used interchangeably.

Reactive Organic Gases (ROG). Similar to VOCs, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC are often used interchangeably.

Local Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The closest air monitoring station to the project site is the Riverside-Rubidoux Monitoring Station, which monitors O3, CO, NO2, PM2.5, and PM10. Local air quality data from 2017 to 2019 is provided in Table 5, Summary of Air Quality Data. This table lists the monitored maximum concentrations and number of exceedances of State/Federal air quality standards for each year.

Table 5, Summary of Air Quality Data

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration[1]	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-hour)[2]	0.09 ppm for 1 hour	NA[5]	2017 2018 2019	0.145 ppm 0.123 ppm 0.123 ppm	47/2 22/0 24/0
Ozone (O_3) (8-hour)[2]	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2017 2018 2019	0.119 ppm 0.101 ppm 0.096 ppm	82/81 57/53 63/59
Carbon Monoxide (CO) (1-hour)[2]	20 ppm for 1 hour	35 ppm for 1 hour	2017 2018 2019	2.431 ppm 1.514 ppm 1.847 ppm	0/0 0/0 0/0
Nitrogen Dioxide (NO_2)[2]	0.018 ppm for 1 hour	0.100 ppm for 1 hour	2017 2018 2019	0.063 ppm 0.055 ppm 0.056 ppm	0/0 0/0 0/0
Fine Particulate Matter ($PM_{2.5}$)[2, 3]	No Separate Standard	35 µg/m^3 for 24 hours	2017 2018 2019	50.3 µg/m^3 68.3 µg/m^3 57.6 µg/m^3	*/7 */3 */5
Particulate Matter (PM_{10})[2, 3, 4]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours[6]	2017 2018 2019	137.6 µg/m^3 126.0 µg/m^3 182.4 µg/m^3	98/0 127/0 110/0

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; NA = not applicable; * = insufficient data available to determine the value

Notes:
1. Maximum concentration is measured over the same period as the California Standards.
2. Data collected from the Riverside-Rubidoux Monitoring Station located at 5888 Mission Boulevard, Rubidoux, California, 92509.
3. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. The Federal standard for 1-hour ozone was revoked in June 2005.
6. The Federal standard for average PM_{10} was revoked in December 2006.

Sources:
California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed March 15, 2021.
California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed March 15, 2021.

REGULATORY SETTING

South Coast Air Quality Management District

Air Quality Thresholds

Under CEQA, the South Coast Air Quality Management District (SCAQMD) is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the Federal Clean Air Act, the SCAQMD has adopted Federal attainment plans for O_3 and PM_{10}. The SCAQMD provides guidance to lead agencies on how to evaluate project air quality impacts related to the following criteria: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The SCAQMD's *CEQA Air Quality Handbook* also provides significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result. However, ultimately the lead agency determines the thresholds of significance for impacts. If a project generates emissions in excess of the established mass daily emissions thresholds, as outlined in Table 6, South Coast Air Quality Management District Mass

Daily Emissions Thresholds, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts. In addition, SCAQMD establishes odor threshold, which identifies that projects creating an odor nuisance pursuant to South Coast AQMD Rule 402 would cause a significant impact.

Table 6, South Coast Air Quality Management District Mass Daily Emissions Thresholds

Phase	Pollutant (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55
ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter up to 10 microns; $PM_{2.5}$ = particulate matter up to 2.5 microns; lbs = pounds						
Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993.						

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, PM_{10}, or $PM_{2.5}$. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways.

Cumulative Emissions Thresholds

The SCAQMD's *2016 Air Quality Management Plan* (2016 AQMP) was prepared to accommodate growth, meet State and Federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary. If a project exceeds these emission thresholds, the SCAQMD *CEQA Air Quality Handbook* states that the significance of a project's contribution to cumulative impacts should be determined based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

City of Riverside

Riverside General Plan 2025

The *Riverside General Plan 2025* (General Plan) is intended to implement the community's vision for what Riverside can be by guiding decisions and actions and allow for strategic planning. Specific to air quality, the General Plan Air Quality Element identifies the role the City can play in helping the Basin attain the goal of meeting Federal and State air quality standards, as well as the function the City has in protecting its own residents and businesses from the impacts of harmful air contaminants.

To achieve these goals, the Air Quality Element sets forth a number of provisions and programs to reduce current air pollution emissions, while requiring new development to include measures to comply with air quality requirements and to address new stringent air quality standards. The following are relevant objectives and policies from the Air Quality Element.

- **Objective AQ-1:** Adopt land use policies that site polluting facilities away from sensitive receptors and vice versa; improve job-housing balance; reduce vehicle miles traveled and length of work trips; and improve the flow of traffic.
    - **Policy AQ-1.1:** Ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status or geographic location, from the health effects of air pollution.
    - **Policy AQ-1.3:** Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.
    - **Policy AQ-1.5:** Encourage infill development projects within urbanized areas, which include job centers and transportation nodes.
    - **Policy AQ-1.10:** Encourage job creation in job-poor areas as a means of reducing vehicle miles traveled.
    - **Policy AQ-1.11:** Locate public facilities and services so that they further enhance job creation opportunities.
    - **Policy AQ-1.13:** Encourage employment centers that are nonpolluting or extremely low-polluting and do not draw large numbers of vehicles in proximity to residential uses.
    - **Policy AQ-1.15:** Establish land use patterns that reduce the number and length of motor vehicle trips and promote alternative modes of travel.
    - **Policy AQ-1.16:** Design safe and efficient vehicular access to commercial land uses from arterial streets to ensure efficient vehicular ingress and egress.
    - **Policy AQ-1.20:** Create the maximum possible opportunities for bicycles as an alternative work transportation mode.
- **Objective AQ-2:** Reduce air pollution by reducing emissions from mobile sources.
    - **Policy AQ-2.1:** Support Transportation Management Associations between large employers and commercial/ industrial complexes.
    - **Policy AQ-2.2:** Support programs and educate employers about employee rideshare and transit incentives for employers with more than 250 employees at a single location. The City will provide incentives and programs to encourage alternative methods of transit.
    - **Policy AQ-2.3:** Cooperate with local, regional, State and Federal jurisdictions to reduce vehicle miles traveled (VMT) and motor vehicle emissions through job creation in job-poor areas.
    - **Policy AQ-2.4:** Monitor and strive to achieve performance goals and/or VMT reduction which are consistent with SCAG's goals.

  - **Policy AQ-2.6:** Develop trip reduction plans that promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking.

- **Objective AQ-3:** Prevent and reduce pollution from stationary sources, including point sources (such as power plants and refinery boilers) and area sources (including small emission sources such as residential water heaters and architectural coatings).
  - **Policy AQ-3.4:** Require projects to mitigate, to the extent feasible, anticipated emissions which exceed AQMP Guidelines.
  - **Policy AQ-3.6:** Support "green" building codes that require air conditioning/filtration installation, upgrades or improvements for all buildings, but particularly for those associated with sensitive receptors.
  - **Policy AQ-3.7:** Require use of pollution control measures for stationery and area sources through the use of best available control activities, fuel/material substitution, cleaner fuel alternatives, product reformulation, change in work practices and of control measures identified in the latest AQMP.
- **Objective AQ-4:** Reduce particulate matter, as defined by the Environmental Protection Agency (EPA), as either airborne photochemical precipitates or windborne dust.
  - **Policy AQ-4.1:** Identify and monitor sources, enforce existing regulations and promote stronger controls to reduce particulate matter (e.g., require clean fuels for street sweepers and trash trucks, exceed the AQMD requirements for fleet rules).
  - **Policy AQ-4.2:** Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.
  - **Policy AQ-4.3:** Support the reduction of all particulates potential sources.
  - **Policy AQ-4.4:** Support programs that reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.
  - **Policy AQ-4.5:** Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- **Objective AQ-5:** Increase energy efficiency and conservation in an effort to reduce air pollution.
  - **Policy AQ-5.6:** Support the use of automated equipment for conditioned facilities to control heating and air conditioning.

Magnolia Avenue Specific Plan

The project is located within the La Sierra District of the *Magnolia Avenue Specific Plan* (Specific Plan; dated November 10, 2009). The vision for the Specific Plan is to designate Magnolia Avenue as a four-lane arterial and a transit corridor; create new zoning categories that promote mixed-use development; condense retail uses into specific areas; develop clear boundaries for districts along the corridor; and revise zoning provisions to be specific to each district.

Riverside Restorative Growthprint

The *Riverside Restorative Growthprint* (dated January 2016) consists of the City's *Economic Prosperity Action Plan* and *Climate Action Plan* (CAP), which work in conjunction to spur entrepreneurship and smart growth while advancing the City's greenhouse gas (GHG) emission reduction goals through the year 2035. The CAP prioritizes the implementation of policies that enable the City to fulfill the requirements of State initiatives, Assembly Bill 32 and Senate Bill 375. The CAP includes a baseline GHG inventory for local government operations and for the community as a whole and establishes emission reduction targets consistent with State law. Through stakeholder engagement and cost-benefit analysis, the CAP resulted in strategies, measures, and actions for reducing emissions that align with the City's planning priorities and its vision of a future economy based on clean, green businesses and business practices.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) THRESHOLDS

Based on Appendix G of the State CEQA Guidelines, a project may have a significant adverse impact related to air quality if it would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

METHODOLOGY

The analysis describes and addresses the requirements set forth by the SCAQMD's *CEQA Air Quality Handbook* to estimate and analyze potential air quality impacts.

Construction emissions were quantified with the California Emissions Estimator Model version 2020.4.0 (CalEEMod). Exhaust emission factors for typical diesel-powered heavy equipment are based on the program defaults of CalEEMod. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The air pollutant emissions during construction were compared to the SCAQMD regional thresholds of significance. Naturally occurring asbestos impacts were discussed qualitatively.

Operational (i.e., area, energy, and mobile source) emissions were quantified and compared to the SCAQMD regional thresholds of significance. Project-generated vehicle emissions were estimated using CalEEMod. Based on the *Traffic Impact Analysis, Kaiser Permanente Riverside Medical Center Expansion* (Traffic Impact Analysis) prepared by LSA Associates (dated June 2021)[1], the project is anticipated to generate approximately 4,464 average daily trips, including 345 a.m. peak hour trips and 349 p.m. peak hour trips. The project would cause a net increase of 9,316 daily vehicle miles traveled (VMT). As a conservative analysis, annual net increase of VMT was calculated by multiplying the daily VMT by 365 days, which was equivalent to 3,400,340 miles per year.

[1] LSA Associates, *Traffic Impact Analysis, Kaiser Permanente Riverside Medical Center Expansion*, dated June 2021.

The resultant human health impacts from the project's short-term construction and long-term operational air emissions were analyzed, as well as the potential for CO hotspot impacts and health impacts to sensitive receptors from exposure to Toxic Air Contaminants (TACs).

AIR QUALITY IMPACTS ANALYSIS

Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The City is located within the South Coast Air Basin. The SCAQMD has jurisdiction in the Basin, which has a history of recorded air quality violations and is an area where both State and Federal ambient air quality standards are exceeded. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The SCAQMD is required, pursuant to the Federal Clean Air Act, to reduce emissions of the air pollutants for which the Basin is in nonattainment.

In order to reduce emissions, the SCAQMD adopted the 2016 AQMP which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State and Federal air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, the Southern California Association of Governments (SCAG), and the EPA.

The 2016 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016-2040 RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. While SCAG has recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS), SCAQMD has not released an updated AQMP. SCAQMD is planning to release the updated AQMP in 2022. As such, this consistency analysis is based on the 2016 AQMP and the RTP/SCS that was adopted at the time, the 2016-2040 RTP/SCS.

The SCAQMD considers projects that are consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts. Criteria for determining consistency with the AQMP are defined by the following indicators:

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations?

   Since the consistency criteria identified under the first criterion pertains to pollutant concentrations, rather than to total regional emissions, an analysis of the project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Impact Statement AQ-3 below, localized concentrations of NO_X, CO, SO_2, and particulate matter (PM_{10} and $PM_{2.5}$) would be less than significant. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations. Due to the role ROGs play in ozone formation, it is classified as a precursor pollutant

and a regional emissions threshold has been established; however, as ROGs are not a criteria pollutant, there is no ambient standard or localized threshold for ROGs.

b) Would the project cause or contribute to new air quality violations?

As discussed below in Impact Statements AQ-2 and AQ-3, project emissions would be below the SCAQMD's thresholds for regional and localized emissions. Therefore, the proposed project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

The proposed project would result in less than significant impacts with regard to localized concentrations during project construction. As such, the proposed project would not delay the timely attainment of air quality standards or 2016 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?

A project is consistent with the 2016 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2016 AQMP. In the case of the 2016 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the General Plan, SCAG's regional growth forecast, and the 2016-2040 RTP/SCS. The 2016-2040 RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The project proposes to expand the existing Kaiser Permanente Riverside Medical Center (which includes four buildings) by constructing a 318,433-square foot, six-story hospital tower and a 1,200-stall parking structure. The project site is designated Mixed Use-Urban (MU-U) in the General Plan and Specific Plan. The proposed expansion is consistent with the site's land use designation, and consistent with the types, intensity, and patterns of land use envisioned for the site vicinity, including with that of the existing Kaiser Permanente Riverside Medical Center.

The City's population estimate as of January 1, 2020 is 328,155 persons.[2] While the project does not involve residential development, the project would generate approximately 746 full time equivalent jobs and could indirectly induce population growth if future employees move into the City to work at the expanded hospital. While it is likely that future employees already live in the

[2] State of California Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark*, dated May 2020.

City or would commute in from neighboring jurisdictions, this analysis conservatively assumes all 746 future employees would move into the City for employment.

Based on an average household size of 3.28[3], the project would result in an indirect population increase of approximately 2,446 persons.

SCAG growth forecasts in the 2016-2040 RTP/SCS estimate the City's population to reach 386,600 persons by 2040, representing a total increase of 75,900 persons between 2012 and 2040.[4] The project's potential indirect population growth (2,446 persons) represents 3.22 percent of the City's anticipated population increase by 2040, and only 0.63 percent of the City's total projected 2040 population.

Additionally, SCAG growth forecasts in the 2016-2040 RTP/SCS estimate the City's employment to reach 200,500 jobs by 2040, representing a total increase of 80,500 jobs between 2012 and 2040.[5] The approximately 746 project-generated jobs represent 0.93 percent of the City's anticipated jobs increase by 2040, and only 0.37 percent of the City's total projected 2040 employment.

Therefore, the project would not cause the General Plan buildout population or employment forecasts to be exceeded. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the proposed project would be consistent with the projections.

b) Would the project implement all feasible air quality mitigation measures?

The proposed project would result in less than significant air quality impacts. Compliance with all feasible emission reduction rules and measures identified by the SCAQMD would be required as identified in Impact Statements AQ-2 and AQ-3. As such, the proposed project meets this 2016 AQMP consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth in the AQMP?

Land use planning strategies set forth in the 2016 AQMP are primarily based on the 2016-2040 RTP/SCS. The project is an expansion of the existing Kaiser Permanente Riverside Medical Center to address the need for a bed tower to convert existing double occupancy beds to single occupancy; increase capacity in neonatal intensive care unit beds, operating rooms, and interventional radiology; and resolve critical functional deficiencies in key clinical services, including the emergency department and other services. The Kaiser Permanente Riverside Medical Center is a major employment center within the City and is sited near the La Sierra Metrolink Station and local Riverside Transit lines. The project would generate approximately 746 jobs in a jobs-rich area of the City near commercial, residential, office, medical, and business park uses, thus enhancing the La Sierra District as a transit-oriented, mixed-use employment center. As such, the project would be consistent with the actions and strategies of the 2016-2040 RTP/SCS. Furthermore, project consistency with the 2016-2040 RTP/SCS and the 2016 AQMP would promote the City's goal to protect air quality by incorporating General Plan Air Quality

[3] Ibid.

[4] Southern California Association of Governments, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Demographics & Growth Forecast Appendix*, dated April 2016.

[5] Ibid.

Element objectives and policies. As such, the proposed project would meet this AQMP consistency criterion.

In conclusion, the determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. Also, the proposed project would be consistent with the goals and policies of the 2016 AQMP for control of fugitive dust; refer to Impact Statement AQ-2. As discussed above, the proposed project's long-term influence would also be consistent with the SCAQMD and SCAG's goals and policies and is, therefore, considered consistent with the 2016 AQMP.

Mitigation Measures: No mitigation is required.

Impact AQ-2: Would 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?

Less Than Significant Impact.

Short-Term Construction

The project involves construction activities associated with demolition, grading, building construction, paving, and architectural coating applications. Construction of the project is anticipated to occur over an approximate 58-month timeframe from the onset of demolition through final construction. Demolition and construction would be completed in seven phases. Phase 1-4 would be completed in approximately 18 months and Phase 5-7 would be completed in approximately 40 months.

Demolition and construction would be accomplished with cranes, dozers, and other heavy equipment. Waste materials would be uploaded onto large trucks using small cranes, forklifts, and other construction equipment as needed. Demolition equipment would be delivered to the site on low-bed trucks unless the equipment can be driven to the site (e.g., on boom trucks). Refer to Appendix A, Air Quality Emissions Data, for a detailed equipment list. The proposed construction schedule is shown in Table 7, Construction Schedule; and the proposed equipment list is shown in Table 8, Construction Equipment List.

Table 7, Construction Schedule

Construction Phases	Proposed Duration (Months)
PHASES 1-4 (Parking Structure)	
Demolition	1
Grading	1
Paving	1
Building Construction	13
Architectural Coating	2
PHASES 5-7 (Hospital Tower and D&T Building)	
Demolition	1
Grading	2
Paving	2
Building Construction	31
Architectural Coating	4

Source: Refer to Appendix A, for detailed model input/output data.

Table 8, Construction Equipment List

Phase	Equipment Type	Amount
PHASES 1-4 (Parking Structure)		
Demolition	Concrete/Industrial Saws	1
Demolition	Excavators	3
Demolition	Rubber Tired Dozers	2
Grading	Excavators	2
Grading	Graders	1
Grading	Rubber Tired Dozers	1
Grading	Scrapers	2
Grading	Tractors/Loaders/Backhoes	2
Paving	Pavers	2
Paving	Paving Equipment	2
Paving	Rollers	2
Building Construction	Cranes	1
Building Construction	Forklifts	3
Building Construction	Generator Sets	1
Building Construction	Tractors/Loaders/Backhoes	3
Building Construction	Welders	1
Architectural Coating	Air Compressors	1
PHASES 5-7 (Hospital Tower and D&T Building)		
Demolition	Concrete/Industrial Saws	1
Demolition	Excavators	3
Demolition	Rubber Tired Dozers	2
Grading	Excavators	2
Grading	Graders	1
Grading	Rubber Tired Dozers	1
Grading	Scrapers	2
Grading	Tractors/Loaders/Backhoes	2
Paving	Pavers	2
Paving	Paving Equipment	2
Paving	Rollers	2
Building Construction	Cranes	1
Building Construction	Forklifts	3
Building Construction	Generator Sets	1
Building Construction	Tractors/Loaders/Backhoes	3
Building Construction	Welders	1
Architectural Coating	Air Compressors	1

Source: Refer to Appendix A, for detailed model input/output data.

The analysis of daily construction emissions has been prepared using CalEEMod. Refer to Appendix A for the CalEEMod outputs and results. Table 9, Short-Term Construction Emissions, presents the anticipated daily short-term construction emissions.

Table 9, Short-Term Construction Emissions

Emissions Source	Pollutant (pounds/day)[1,2]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Related Emissions[2]						
Year 1	4.88	38.90	32.51	0.09	5.75	2.92
Year 2	5.03	51.56	47.69	0.14	7.76	3.55
Year 3	2.54	18.96	26.79	0.08	4.78	1.73
Year 4	2.37	17.90	26.10	0.08	4.69	1.65
Year 5	17.11	17.82	25.60	0.07	4.69	1.65
Maximum Daily Emissions	***17.11***	***51.56***	***47.69***	***0.14***	***7.76***	***3.55***
SCAQMD Thresholds[3]	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Notes:
1. Emissions were calculated using CalEEMod version 2020.4.0, as recommended by the SCAQMD. Winter emissions represent worst-case scenario and is therefore presented as a conservative analysis.
2. The reduction/credits for construction emissions are based on adjustments to CalEEMod and are required by the SCAQMD Rules. The adjustments applied in CalEEMod includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; and limit speeds on unpaved roads to 15 miles per hour.
3. Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins). Source: South Coast AQMD, *CEQA Handbook*, 1993.

Source: CalEEMod Version 2020.4.0. Refer to Appendix A for assumptions used in this analysis.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from site preparation, grading, and construction is expected to be short-term and would cease upon project completion. It should be noted that most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Construction activities would comply with SCAQMD Rule 402, which requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site, and Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Adherence to SCAQMD Rule 403 would greatly reduce PM_{10} and $PM_{2.5}$ concentrations. It should be noted that these estimated reductions were applied in CalEEMod.

As depicted in Table 9, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Therefore, particulate matter impacts during construction would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. Standard SCAQMD regulations, such as maintaining all construction equipment in proper tune and shutting down equipment when not in use for extended periods of time, would be implemented. Construction equipment and worker vehicle exhaust emissions have been accounted for within the daily short-term construction emissions (refer to Table5) and would be below the established SCAQMD thresholds. Therefore, air quality impacts from equipment and vehicle exhaust emission would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SCAQMD, the ROG emissions associated with paving and architectural coating have been quantified with the CalEEMod model. As required by SCAQMD Regulation XI, Rule 1113 – Architectural Coating, all architectural coatings for the proposed structures would comply with specifications on painting practices as well as regulation on the ROG (also refer to as VOC) content of paint. ROG emissions associated with the proposed project would be less than significant; refer to Table 9.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 9, criteria pollutant emissions during construction of the proposed project would not exceed the SCAQMD significance thresholds. Thus, total construction related air emissions impacts would be less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*[6], serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Lead-based Paint

Lead-based paint (LBP) is recognized as a potential health risk because of its known toxics that affect the central nervous system, kidneys, and bloodstream. Lead-based paints were used in residential and commercial buildings until it was banned in 1978. Structures built in the U.S. before 1978 are likely to have some lead-based paint. Improper demolition of structures coated with lead-based paint can result in the release of lead containing particles from the project site and pose a potentially significant impact.

The project proposes to construct a hospital building and a parking structure. The project would involve demolition of some existing pavement, but would not involve the demolition of structures, including those built before 1978. Thus, there would be no impact in this regard.

Long-Term (Operational) Emissions

Long-term air quality impacts would consist of mobile source emissions generated from project-related traffic, and emissions from stationary area and energy sources. Emissions generated by the proposed project were calculated and are discussed below.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$); however, CO tends to be a localized pollutant, dispersing rapidly at the source.

The project-generated vehicle emissions have been estimated using CalEEMod. Table 10, Long-Term Operational Air Emissions, presents the anticipated mobile source emissions. As shown in Table 10, emissions generated by vehicle traffic associated with the project would not exceed established SCAQMD thresholds. In addition, the project would include electric vehicle charging stations and parking spaces, ride sharing parking spaces, and bicycle parking spaces on-site to encourage alternative modes of transportation and reduce mobile source emissions. As such, impacts from mobile source air emissions would be less than significant.

Area Source Emissions

Area source emissions would be generated due to an increased demand for natural gas, consumer products, area architectural coatings, and landscaping equipment associated with the development of the proposed project; refer to Table 10.

[6] Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*, https://ww3.arb.ca.gov/toxics/asbestos/ofr_2000-019.pdf, August 2000.

Energy Source Emissions

Operational energy source emissions are generated as a result of electricity and natural gas usage associated with a project; refer to Table 10. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics.

Total Operational Emissions

As shown in Table 10, total operational emissions for both summer and winter would not exceed established SCAQMD thresholds. Therefore, impacts in this regard would be less than significant.

Table 10, Long-Term Operational Air Emissions

Emissions Source	Pollutant (lbs/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project Summer Emissions						
Area Source Emissions	6.90	<0.01	0.15	<0.01	<0.01	<0.01
Energy Emissions	0.70	6.40	5.38	0.04	0.49	0.49
Mobile Emissions[2]	7.06	4.65	40.97	0.07	7.22	1.96
Total Emissions[3]	**14.67**	**11.05**	**46.50**	**0.11**	**7.71**	**2.45**
SCAQMD Thresholds	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*
Proposed Project Winter Emissions						
Area Source Emissions	6.90	<0.01	0.15	<0.01	<0.01	<0.01
Energy Emissions	0.70	6.40	5.38	0.04	0.49	0.49
Mobile Emissions[2]	6.57	4.99	42.67	0.06	7.22	1.96
Total Emissions[3]	**14.18**	**11.40**	**48.20**	**0.10**	**7.71**	**2.45**
SCAQMD Thresholds	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Notes:
1. Emissions were calculated using CalEEMod, version 2020.4.0.
2. The mobile source emissions were calculated using the trip generation data provided in the *Traffic Impact Analysis, Kaiser Permanente Riverside Medical Center Expansion*, prepared by LSA Associates, (dated June 2021).
3. The numbers may be slightly off due to rounding.

Source: CalEEMod Version 2020.4.0. Refer to Appendix A for assumptions used in this analysis.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, ozone precursors ROGs and NO_x affect air quality on a regional scale. Health effects related to ozone are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD for the *Sierra Club vs. County of Fresno*, dated April 6, 2015, the SCAQMD acknowledged that it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in

the atmosphere air pollutants interact and form.[7] Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD) for the *Sierra Club vs. County of Fresno*, SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.[8]

The SCAQMD acknowledges that health effects quantification from ozone, as an example is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient ozone levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_X and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce ozone levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Since the project would not exceed SCAQMD thresholds for construction and operational air emissions, the project would have a less than significant impact for air quality health impacts as well.

Mitigation Measures: No mitigation is required.

Impact AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Localized Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, and/or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. The project is located within Source Receptor Area (SRA) 23, *Metropolitan Riverside*. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction and operational impacts (stationary sources only).

Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

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7 South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

8 San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

The nearest sensitive receptors to the project site are the single- and multi-family residences as well as a nursing home (Arlington Gardens Care Center) located to the north of the project site across Polk Street. The single-family residences are located approximately 100 feet to the north of the project site across Polk Street, approximately 450 feet from the nearest project construction area.

Non-Residential Receptors

Commercial and industrial uses (i.e., non-residential receptors) are not included in the definition of sensitive receptor because employees and patrons do not typically remain on-site for a full 24 hours and are usually on-site for eight hours or less. However, the LST Methodology states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours*."[9]

The closest commercial use is a commercial building located to the west of the project site across Magnolia Avenue, approximately 170 feet from the project's construction limit.

Construction LST

The SCAQMD's guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. Based on default information provided by CalEEMod, the project is anticipated to disturb more than five acres per day during the grading phase. Therefore, the LST thresholds for five acres was utilized for the construction LST analysis. The nearest sensitive receptors is a commercial building located to the west of the project site across Magnolia Avenue, approximately 170 feet (51.8 meters) from the project's construction limit (the proposed hospital tower). Therefore, LST values for 25 meters were conservatively used.

Table 11, Localized Emissions Significance, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 23. It is noted that the localized emissions presented in Table 11 are less than those in Table 9 because localized emissions include only on-site emissions (e.g., from construction equipment and fugitive dust) and do not include off-site emissions (e.g., from hauling activities). As shown in Table 11, the project's localized construction emissions would not exceed the LSTs for SRA 23. Therefore, localized significance impacts from project-related construction activities would be less than significant.

[9] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, revised July 2008.

Table 11, Localized Emissions Significance

Emissions Source	Pollutant (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction On-site Emissions				
Maximum Daily Emissions[1]	38.84	29.04	5.04	2.86
Localized Significance Thresholds	***270***	***1,577***	***13***	***8***
Is Threshold Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. The 2022 Phase 1-4 grading phase emissions would present the worst-case scenario for NO_X, CO, PM_{10}, and $PM_{2.5}$.
2. The reduction/credits for construction emissions applied in CalEEMod are based on the application of dust control techniques as required by SCAQMD Rule 403. The dust control techniques include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stockpiles with tarps; and limit speeds on unpaved roads to 15 miles per hour.
3. The Localized Significance Threshold was determined using Appendix C of the *SCAQMD Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (more than five acres; therefore the 5-acre threshold was used) and Source Receptor Area 23.

Source: CalEEMod Version 2020.4.0. Refer to Appendix A for assumptions used in this analysis.

Operational LST

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project includes the expansion of a Kaiser Permanente medical facility. As such, nominal amount of truck trips is anticipated at the project site. These truck activities would be intermittent and would not include extended periods of idling time; therefore, idling emissions from truck trips would be minimal. Additionally, potential emergency vehicle trips to and from the project site would be sporadic and would not idle on-site or along adjacent roadways for long periods of time. The project would also include an emergency generator that would only be used during power outage. Although emergency generators have the potential to cause localized air quality impacts, due to the sporadic use of the proposed emergency generator, the impacts would be less than significant. In addition, before operation of the emergency generator, the project Applicant would be required to apply and obtain a stationary source permit from SCAQMD and report criteria pollutants emissions. Thus, due to the lack of major stationary source emissions, no long-term LST analysis is necessary. Operational LST impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, and the elderly).

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased nationwide; estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.[10] Three major control programs have contributed to

[10] United States Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed January 11, 2021.

the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles County experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm one-hour CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in southern California with an average daily trip volume of approximately 100,000 vehicles per day. As CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City of Riverside near the project site due to the comparatively low volume of traffic that would occur as a result of project implementation.[11] Therefore, impacts would be less than significant in this regard.

Localized Air Quality Health Impacts

As evaluated above, the project's air emissions would not exceed the SCAQMD's LST thresholds, and CO hotpots would not occur as a result of the proposed project. Therefore, the project would not exceed the most stringent applicable Federal or State ambient air quality standards for emissions of CO, NO_X, PM_{10}, or $PM_{2.5}$. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (e.g., children and the elderly) are protected. In other words, the ambient air quality standards are purposefully set in a stringent manner to protect children, elderly, and those with existing respiratory problems. Thus, an air quality health impact would be less than significant in this regard.

Conclusion

In conclusion, the project would not expose sensitive receptors to substantial pollutant concentrations as the project would not exceed the SCAQMD LST thresholds, would not cause a CO hotspot, and would not create a localized air quality health impact. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. According to CARB's *Air Quality and Land Use Handbook*[12], land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the CARB as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with

[11] LSA Associates, *Traffic Impact Analysis, Kaiser Permanente Riverside Medical Center Expansion*, dated March 2021.

[12] California Air Resources Board, *Air Quality and Land Use Handbook*, April 2005.

the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with the SCAQMD Regulation XI, *Rule 1113 – Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Any impacts to existing adjacent land uses would be short-term and are less than significant.

Mitigation Measures: No mitigation is required.

CUMULATIVE IMPACTS

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the project's individual emissions would have a cumulatively significant impact on air quality. Cumulative air quality impacts may potentially result when the emissions from cumulative projects combine to degrade air quality conditions below attainment levels for the Basin, delay attainment of air quality standards, affect sensitive receptors, or subject surrounding areas to objectionable odors. The cumulative study area for air quality includes the Basin, which is contiguous with the County because air quality is evaluated at the air basin level. Cumulative impacts on sensitive receptors and odors are more localized and include surrounding areas close to the project site.

With respect to the proposed project's construction-related air quality emissions and cumulative Basin-wide conditions, the SCAQMD adopted the 2016 AQMP which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State and Federal air quality standards. As such, the proposed project would comply with SCAQMD rules and regulations, and the adopted 2016 AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., rules and regulations compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2016 AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, including the proposed project.

With respect to the proposed project's long-term air quality emissions and cumulative Basin-wide conditions, the proposed project would not result in short- or long-term air quality impacts, as emissions would not exceed the SCAQMD adopted thresholds; refer to Table 10, above. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, the project's incremental operational impacts would be less than cumulatively considerable and impacts in this regard are less than significant.

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Appendix A:
Air Quality Emissions Data