

March 29, 2019

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VIA EMAIL
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Subject: Air Quality and Greenhouse Gas Emissions Analysis for the Proposed 810 North Marengo Avenue Residential Project in the City of Pasadena, California

Dear Ms. Landry:

This Letter Report presents the results of the air quality and greenhouse gas emissions analysis for the proposed 810 North Marengo Avenue Residential Project on 810-818 North Marengo Avenue in the City of Pasadena, California (hereinafter referred to as the “Project”). This analysis addresses the potential air quality and greenhouse gas emission impacts associated with the Project in accordance with the California Environmental Quality Act (CEQA) (*California Public Resources Code* §21000 et seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, §15000 et seq.).

PROJECT SETTING AND DESCRIPTION

The Project Applicant, Rafa La Development, LLC proposes to develop a 0.64-acre lot with a two or three-story, 30,803 square-foot (sf) 27-unit multi-family residential development, with 65 subterranean parking spaces within 2 subterranean levels. The Project site is currently vacant and undeveloped. The Project site is predominantly surrounded by residential uses. Please refer to Exhibit 1, Regional Location and Local Vicinity.

AIR QUALITY ANALYSIS

Relevant elements of the proposed Project related to the analysis of potential air quality impacts include (1) site preparation activities, (2) on-site grading activities, which are expected to export 11,000 cubic yards (cy) of soils; (3) the use of construction equipment during construction of 27 multi-family dwelling units and subterranean parking with 65 parking spaces; and (4) the vehicle trips generated by the proposed Project.

The Project site is located in the Los Angeles County portion of the South Coast Air Basin (SoCAB) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) for air quality regulation and permitting. The SoCAB is a 6,600-square-mile area bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego County line to the south. The SoCAB 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 SoCAB’s terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills)

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determine its distinctive semi-arid climate, which is characterized by moderate temperatures, oceanic influence, and precipitation that is limited to a few storms during the winter (November through April).

Existing Air Quality Conditions

Air quality data for the Project site is represented by the monitoring station located at 752 South Wilson Avenue, Pasadena, 91101. The monitoring station is located approximately 1 mile southeast of the Project site. Pollutants measured at the Pasadena South Wilson Avenue Monitoring Station include O₃, PM_{2.5}, and NO₂. The monitoring data presented in Table 1, Air Quality Levels Measured at the Pasadena South Wilson Avenue Monitoring Station, were obtained from CARB (CARB 2019). Federal and State air quality standards are presented with the number of times those standards were exceeded.

**TABLE 1
 AIR QUALITY LEVELS MEASURED AT THE PASADENA SOUTH WILSON
 AVENUE MONITORING STATION**

| Pollutant | California Standard | National Standard | Year | Max. Level ^a | Days State Standard Exceeded | Days National Standard Exceeded |
|--------------------------------|----------------------|-----------------------|------|-------------------------|------------------------------|---------------------------------|
| O ₃ (1 hour) | 0.09 ppm | None | 2015 | 0.111 | 12 | 0 |
| | | | 2016 | 0.126 | 12 | 1 |
| | | | 2017 | 0.139 | 18 | 2 |
| O ₃ (8 hour) | 0.070 ppm | 0.070 ppm | 2015 | 0.084 | 18 | 18 |
| | | | 2016 | 0.090 | 19 | 18 |
| | | | 2017 | 0.100 | 38 | 36 |
| PM ₁₀ (24 hour) | 50 µg/m ³ | 150 µg/m ³ | 2015 | – | – | – |
| | | | 2016 | – | – | – |
| | | | 2017 | – | – | – |
| PM ₁₀ (AAM) | 20 µg/m ³ | None | 2015 | – | – | – |
| | | | 2016 | – | – | – |
| | | | 2017 | – | – | – |
| NO ₂ (1 Hour) | 0.18 ppm | 0.100 ppm | 2015 | 0.074 | 0 | 0 |
| | | | 2016 | 0.071 | 0 | 0 |
| | | | 2017 | 0.072 | 0 | 0 |
| PM _{2.5} (24 Hour) | None | 35 µg/m ³ | 2015 | 48.5 | N/A | 2 |
| | | | 2016 | 29.2 | N/A | 0 |
| | | | 2017 | 22.8 | N/A | 0 |

–: Data Not Reported or insufficient data available to determine the value; O₃: ozone; ppm: parts per million; PM₁₀: respirable particulate matter with a diameter of 10 microns or less; µg/m³: micrograms per cubic meter; AAM: Annual Arithmetic Mean; NO₂: nitrogen dioxide; CO: carbon monoxide; PM_{2.5}: fine particulate matter with a diameter of 2.5 microns or less; SO₂: sulfur dioxide. N/A indicates that there is no applicable standard.

^a California maximum levels were used.

Source: CARB 2019.

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The Pasadena monitoring data shows that ozone (O₃) is the air pollutant of primary concern in the Project area. At the monitoring station, the state 1-hour O₃ standard was exceeded 12 days in 2015, 12 days in 2016, and 18 days in 2017. The State and federal 8-hour O₃ standards were exceeded 18 days in 2015, 19 days in 2016, and 38 days in 2017. O₃ is a secondary pollutant and is not directly emitted from a source; it occurs as the result of photochemical reactions from ozone precursors, which include VOCs and NO₂ and sunlight. The PM_{2.5} federal standard was also exceeded for 2 days in 2015.

Regulatory Background

Pollutants and Standards

The U.S. Environmental Protection Agency (USEPA) defines seven “criteria” air pollutants: O₃, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable particulate matter with a diameter of 10 microns or less (PM₁₀), fine particulate matter with a diameter of 2.5 microns or less (PM_{2.5}), and lead. These pollutants are called criteria pollutants because the USEPA has established National Ambient Air Quality Standards (NAAQS) for the concentrations of these pollutants. The California Air Resources Board (CARB) has also established standards for the criteria pollutants, known as California Ambient Air Quality Standards (CAAQS), and the State standards are generally more restrictive than the NAAQS. When a region has air quality that fails to meet the standards, the USEPA and the CARB designate the region as “nonattainment” and the regional air quality agency must develop plans to attain the standards.

Based on monitored air pollutant concentrations, the USEPA and the CARB designate an area’s status in attaining the NAAQS and the CAAQS, respectively, for selected criteria pollutants. These attainment designations are shown in Table 2. As identified in Table 2, Los Angeles County is a nonattainment area for O₃, PM₁₀, and PM_{2.5}.

**TABLE 2
 ATTAINMENT STATUS OF CRITERIA POLLUTANTS
 IN THE SOUTH COAST AIR BASIN**

| Pollutant | State | Federal |
|-------------------------|-------------------------|---------------------------|
| O ₃ (1 hour) | Nonattainment | No standards |
| O ₃ (8 hour) | Nonattainment | Nonattainment |
| PM ₁₀ | Nonattainment | Attainment/Maintenance |
| PM _{2.5} | Nonattainment | Nonattainment |
| CO | Attainment | Attainment/Maintenance |
| NO ₂ | Attainment | Attainment/Maintenance |
| SO ₂ | Attainment | Attainment |
| Lead | Attainment | Attainment/Nonattainment* |
| All others | Attainment/Unclassified | No standards |

O₃: ozone; PM₁₀: respirable particulate matter 10 microns or less in diameter; PM_{2.5}: fine particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; NO₂: nitrogen dioxide; SO₂: sulfur dioxide; SoCAB: South Coast Air Basin.

* Los Angeles County is classified nonattainment for lead; the remainder of the SoCAB is in attainment of the State and federal standards.

Source: SCAQMD 2018

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CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for coordinating and administering both the federal and State air pollution control programs in California. In this capacity, CARB conducts research, sets the CAAQS (as shown in Table 3), compiles emission inventories, develops suggested control measures, oversees local programs, and prepares the State Implementation Plan (SIP). For regions that do not attain the CAAQS, CARB requires the air districts to prepare plans for attaining the standards. These plans are then integrated into the State SIP. CARB establishes emissions standards for (1) motor vehicles sold in California, (2) consumer products (e.g., hair spray, aerosol paints, barbecue lighter fluid), and (3) various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

O₃ is a secondary pollutant and is created when nitrogen oxides (NO_x) and volatile organic compounds (VOCs) react in the presence of sunlight. The predominant source of air emissions generated by Project development would be from vehicle emissions. Motor vehicles primarily emit CO, NO_x, and VOCs. The NAAQS and CAAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. The NAAQS and CAAQS for O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead are shown in Table 3.

The SCAQMD was established in 1977 by merging the individual air pollution control districts of the four counties within the SoCAB: Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD and the Southern California Association of Governments (SCAG), in coordination with local governments and the private sector, develop the Air Quality Management Plan (AQMP) for the SoCAB to satisfy these requirements. The AQMP is the most important air management document for the SoCAB because it provides the blueprint for meeting State and federal ambient air quality standards.

On November 28, 2007, CARB submitted a State Implementation Plan (SIP) revision to the USEPA for O₃, PM_{2.5}, CO, and NO₂ in the SoCAB. This revision is identified as the “2007 South Coast SIP”. The 2007 South Coast SIP demonstrates attainment of the federal PM_{2.5} standard in the SoCAB by 2014 and attainment of the federal 8-hour O₃ standard by 2023. This SIP also includes a request to reclassify the O₃ attainment designation from “severe” to “extreme”. The USEPA approved the redesignation effective June 4, 2010. The “extreme” designation requires the attainment of the 8-hour O₃ standard in the SoCAB by June 2024. CARB approved PM_{2.5} SIP revisions in April 2011 and the O₃ SIP revisions in July 2011. The USEPA approved the PM_{2.5} SIP on September 25, 2013, and has approved 47 of the 62 1997 8-hour O₃ SIP requirements. On November 30, 2014, the USEPA proposed a finding that the SoCAB has attained the 1997 PM_{2.5} standards (USEPA 2014). The comment period closed on January 22, 2015; no subsequent action has been taken.

On September 30, 2015, the USEPA proposed to approve elements of the South Coast 2012 PM_{2.5} Plan and 2015 Supplement, which addresses Clean Air Act requirements for the 2006 PM_{2.5} NAAQS, and proposed to reclassify the area as a ‘serious’ nonattainment area for the 2006 PM_{2.5} standard. The reclassification is based on the determination that the area cannot practicably attain the 2006 PM_{2.5} NAAQS by the moderate area attainment date (December 31, 2015). On December 22, 2015, the EPA reclassified the South Coast area as a “Serious” nonattainment area for the 2006 PM_{2.5} standard. The final reclassification requires the State to submit a “serious area” plan that provides for attainment of the 2006 PM_{2.5} NAAQS as expeditiously as practicable as and no later than December 31, 2019 (USEPA 2016).

On March 3, 2017, the SCAQMD adopted the 2016 AQMP, which is a regional and multi-agency effort (SCAQMD, CARB, Southern California Association of Governments [SCAG], and USEPA). The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); updated

emission inventory methodologies for various source categories; and SCAG’s latest growth forecasts. The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State air quality standards. For a project to be consistent with the AQMP, the pollutants emitted from the project should not (1) exceed the SCAQMD CEQA air quality significance thresholds or (2) conflict with or exceed the assumptions in the AQMP.

**TABLE 3
 CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | California Standards | Federal Standards | |
|-------------------------------|----------------------|--|------------------------------------|------------------------------------|
| | | | Primary ^a | Secondary ^b |
| O ₃ | 1 Hour | 0.09 ppm (180 µg/m ³) | – | – |
| | 8 Hour | 0.070 ppm (137 µg/m ³) | 0.070 ppm (137 µg/m ³) | Same as Primary |
| PM ₁₀ | 24 Hour | 50 µg/m ³ | 150 µg/m ³ | Same as Primary |
| | AAM | 20 µg/m ³ | – | Same as Primary |
| PM _{2.5} | 24 Hour | – | 35 µg/m ³ | Same as Primary |
| | AAM | 12 µg/m ³ | 12.0 µg/m ³ | 15.0 µg/m ³ |
| CO | 1 Hour | 20 ppm (23 mg/m ³) | 35 ppm (40 mg/m ³) | – |
| | 8 Hour | 9.0 ppm (10 mg/m ³) | 9 ppm (10 mg/m ³) | – |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m ³) | – | – |
| NO ₂ | AAM | 0.030 ppm (57 µg/m ³) | 0.053 ppm (100 µg/m ³) | Same as Primary |
| | 1 Hour | 0.18 ppm (339 µg/m ³) | 0.100 ppm (188 µg/m ³) | – |
| SO ₂ | 24 Hour | 0.04 ppm (105 µg/m ³) | – | – |
| | 3 Hour | – | – | 0.5 ppm (1,300 µg/m ³) |
| | 1 Hour | 0.25 ppm (655 µg/m ³) | 0.075 ppm (196 µg/m ³) | – |
| Lead | 30-day Avg. | 1.5 µg/m ³ | – | – |
| | Calendar Quarter | – | 1.5 µg/m ³ | Same as Primary |
| | Rolling 3-month Avg. | – | 0.15 µg/m ³ | |
| Visibility Reducing Particles | 8 Hour | Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe) | No Federal Standards | |
| Sulfates | 24 Hour | 25 µg/m ³ | | |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/m ³) | | |
| Vinyl Chloride | 24 Hour | 0.01 ppm (26 µg/m ³) | | |

**TABLE 3
 CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | California Standards | Federal Standards | |
|--|----------------|----------------------|----------------------|------------------------|
| | | | Primary ^a | Secondary ^b |
| O ₃ : ozone; ppm: parts per million; µg/m ³ : micrograms per cubic meter; PM10: respirable particulate matter 10 microns or less in diameter; AAM: Annual Arithmetic Mean; -: No Standard; PM2.5: fine particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; mg/m ³ : milligrams per cubic meter; NO ₂ : nitrogen dioxide; SO ₂ : sulfur dioxide; km: kilometer. | | | | |
| ^a <i>National Primary Standards</i> : The levels of air quality necessary, within an adequate margin of safety, to protect the public health. | | | | |
| ^b <i>National Secondary Standards</i> : The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. | | | | |
| Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov). | | | | |
| Source: CARB 2016 | | | | |

Sensitive Air Quality Receptors

Sensitive receptors include, but are not limited to, children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. The nearest sensitive land use includes residences adjacent to the Project’s northern, eastern, and southern boundaries, and residences west of the Project site located across North Marengo Avenue.

Air Quality Impact Analysis

Thresholds of Significance

The SCAQMD’s *Air Quality Analysis Handbook* (SCAQMD 2017a) provides significance thresholds for both construction and operation of projects within the SCAQMD’s jurisdictional boundaries (SCAQMD 2017a). The SCAQMD recommends that projects be evaluated in terms of the quantitative thresholds established to assess both the regional and localized impacts of project-related air pollutant emissions. The City of Pasadena uses the current SCAQMD thresholds to determine whether a proposed project would have a significant impact. These SCAQMD thresholds are identified in Table 4.

**TABLE 4
 SOUTH COAST AIR QUALITY
 MANAGEMENT DISTRICT AIR QUALITY
 SIGNIFICANCE THRESHOLDS**

| Mass Daily Thresholds (lbs/day) | | |
|---------------------------------|--------------|-----------|
| Pollutant | Construction | Operation |
| VOC | 75 | 55 |
| NOx | 100 | 55 |
| CO | 550 | 550 |
| PM10 | 150 | 150 |
| PM2.5 | 55 | 55 |
| SOx | 150 | 150 |
| Lead | 3 | 3 |

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SOx: sulfur oxides.

Source: SCAQMD 2015

The following questions correspond to the questions in the Air Quality section of the Initial Study Checklist in Appendix G of the State CEQA Guidelines, as updated on December 28, 2018.

Question AQ-1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. It is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources and has prepared an AQMP that establishes a program of rules and regulations directed at attaining the NAAQS and CAAQS.

As stated above, the SCAQMD adopted the 2016 AQMP on March 3, 2017 (SCAQMD 2017b). The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG’s latest growth forecasts.

The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State air quality standards. For a project to be consistent with the AQMP, the pollutants emitted from the project should not (1) exceed the SCAQMD CEQA air quality significance thresholds or (2) conflict with or exceed the assumptions in the AQMP.

In order to be consistent with the AQMP, the following analysis compares the Project’s construction and operational emissions with the SCAQMD CEQA air quality significance thresholds. A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. The SCAQMD has developed construction and operations thresholds to determine whether projects would potentially result in contributing toward a violation of ambient air quality standards.

A project with daily emission rates below the SCAQMD’s established air quality significance thresholds (shown in Table 4) would have a less than significant effect on regional air quality. Project emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 computer program (CAPCOA 2017). CalEEMod is designed to model construction and operational emissions for land development projects and allows for the input of project- and county-specific information. For air quality modeling purposes, construction of the Project was based on the Project’s construction assumptions and default assumptions derived from CalEEMod. The input for operational emissions was based on the vehicle trip generation rates provided in the traffic impact analysis and the proposed building area. Additional input details are included in Attachment A.

Construction Emissions

Air pollutant emissions would occur from construction equipment exhaust, fugitive dust from site grading; exhaust and particulate emissions from trucks hauling soil and building materials to and from the Project site; from automobiles and light-duty trucks driven to and from the Project site by construction workers; and VOCs from painting and asphalt paving operations. The proposed Project would comply with applicable SCAQMD rules and regulations, including Rule 403 for fugitive dust control and Rule 1113 for architectural coatings. Rule 403 measures include regular watering of active grading areas and unpaved roads, limiting vehicle speeds on unpaved surfaces, stabilizing stockpiled earth, and curtailing grading operations during high wind conditions (SCAQMD 1976). Watering of active grading areas is included in the CalEEMod emissions analysis and results in reduced PM10 and PM2.5 emissions. It should be noted that some project requirements and features (such as watering grading areas), although required project elements, are shown in the CalEEMod format as mitigation measures. SCAQMD Rule 1113 limits the VOC content of architectural coatings (SCAQMD 2016b). The emission reductions associated with compliance with this rule have been included in the emissions calculations.

Regional Emissions Thresholds – Maximum Daily Regional Emissions

Table 5, Estimated Maximum Daily Regional Construction Emissions, presents the estimated maximum daily emissions during construction of the proposed Project and compares the estimated emissions with the SCAQMD’s daily regional emission thresholds. As shown in Table 5, Project construction mass daily emissions would be less than the SCAQMD’s thresholds for all criteria air pollutants.

**TABLE 5
 ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS**

| Year | Emissions (lbs/day) | | | | | |
|---|---------------------|-----------------|------------|-----------------|------------|-----------|
| | VOC | NO _x | CO | SO _x | PM10 | PM2.5 |
| 2019 | 1 | 18 | 10 | <1 | 2 | 1 |
| 2020 | 14 | 10 | 9 | <1 | 1 | 1 |
| Maximum | 14 | 18 | 10 | <1 | 2 | 1 |
| SCAQMD Thresholds (Table 4) | 75 | 100 | 550 | 150 | 150 | 55 |
| Exceeds SCAQMD Thresholds? | No | No | No | No | No | No |
| lbs/day: pounds per day; VOC: volatile organic compound; NO _x : nitrogen oxides; CO: carbon monoxide; SO _x : sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District. Note: Source: SCAQMD 2015 (thresholds); see Attachment A for CalEEMod model outputs. | | | | | | |

Construction-Phase Localized Significance Thresholds

In addition to the mass daily emissions thresholds established by the SCAQMD, short-term local impacts to nearby sensitive receptors from on-site emissions of NO₂, CO, PM10, and PM2.5 are examined based on SCAQMD’s localized significance threshold (LST) methodology. To assess local air quality impacts for development projects without complex dispersion modeling, the SCAQMD developed screening (lookup) tables to assist lead agencies in evaluating impacts.

The LST method is recommended to be limited to projects that are five acres or less. For the purposes of an LST analysis, the SCAQMD considers receptors where it is possible that an individual could remain for 1 hour for NO₂ and CO exposure and 24 hours for PM10 and PM2.5 exposure. The emissions limits in the lookup tables are based on the SCAQMD’s Ambient Air Quality Standards (SCAQMD 2016a). The closest receptors to the Project site are residential uses adjacent to the Project’s northern, southern, and eastern boundaries. The emissions thresholds are for receptors within 25 meters (82 feet)¹ of the Project site; the thresholds for receptors farther away would be higher, and the Project emissions would be a smaller fraction of the thresholds.

Table 6, Construction-Phase Localized Significance Threshold Emissions shows the maximum daily on-site emissions for construction activities compared with the SCAQMD LSTs with receptors within 25 meters. The Project site is approximately 0.64 acres in area. The thresholds shown are from the lookup tables for a site that is 1 acre, which is based upon the most intensive phase of construction that involves soil disturbance. The Project’s maximum daily on-site emissions would occur during the grading phase (for CO) and during the building construction phase (for NO_x, PM10, and PM2.5). As shown in Table 6, localized emissions for all criteria pollutants would be less than their respective thresholds. Therefore, localized air quality impacts at receptors proximate to construction activities would be exposed to less than significant air quality impacts.

**TABLE 6
 CONSTRUCTION-PHASE
 LOCALIZED SIGNIFICANCE THRESHOLD EMISSIONS**

| Emissions and Thresholds | Emissions (lbs/day) | | | |
|---|---------------------|------------|-----------|-----------|
| | NOx | CO | PM10 | PM2.5 |
| Project maximum daily on-site emissions | 10 | 8 | 1 | 1 |
| Localized Significance Threshold | 69 | 535 | 4 | 3 |
| Exceed threshold? | No | No | No | No |
| lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter. | | | | |
| Note: Data is for SCAQMD Source Receptor Area 8, West San Gabriel Valley | | | | |
| Source: SCAQMD 2009 (thresholds); see Attachment A for CalEEMod model outputs. | | | | |

Operational Emissions

The ongoing operation of the Project would result in a long-term increase in air quality emissions. This increase would be due to emissions from Project-generated vehicle trips and through operational emissions from the ongoing use of the Project. The Project site is currently vacant; there are no operational emissions associated with the existing Project site. The following section provides an analysis of potential long-term air quality impacts to regional and local air quality with the long-term operation of

¹ The SCAQMD recommends that, when sensitive receptors are located nearer than 25 meters (82 feet) from the Project site, the minimum 25 meter/82 foot distance threshold should be used.

the proposed Project. The potential operations-related air emissions have been analyzed below for the regional and local criteria pollutant emissions and cumulative impacts.

Operations-Related Criteria Pollutant Analysis

Operational emissions are comprised of area, energy, and mobile source emissions. The principal source of VOC emissions associated with the Project would result from the use of consumer products; the primary source of CO emissions would be landscaping equipment. Area and energy source emissions are based on CalEEMod assumptions for the specific land uses and size. Mobile source emissions are based on estimated Project-related trip generation forecasts, as contained in the Transportation Analysis prepared by the City. The Project would generate 147 daily trips (City of Pasadena DOT 2019). Estimated peak daily operational emissions are shown in Table 7.

**TABLE 7
 PEAK DAILY OPERATIONAL EMISSIONS**

| Source | Emissions (lbs/day) | | | | | |
|--|---------------------|-----------|------------|--------------|------------|--------------|
| | VOC | NOx | CO | SOx | PM10 | PM2.5 |
| Area sources | 1 | <1 | 2 | <1 | <1 | <1 |
| Energy sources | <1 | <1 | <1 | <1 | <1 | <1 |
| Mobile sources | <1 | <1 | 4 | <1 | 1 | <1 |
| Total Operational Emissions* | 1 | 1 | 7 | <1 | 1 | <1 |
| SCAQMD Significance Thresholds (Table 4) | 55 | 55 | 550 | 150 | 150 | 55 |
| Significant Impact? | No | No | No | No | No | No |
| lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District. * Some totals do not add due to rounding. Note: CalEEMod model data sheets are included in Attachment A. | | | | | | |

As shown in Table 7, the Project’s operational emissions would be less than the SCAQMD CEQA significance thresholds for all criteria pollutants. Therefore, the Project’s operational impact on regional emissions would be less than significant, and no mitigation is required.

The Project site is located within the RM-32 zoning designation (Multi-Family Residential for 32 units per acre for Medium-High Density Residential and land use designation of Medium-High Density Residential of 0-32 dwelling units (DU)/acre (City of Pasadena 2018a). The maximum number of DU allowed at the Project site is 20 DU, although the number may be exceeded pursuant to the City’s Density Bonus Provisions (Section 17.42.040 of the City’s Municipal Code). Up to a 35% increase may be allowed, depending on the number of very-low income, low-income, and/or moderate income units provided. Allowance of low and moderate income units provides housing options for those who work local to the Project site and would result in lower vehicle trip lengths and air pollutant emissions. Because the General Plans of cities within the SoCAB are used to determine the regional emissions of the SoCAB, emissions related to the development of the Project site are therefore consistent with the growth expectations for the region. In addition, the amount of emissions generated by the Project is substantially below the significance thresholds. As such, no conflict with the 2016 AQMP would occur with the proposed Project. No impact would occur.

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

Less than Significant Impact. A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. The SCAQMD has developed construction and operations thresholds to determine whether projects would potentially result in contributing toward a violation of ambient air quality standards. A project with daily emission rates below the SCAQMD's established air quality significance thresholds (shown in Table 4, previously) would have a less than significant effect on regional air quality.

Construction Activities

Construction activities associated with the proposed Project would result in less than significant construction-related regional and localized air quality impacts, as quantified previously in Tables 5 and 6, respectively. SCAQMD's policy with respect to cumulative impacts associated with the above referenced pollutants and their precursors is that impacts that would be directly less than significant would also be cumulatively less than significant (SCAQMD 2003). As discussed under Question AQ-2, short-term construction emissions would be less than the SCAQMD's significance thresholds. Therefore, consistent with SCAQMD policy, the cumulative construction impact of criteria pollutants would also be less than significant.

Operational Activities

As shown in Table 7, operational emissions for all analyzed pollutants would be below the SCAQMD CEQA significance thresholds. Therefore, the Project would not contribute to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment. Emissions of nonattainment pollutants or their precursors would not be cumulatively considerable and would be less than significant; no mitigation would be required.

Question AQ-3 **Would the Project result expose sensitive receptors to substantial pollutant concentrations?**

Less than Significant Impact. A significant impact may occur when a project would generate pollutant concentrations to a degree that would significantly affect sensitive receptors, which include populations that are more susceptible to the effects of air pollution than the population at large. Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants and toxic air contaminants (TACs, specifically diesel particulate matter [DPM]) from on-site construction; exposure to off-site TAC emissions; and asbestos and lead-based paint during demolition. Operational, long-term TACs may be generated by some industrial land uses; commercial land uses (e.g., gas stations and dry cleaners); and diesel trucks on freeways. Residential land uses do not generate substantial quantities of TACs and are therefore not addressed in this report.

Carbon Monoxide Hotspot

In an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations generally are found close to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (e.g., congested intersection) increases. Therefore, for purposes of providing a conservative worst-case impact analysis, CO concentrations typically are analyzed at congested intersection locations. If impacts are less than

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significant close to congested intersections, impacts also would be less than significant at more distant sensitive-receptor and other locations. An initial screening procedure is provided in the *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) to determine whether a project poses the potential to generate a CO hotspot (UCD ITS 1997). The key criterion is whether the Project would worsen traffic congestion at signalized intersections operating at level of service (LOS) E or F. If a project poses a potential for a CO hotspot, a quantitative screening is required.

The Traffic Impact Analysis (TIA) prepared for this Project indicates that none of the study intersections would operate at LOS E or F with implementation of the proposed Project. The signalized intersections included as part of the TIA for the Project would operate at LOS A or B with implementation of the Project. The impact would be less than significant.

Criteria Pollutants from On-Site Construction

Exposure of persons to NO_x, CO, PM₁₀, and PM_{2.5} emissions is discussed in response to Question AQ-1 above. There would be no significant impacts, and no additional mitigation is required.

Toxic Air Contaminant Emissions from On-Site Construction

Construction activities would result in short-term, Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; building construction; and other miscellaneous activities. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 40-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period would be relatively short when compared to a 40-year exposure period. Combined with the highly dispersive properties of DPM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant and no mitigation is required.

Exposure to Off-Site Toxic Air Contaminant Emissions

The CARB *Air Quality and Land Use Handbook: A Community Health Perspective* provides guidance concerning land use compatibility with TAC sources (CARB 2005). While not a law or adopted policy, the handbook offers advisory recommendations for siting sensitive receptors near uses associated with TACs (such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities) to help keep children and other sensitive populations out of harm's way.

Projects of concern for mobile sources of TACs are typically those located within 500 feet of the following types of facilities that emit significant quantities of DPM: urban roads with more than 100,000 vehicles per day; freeways or roads with a high heavy truck concentration; and/or near rail yards, ports, and/or distribution centers. Orange Grove Boulevard is a City Connector with two lanes in each direction, and is classified as an enhanced bike route, and Marengo Avenue is a neighborhood connector. The

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Project site is located approximately 650 feet away from Orange Grove Boulevard. The stretch of roadway between Orange Grove Boulevard and Painter Street only allows bicycles (not cars) to travel northbound. It is classified as an enhanced bike route between Orange Grove Boulevard and Washington Boulevard (City of Pasadena DOT 2019). Therefore, the Project site is more than 500 feet from any freeway or major urban road.

With respect to proximity to emissions from railroad sources, CARB recommends avoiding siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard (CARB 2005); the Project site is not located within 1,000 feet of this type of facility. CARB recommends not placing sensitive receptors within the same building as a dry cleaner and avoiding siting residences within 300 feet of a large gas station or within 500 feet of dry cleaning operations with 2 machines using perchloroethylene. There are no gas stations within 300 feet or dry cleaning operations within 500 feet of the Project site. The Project also does not involve emission sources with the potential for substantial levels of emissions of TACs. As such, no off-site sensitive uses would be exposed to significant levels TACs. Impacts would be less than significant and no mitigation is required.

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

No Impact. The Project would not result in other emissions that would adversely affect a substantial number of people. The proposed Project is a multi-family residential use, which is consistent with the residential uses surrounding the Project site. Potential operational emissions (which may lead to odors) could be created by cooking activities associated with residential uses. These odors would be similar to existing residential uses surrounding the Project site and throughout the City, and these odors would be confined to the immediate vicinity of the proposed dwelling units. Furthermore, according to the SCAQMD's *CEQA Air Quality Handbook (SCAQMD 1993)*, 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 (SCAQMD 1993). The Project does not include any uses identified by the SCAQMD as being associated with odors and, therefore, would not produce emissions which would lead to odors. The Project uses are also regulated from nuisance odors or other objectionable emissions by SCAQMD Rule 402. Rule 402 prohibits any the discharge from any source of air contaminants or other material which would cause injury, detriment, nuisance, or annoyance to people or the public. As such, the Project would have no significant impact with regard to other emissions and mitigation is required.

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GREENHOUSE GAS EMISSIONS ANALYSIS

Regulatory Background

Significant changes in global climate patterns have been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

The principal overall State plan and policy adopted for the purpose of reducing GHG emissions is Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 recognizes that California is the source of substantial amounts of GHG emissions. The statute states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

In order to avert these consequences, AB 32 establishes the goal of reducing GHG emissions to 1990 levels by the year 2020, codifying the Executive Order S-3-05 goal.

CARB approved a *Climate Change Scoping Plan* as required by AB 32 in 2008; this plan is required to be updated every five years. The *Climate Change Scoping Plan* proposes a “comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (CARB 2008). The *Climate Change Scoping Plan* has a range of GHG-reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation regulation to fund the program. On February 10, 2014, CARB released the Draft Proposed First Update to the *Climate Change Scoping Plan* (CARB 2014). The board approved the final *First Update to the Climate Change Scoping Plan* on May 22, 2014. The first update describes California's progress towards AB 32 goals, stating that “California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32” (CARB 2014). The latest update occurred in January 2017 and incorporates the 40 percent reduction to 1990 emissions levels by 2030.

California Executive Order B-30-15 (April 29, 2015) set an “interim” Statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030, and directed State agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels.

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On September 8, 2016, Governor Edmund G, “Jerry” Brown signed Senate Bill 32 (SB 32) to codify the GHG reduction goals of EO B-30-15, requiring the State to reduce GHG emissions by 40 percent below 1990 levels by 2030 (Health and Safety Code Section 38566). This goal is expected to keep the state on track to meeting the goal set by EO S-3-05 of reducing GHG emissions by 80 percent below 1990 levels by 2050 (California Legislative Information 2017a). SB 32's findings state that CARB will “achieve the state’s more stringent greenhouse gas emission reductions in a manner that benefits the state’s most disadvantaged communities and is transparent and accountable to the public and the Legislature.”

AB 197 was signed at the same time and will make sure that the SB 32 goals are met by requiring CARB to provide annual reports of GHGs, criteria pollutants, and TACs by facility, City and subcounty level, and sector for stationary sources and at the County level for mobile sources. It also requires the CARB to prioritize specified emission reduction rules and regulations and to identify specified information for emission reduction measures (e.g., alternative compliance mechanism, market-based compliance mechanism, and potential monetary and nonmonetary incentive) when updating the Scoping Plan (California Legislative Information 2017b).

On April 29, 2015, Governor Brown signed Executive Order (EO) B-30-15, which orders “A new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050” (COOG 2015). Five key goals for reducing GHG emissions through 2030 include (1) increasing renewable electricity to 50 percent; (2) doubling the energy efficiency savings achieved in existing buildings and making heating fuels cleaner; (3) reducing petroleum use in cars and trucks by up to 50 percent; (4) reducing emissions of short-lived climate pollutants; and (5) managing farms, rangelands, forests and wetlands to increasingly store carbon. EO B-30-15 also directs CARB to update the *Climate Change Scoping Plan* to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Senate Bill (SB) 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 is the implementation of some of the goals of EO B-30-15. The objectives of SB 350 are as follows (California Legislative Information 2015):

1. To increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources.
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

The text of SB 350 sets a December 31, 2030, target for 50 percent of electricity to be generated from renewable sources.

The Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375, established a process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 required SCAG to incorporate a “sustainable communities strategy” (SCS) into its regional transportation plans (RTPs) that will achieve GHG emission reduction targets through several measures, including land use decisions. SCAG’s SCS is included in the SCAG 2016–2040 RTP/SCS (SCAG 2016). The goals and policies of the RTP/SCS that reduce vehicle miles traveled (VMT) focus on transportation and land use planning that include building infill projects; locating residents closer to where they work and play; and designing communities so there is access to high quality transit service.

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The City of Pasadena has prepared and adopted a Climate Action Plan (CAP) (City of Pasadena 2018b). The City's CAP includes the following components: a summary of existing State and local initiatives addressing climate change; community-wide GHG inventory and emissions forecasts; GHG reduction goals, measures, and actions; plans of implementation and monitoring of the plan; and adaptation strategies and climate change preparedness. This document builds upon the City's existing sustainability efforts, such as the Green City Action Plan, and provides a framework to further reduce GHG emissions throughout the City. It is accepted as very unlikely that any individual development project such as the size and character of the proposed Project would have GHG emissions of a magnitude to directly impact global climate change; therefore, any impact would be considered on a cumulative basis.

Greenhouse Gas Emissions Impact Analysis

The following questions correspond to the questions in the Greenhouse Gas Emissions section of the Initial Study Checklist in Appendix G of the State CEQA Guidelines.

Question 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 Impact. In developing methods for GHG impact analysis, there have been suggestions of quantitative thresholds, often referred to as screening levels, which define an emissions level below which it may be presumed that climate change impacts would be less than significant.

CEQA Guidelines Section 15183.5 allows lead agencies to analyze the impacts associated with GHG emissions at a programmatic level in plan-level documents such as a CAP, so that project-level environmental documents may tier from the programmatic review. Projects that meet the requirements of this Checklist will be deemed to be consistent with Pasadena's CAP and will be found to have a less than significant contribution to cumulative GHG (i.e., the project's incremental contribution to cumulative GHG effects is not cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b). The City's CAP Consistency Checklist (Checklist) is intended to be a tool for new development projects to demonstrate consistency with Pasadena's CAP. The following options are provided by the City for new development projects to establish consistency with the CAP.

- Option A requires that the new development project apply sustainable development actions, as deemed appropriate by the CAP, which would become conditions of the entitlement for approval of the project.
- Option B requires that the Project demonstrate consistency with Pasadena's per person GHG efficiency threshold.
- Option C requires that the Project achieve Net Zero GHG Emissions, which requires quantifying the project's GHG emission levels and demonstrate that the project would not result in a net increase in GHG emissions.

Option B was selected for this Project. Option B is based on an efficiency threshold which assesses the GHG efficiency of a project on a service person, which is defined by the City as the residents and full-time employees associated with the Project.

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Based on the proposed construction activities described above, the principal source of construction GHG emissions would be internal combustion engines of construction equipment, on-road construction vehicles, and workers’ commuting vehicles. GHG emissions from construction activities were obtained from the CalEEMod model, described above. The estimated construction GHG emissions for the Project would be 329 MTCO₂e, as shown in Table 8.

**TABLE 8
 ESTIMATED GREENHOUSE GAS
 EMISSIONS FROM CONSTRUCTION**

| Source | Emissions (MTCO ₂ e) |
|---|---------------------------------|
| 2018 | 196 |
| 2019 | 133 |
| Total | 329 |
| MTCO ₂ e: metric tons of carbon dioxide equivalent | |
| Notes: | |
| <ul style="list-style-type: none"> Totals may not add due to rounding variances. Detailed calculations in Attachment A. | |

Operational GHG emissions would come primarily from vehicle trips; other sources include electricity and water consumption; natural gas for space and water heating; and gasoline-powered landscaping and maintenance equipment. Estimated Project operational GHG emissions are shown in Table 9.

**TABLE 9
 ESTIMATED ANNUAL GREENHOUSE GAS
 EMISSIONS FROM PROJECT OPERATION**

| Source | Emissions (MTCO ₂ e/yr.) |
|---|-------------------------------------|
| Area | <1 |
| Energy | 109 |
| Mobile | 183 |
| Waste | 6 |
| Water | 14 |
| Total | 312 |
| MTCO ₂ e/yr.: metric tons of carbon dioxide equivalent per year | |
| Notes: | |
| <ul style="list-style-type: none"> Totals may not add due to rounding variances. Detailed calculations in Attachment A. | |

Because impacts from construction activities occur over a relatively short period of time, they contribute a relatively small portion of the overall lifetime project GHG emissions. In addition, GHG emission reduction measures for construction equipment are relatively limited. The City recommends that construction emissions be amortized over a 30-year project lifetime so that GHG reduction measures address construction GHG emissions as part of the operational GHG reduction strategies (City of Pasadena 2018b). Therefore, construction and operational emissions are combined by amortizing the construction emissions over an assumed 30-year project lifetime and adding the annualized construction emissions to the annual operational emissions. The total GHG emissions attributable to the Project is shown in Table 10 and evaluated against the Option B efficiency threshold.

TABLE 10
ESTIMATED TOTAL PROJECT ANNUAL GREENHOUSE GAS EMISSIONS

| Source | Emissions (MTCO ₂ e/yr. ^a) |
|---|---|
| Construction Amortized | 11 ^a |
| Operations (Table 9) | 312 |
| Total Annual GHG emissions ^b | 323 |
| Service Population | 77 |
| Project-level GHG efficiency (MTCO ₂ e/SP/year) | 4.19 |
| City of Pasadena GHG Efficiency Threshold (MTCO ₂ e/SP/year) | 5.63 |
| Exceed Threshold? | No |
| MTCO ₂ e/yr.: metric tons of carbon dioxide equivalent per year; SP: service person | |
| ^a Total derived by dividing construction emissions (see Table 8) by 30. | |
| ^b Total annual emissions is the sum of amortized construction emissions and operational emissions. | |

According to the Applicant, the proposed Project is estimated to be operational in 2020. Based on the rate of 2.852 residents per mid-rise apartment dwelling unit, as provided in CalEEMod 2016.3.2, the Project would have 77 residents. Development projects in the City that are operational from 2017 through 2020 are assigned an efficiency threshold of 5.63 MTCO₂e/SP/year. As shown in Table 10, the Project’s GHG efficiency is 4.19 MTCO₂e/SP/year. Therefore, the Project would result in GHG emissions that are more efficient than the City’s applicable GHG efficiency threshold, and is therefore consistent with the City’s GHG emission goals included in the CAP and the State targets it is designed to achieve (AB 32, SB 32, and substantial progress towards EO S-3-05) (City of Pasadena 2018b).

Because the Project has demonstrated consistency with the City’s CAP through compliance with Option B of the Checklist, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The impact would be less than significant and no mitigation is required.

Question 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 Impact. The SCAQMD and the City of Pasadena have not adopted standards for the purpose of reducing GHG emissions. As discussed previously, the State policy and standards adopted for the purpose of reducing GHG emissions that are applicable to the proposed Project are Executive Order S-3-05, AB 32, the California Global Warming Solutions Act of 2006, and SB 32. The quantitative goal of these regulations is to reduce GHG emissions to 1990 levels by 2020 to 80 percent below 1990 levels by 2050, and for SB 32, to 40% below 1990 levels by 2030. Statewide plans and regulations (such as GHG emissions standards for vehicles, the Low Carbon Fuel Standard, Cap-and-Trade, and renewable energy) are being implemented at the statewide level, and compliance at a project level is not addressed. As stated under Question GHG-1 above, the City’s GHG efficiency thresholds are consistent with the City’s GHG emission goals included in the CAP and the State targets it is designed to achieve (AB 32, SB 32, and substantial progress towards EO S-3-05). Since the Project is more efficient than the applicable efficiency threshold as detailed under Option B, the Project would be consistent with

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the City and State goals related to GHG emissions. Therefore, the proposed Project does not conflict with these plans and regulations.

The proposed Project would be built to meet the current applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (*California Code of Regulations* [CCR], Title 24, Part 6) and the applicable California Green Building Standards (24 CCR 11). The proposed Project would be developed in compliance with the requirements of these regulations.

The proposed Project is an infill project. Public transit availability would reduce vehicle trips and associated GHG emissions when compared with locations without similar transit attributes. Additionally, the Project would provide bicycle parking and storage areas to encourage reduction of fossil-fueled vehicle use by employees and the associated GHG emissions, and it would provide new facilities for charging of electric vehicles. The provision of infill development near high-quality transit service supports the goals and policies of the SCAG RTP/SCS as described above, thereby also supporting SB 375 and AB 32 goals.

As mentioned previously, the Project would also be consistent with the City of Pasadena's CAP through compliance with Option B of the Checklist. As such, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The impact would be less than significant and no mitigation is required.

CONCLUSION

The Project was analyzed for potential air quality and GHG emissions from both the construction and operational phases. The Project would not conflict with or obstruct implementation of the SCAQMD 2016 Air Quality Management Plan. As previously shown in Tables 5 through 7, air quality impacts from construction and operation of the Project would be under SCAQMD air quality thresholds. Project-related construction emissions would not be cumulatively considerable and the impact would be less than significant. Sensitive receptors near the Project site would not be exposed to substantial pollutant concentrations, and the impact would be less than significant. The Project would not produce other emissions, such as objectionable odors, which would adversely affect a substantial number of people. The Project has established consistency with the City's CAP through the use of Option B (which would demonstrate consistency with Pasadena's per person GHG efficiency threshold) and conform with the City's CAP Consistency Checklist and would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The impact would be less than significant and no mitigation is required. In conclusion, the Project would have no impacts or less than significant impacts, respectively, for all Project-related air quality and greenhouse gas emissions.

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Thank you for the opportunity to assist on this Project. If you have any questions or comments, please contact me at (626) 351-2000.

Sincerely,

P S O M A S



Tin Cheung
Director of Air Quality, Climate Change, and Noise Services

Enclosures: Exhibit 1 – Project Site Location
 Attachment A – CalEEMod Data

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ATTACHMENT A

CALEEMOD DATA

Attached is the output data from the CalEEMod criteria air pollutant and greenhouse gas emissions (GHG) model.