APPENDIX A

Air Quality Analysis and Greenhouse Gas Emissions

Air Quality and Greenhouse Gas Study
Oak Valley Residential Project
City of San Dimas

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1.0 INTRODUCTION

The project area is located on North San Dimas Avenue in the City of San Dimas, in San Bernardino County. Specifically, the project area encompasses 27.12 acres, and is bounded by West Allen Avenue on the north, North Cataract Avenue on the west, West Gladstone Street on the south, and North San Dimas Avenue on the east. **Figure 1** shows the project location.

The project includes a General Plan Land Use designation amendment to provide for single-family low density residential development, and a zoning designation change to provide for consistent zoning for 27.12 acres project area. A portion of the project proposes the Oak Valley Development, which consists of 28 single-family residential units on 10.03 acres of the project area. Overall, this air quality and GHG analysis has been prepared to support the Oak Valley Development project's environmental review process and to provide information regarding potential impacts to air quality and GHG associated with the approval of the proposed project. This air quality study describes the existing air quality and GHG environment, identifies applicable rules and regulations, evaluates potential air quality and GHG impacts of the proposed project, and where applicable, includes measures to mitigate or minimize pollutant and GHG emissions associated with the proposed project. In addition, this analysis includes an evaluation of the potential emissions from the project to be cumulatively considerable, which means that they are significant when viewed in connection with the effects of past, current, and probable future projects. The cumulative analysis will include the adjacent undeveloped parcel, conceptually a 50 single-family residential development, along with the Oak Valley Development and permitted projects planned to be in operation by 2018 and 2035 respectively. This air quality and GHG study describes the existing ambient noise environment, identifies applicable rules and regulations, evaluates potential air quality and GHG impacts of the proposed project, and where applicable, includes measures to mitigate or minimize noise associated with the proposed project.

1.1. Project Location and Existing Setting

The project area is located in the City of San Dimas, south of State Route 210, east of State Route 57 (SR-57), and north of the Frank G. Bonelli Regional Park and Interstate 10 (I-10), as shown in Figure 1. The project area is located southwest corner of North San Dimas Avenue and Allen Avenue), as shown in **Figure 2**.

The 27.12-acre project area is currently developed with various uses that include the following:

Retail/Wholesale Plant Nursery: A retail plant nursery is located along the west side of North San Dimas Avenue, in the east-central portion of the project area. A wholesale is located in the southwest portion of the project area along Cataract Avenue. The nursery includes plant growing and storage areas, offices, and a residential unit.

Equestrian Center: An equestrian center is located to the south of the nursery, in the east-central portion of the project area. The equestrian center includes a riding arena, stables, corrals, offices, and living quarters.

Single-Family Residential: Existing single-family residential uses are located in the southeastern portion of the site, and in the northwestern portion of the project area.

Vacant Land: The project area also includes vacant areas that are not being used for nursery, equestrian, or single-family residential uses.

The project area has a General Plan land use designation of Single-Family Very Low Residential (0.2-3 dwelling units per acre) and the site is zoned for Single-Family Agricultural and Light Agriculture.

1.2. Project Description

The project proposes a General Plan amendment and a zone change to revise the existing Single Family Very Low (0.2-3 dwelling units per acre) and the existing Single-Family Agricultural and Light Agricultural zoning to a designation of Single Family Low (3.1-6 dwelling units per acre) residential zone that a minimum lot size of 7,500 square feet.

The project also proposes the Oak Valley Development (Tentative Tract Map No. 73711), which would demolish existing onsite improvements and develop a 28-unit single-family residential subdivision on 10.03-acres in the eastern portion of the project area. The single-family residences would be provided on lots ranging from 7,727 square feet to 15,595 square feet, with an average of approximately 9,192 square feet. After inclusion of two public streets, open space, setbacks, and a water quality infiltration basin within the subdivision, the proposed project would provide 7.03 net usable acres for residential lots that would provide 4.0 dwelling units per net usable acre, pursuant to San Dimas Municipal Code Section 18.24.040(B), which requires density be based upon net usable area. The project is shown in **Figure 3**.

The Applicant has prepared a Conceptual Lot Study of the remaining 17.9-acre project area that is not included in the Oak Valley Development, which shows that includes 50 single-family lots and internal roadways could be developed within this area, as shown in **Figure 4**. However, no development applications have been filed with the City and no

currently foreseeable development of this area has been identified. Hence, the development timeline for the adjacent 17.9-acre area is unknown.

Construction Activities

Construction activities for the proposed 28-unit single-family Oak Valley Development project would occur in the following three phases. Phase 1 would include demolition of all structures associated with the wholesale plant nursery, equestrian center, as well as the house and barn. In addition, all mass and precise grading necessary for the Oak Valley Development would be completed, and the subterranean infrastructure, including: water, sewer, and stormdrain improvements, the water quality infiltration basin, and streets "A" and "B" would be installed within the first 90 to 120 days of construction.

Phase 2 would include the construction of 8-10 single-family residential units, and would begin when Phase 1 is approximately 75 percent complete. Phase 3 would include the construction of the remaining single-family residential units, and would begin when Phase 2 is approximately 75 percent complete. In total, construction of the Oak Valley Development is estimated to take approximately 18-24 months, and will require approximately 4,000-5,000 cubic yards of soil import.

The potential future construction of the 17.9-acre Conceptual Lot Area with 50 single-family residences is anticipated to be similar as those proposed for the Oak Valley Development; however, would occur over a longer time period (approximately 11 months for infrastructure development and 19 months for construction of the residential structures) due to the increased number of units to be developed within the area.

Construction activities would be limited to the hours between 7:00 a.m. to 8:00 p.m., Monday through Saturday, excluding federal holidays, which would be consistent with the City's Noise Ordinance (Chapter 8.36.100 of the San Dimas Municipal Code).

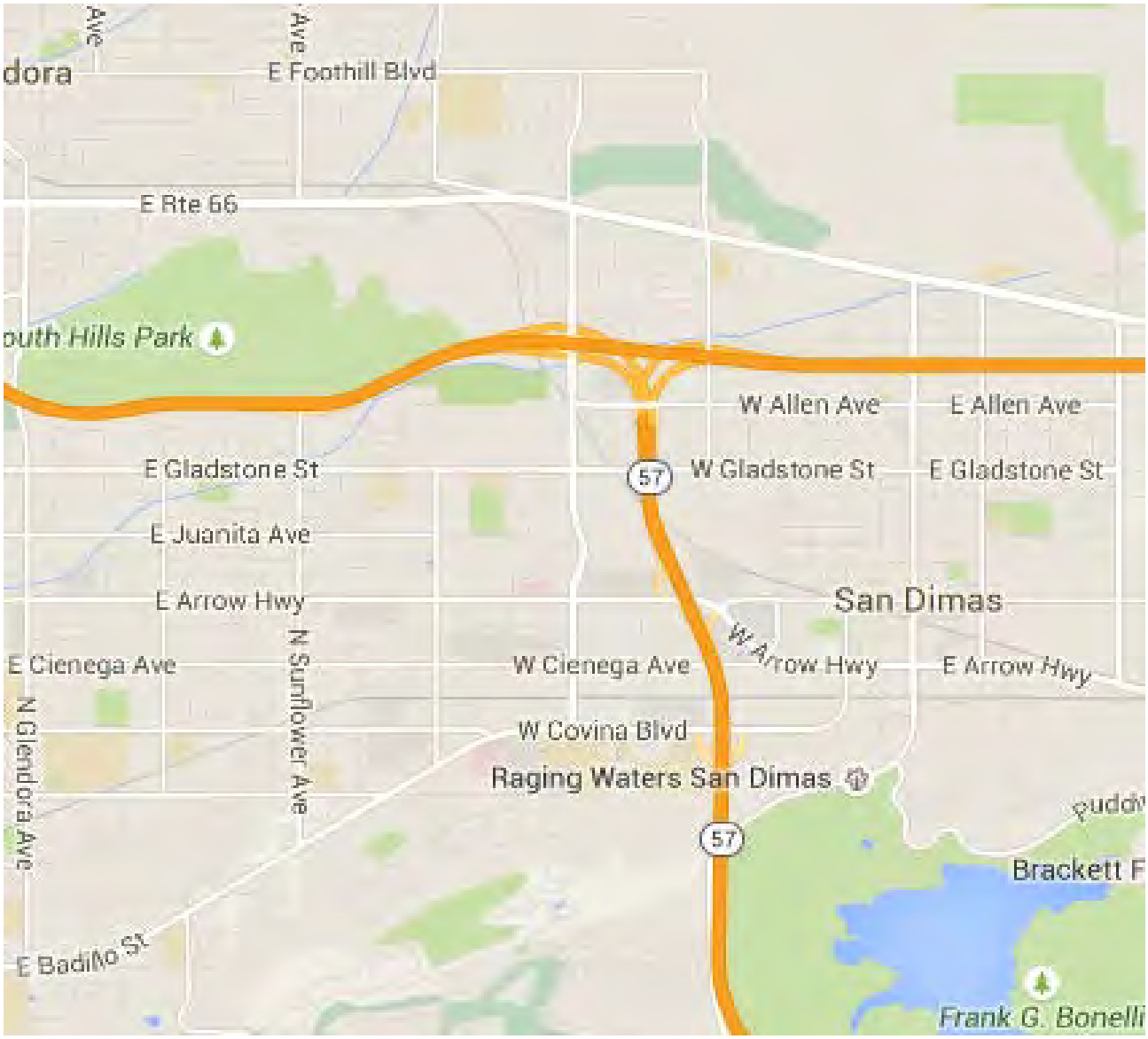

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Figure 1. Regional Map of Project

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Figure 2. Project Vicinity Map Location

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Figure 3. Project Site Plan

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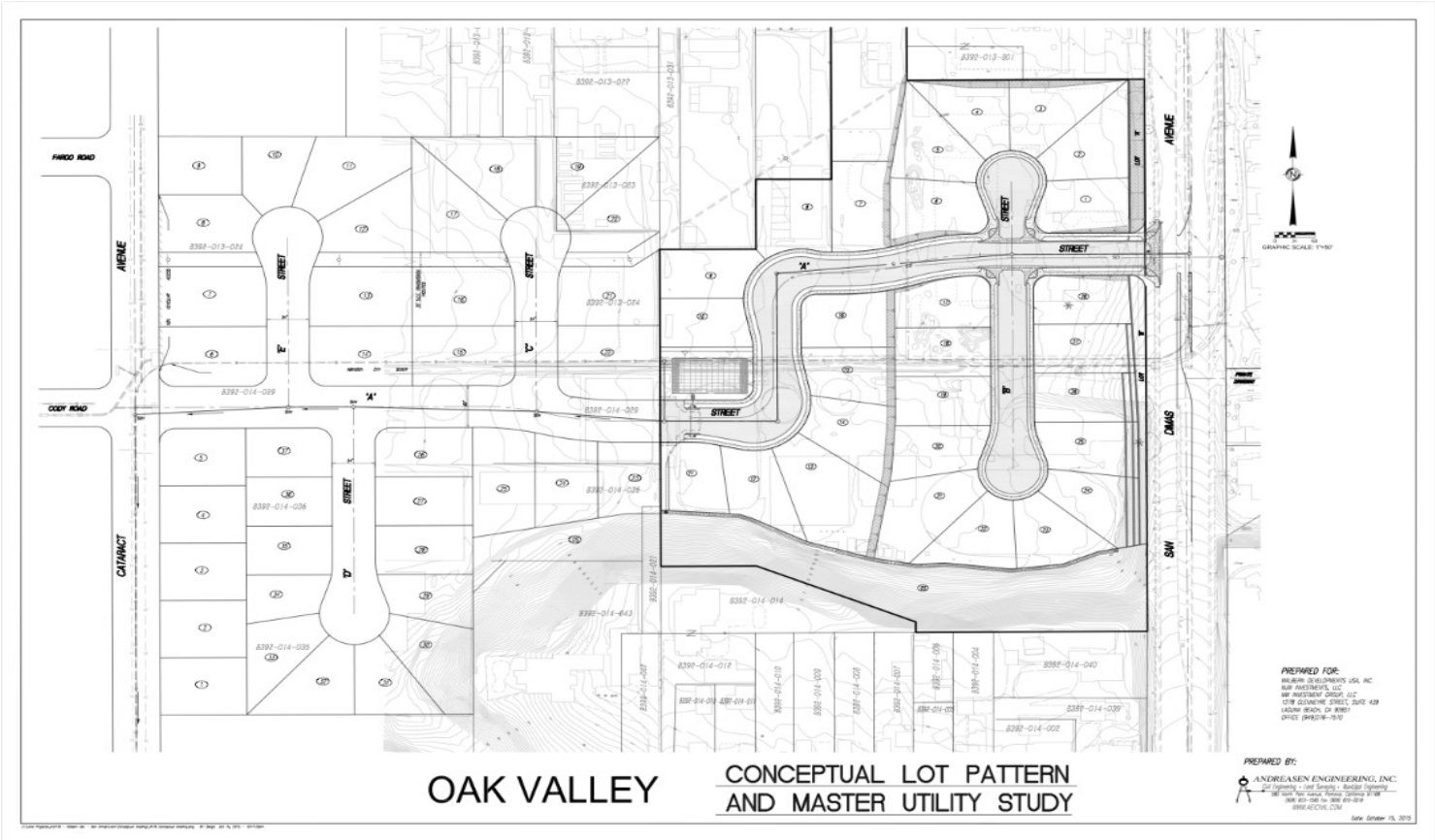

Figure 4. Conceptual Lot Plan

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No Scale

1.1. Sensitive Air Quality Receptors

People that are more susceptible to air quality are young children, the elderly, and people with immune deficiencies. Land uses, such as schools, daycare facilities, hospitals, elderly care facilities, residential properties and other areas that are occupied by people susceptible to air quality pollutants are considered sensitive air quality receptors.

The project area is adjacent to single-family residences, the closest of which is approximately 100 feet west of the project boundary. In addition, Chaparral High School is approximately 250 feet north of the project area across Allen Avenue. Construction and operation of the proposed project has the potential to impact these sensitive receivers.

2.0 REGULATORY FRAMEWORK

The governing regulatory framework in the proposed project area includes federal, state and local agencies that enforce ambient air quality and greenhouse gas standards and specific regulations that govern project development, emitted pollutants and ambient air quality status for the region.

2.1 Air Quality

2.1.1 Federal Regulations and Standards

Environmental Protection Agency

The federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) [Title 40 Code of Federal Regulations (CFR), Part 50] to protect public health and the environment from the effects of air pollutants. The USEPA has identified "criteria" pollutants that are known to cause harm to public health and the environment. Currently there are standards set for sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and particulate matter less than ten micrometers in diameter (PM_{10}), particulate matter less than five micrometers in diameter ($PM_{2.5}$) and lead (Pb). These criteria pollutants are described below.

- **Sulfur Dioxide.** SO_2 is a colorless, extremely irritating gas or liquid that enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfur trioxide (SO_3). Collectively, these pollutants are referred to as sulfur oxides (SO_x).

  Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of SO_2 aggravate lung diseases, especially bronchitis. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. Long-term SO_2 exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease.

- **Carbon Monoxide.** CO is a colorless and odorless gas, is a relatively non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicles. When inhaled at high concentrations, CO

combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, lower emissions from new vehicles, and improvements in fuels.

- **Nitrogen Dioxide.** NO_2 is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_x, which are reported as equivalent NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

- **Ozone.** Ozone is the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air, but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROGs) or volatile organic compounds (VOCs), and oxides of nitrogen (NOx). While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is identified based on a list of carbon compounds that exempts carbon compounds determined by CARB to be nonreactive. VOC is a term used by the USEPA and is identified based on USEPA's separate list of exempted compounds it identifies as having negligible photochemical reactivity. The time period required for ozone formation allows the reacting compounds to spread over a large area, producing regional pollution problems. Ozone concentrations are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

  Once ozone is formed it remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants,

attachment to water droplets as they fall to earth (rainout), or absorption by water molecules in clouds that later fall to earth with rain (washout).

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

- **Particulate Matter.** PM_{10} and $PM_{2.5}$ consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Particulate matter can also damage materials and reduce visibility. One common source of $PM_{2.5}$ is diesel exhaust emissions.

  PM_{10} consists of particulate matter emitted directly into the air (e.g., fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires, and natural windblown dust) and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG. Traffic generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM_{10} and $PM_{2.5}$ are also emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. $PM_{2.5}$ can also be formed through secondary processes such as airborne reactions with certain pollutant precursors, including ROGs, ammonia (NH3), NOx, and SOx.

- **Lead.** Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary and mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles.

  Emissions of lead have dropped substantially over the past 40 years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have

also been achieved due to enhanced controls in the metals processing industry. In the Basin, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as total suspended particulates. As lead has been well below regulatory thresholds for decades and the proposed project is not a source of lead, lead is not discussed further in this analysis.

The CAA established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Federal standards are shown in **Table 1**.

The federal Clean Air Act also requires each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. USEPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the federal Clean Air Act and its amendments, and to determine whether implementing the SIPs would achieve air quality goals. In addition, the USEPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

Table 1. Federal and State Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time[a]	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NOX react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.070 ppm[b]	0.075 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm		
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	---	0.030 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 µg/m^3	150 µg/m^3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m^3	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3		
Lead (Pb)	30 Day Average	1.5 µg/m^3	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases).	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	---	1.5 µg/m^3		
	Rolling 3-Month Average	---	0.15 µg/m^3		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Geothermal power plants, petroleum production and refining.
Sulfates (SO_4)	24 hour	25 µg/m^3	No National Standard	Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	Industrial processes.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See $PM_{2.5}$.
Vinyl Chloride	24 hour	0.01 ppm	No National Standard	Short-term exposure to high levels of vinyl chloride in the air can cause dizziness, drowsiness, and headaches. Long-term exposure through inhalation and oral exposure can cause liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.	Polyvinyl chloride (PVC) plastic and vinyl products.

NOTE: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter.
[a] The averaging time is the interval of time over which the sample results are reported.
[b] This concentration was approved by CARB on April 28, 2005 and became effective May 17, 2006.

SOURCE: CARB, 2013b.

2.1.2 State Regulations and Standards

California Air Resources Board

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the California Clean Air Act. The California Clean Air Act (CCAA) requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS). In addition, CARB oversees the development and conformity of the SIP, the state's plan for meeting and maintaining NAAQS. CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. Applicable CAAQS are shown in Table 1.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill (AB) 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release.

2.1.3 Regional Regulations and Standards

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is responsible for managing ambient air quality and setting regulations in the Basin, establishing an air quality monitoring network for measuring levels of criteria pollutants, administering funds to reduce regional mobile source emissions, and permitting stationary air pollutant sources, such as power plants, refineries, and gas stations.

Air Quality Management Plan

The SCAQMD is responsible for developing and adopting an Air Quality Management Plan, which serves as guidance to bring the region into compliance with federal and state air quality standards. The plan includes rules to reduce emissions from various sources, including specific types of equipment, industrial processes, paints, solvents, and other consumer products.

The 2012 AQMP was adopted by the SCAQMD Governing Board on December 12, 2012. The purpose of the 2012 AQMP for the SCAB is to set forth a comprehensive and integrated program to obtain regional compliance with the federal 24-hour $PM_{2.5}$ air

quality standard, and to provide an update to the SCAB's commitment towards meeting the federal 8-hour ozone standards (SCAQMD, 2013b). The AQMP would also serve to satisfy recent USEPA requirements for a new attainment demonstration of the revoked 1-hour ozone standard, as well as a vehicle miles travelled (VMT) emissions offset demonstration. Specifically, the AQMP would serve as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which USEPA has established a due date of December 14, 2012. In addition, the AQMP updates specific new control measures and commitments for emissions reductions to implement the attainment strategy for the 8-hour ozone SIP. The 2012 AQMP sets forth programs which require integrated planning efforts and the cooperation of all levels of government: local, regional, state, and federal. SCAQMD staff has begun the development process for the 2015 AQMP.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction anticipated under the proposed project would include the following:

Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust.

Rule 445 – Wood Burning. This rule prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood

burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

Rule 481 – Spray Coating. This rule applies to all spray painting and spray coating operations and equipment and states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

- The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.

- Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.

- An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

Rule 1108 - Volatile Organic Compounds. This rule governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the Basin. This rule also regulates the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

Rule 1113 – Architectural Coatings. No person shall apply or solicit the application of any architectural coating within the SCAQMD with VOC content in excess of the values specified in a table incorporated in the Rule.

Rule 1143 – Paint Thinners and Solvents. This rule governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

Rule 1186 – Fugitive Dust. This rule limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that

are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

Rule 1303 – Major Emission Sources. This rule governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

Rule 1401– New Source Review of Toxic Air Contaminants. This rule specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

2.2 Greenhouse Gas Emissions

2.2.1 Federal Regulations and Standards

Environmental Protection Agency

The federal Clean Air Act does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal Clean Air Act. There are currently no federal regulations that set ambient air quality standards for GHGs.

2.2.2 State Regulations and Standards

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 – California Global Warming Solutions Act

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt and enforce programs and regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions. In December 2007 CARB adopted 427 MT CO_2e as the statewide GHG emissions limit equivalent to the statewide levels for 1990. This is approximately 28 percent below forecasted 2020 "business-as-usual" emissions of 596

MMT of CO_{2e}, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009).

CARB published the Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration in September 2007 (CARB, 2007). CARB adopted nine Early Action Measures for implementation, including Ship Electrification at Ports, Reduction of High Global-Warming-Potential Gases in Consumer Products, Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency), Reduction of Perfluorocarbons from Semiconductor Manufacturing, Improved Landfill Gas Capture, Reduction of Hydrofluorocarbon-134a from Do-It-Yourself Motor Vehicle Servicing, Sulfur Hexaflouride Reductions from the Non-Electric Sector, a Tire Inflation Program, and a Low Carbon Fuel Standard.

As of January 1, 2012, the GHG emissions limits and reduction measures adopted in 2011 by CARB became enforceable. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

CARB Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2009). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health.

As required by AB 32, the Scoping Plan must be updated at least every five years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. In October 2013, a draft Update to the initial Scoping Plan was developed by CARB in collaboration with the California Climate Action Team (CCAT). The draft Update builds upon the initial Scoping Plan with new strategies and expanded measures, and identifies opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments. The draft Update to the initial Scoping Plan was presented to CARB's Board for discussion at its February 20, 2014 meeting. Subsequently, the first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB.

As part of the proposed update to the Scoping Plan, the emissions reductions required to meet the 2020 statewide GHG emissions limit were further adjusted. The primary reason for adjusting the 2020 statewide emissions limit was based on the fact that the original Scoping Plan relied on the Intergovernmental Panel on Climate Change's (IPCC) 1996 Second Assessment Report (SAR) to assign the global warming potentials (GWPs) of greenhouse gases. Recently, in accordance the United Nations Framework Convention on Climate Change (UNFCCC), international climate agencies have agreed to begin using the scientifically updated GWP values in the IPCC's Fourth Assessment Report (AR4) that was released in 2007. Because CARB has begun to transition to the use of the AR4 100-year GWPs in its climate change programs, CARB recalculated the Scoping Plan's 1990 GHG emissions level with the AR4 GWPs. As the recalculation resulted in 431 $MMTCO_{2e}$, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 $MMTCO_{2e}$ in the initial Scoping Plan. Considering that the proposed update also adjusted the 2020 BAU forecast of GHG emissions to 509 $MMTCO_{2e}$, a 15 percent reduction below the estimated BAU levels was determined to be necessary to return to 1990 levels by 2020 (CARB, 2014). **Table 2** shows the Recommended Actions contained in Appendices C and E of CARB's Scoping Plan.

Table 2. Recommended Actions from CARB Climate Change Scoping Plan

ID #	Sector	Strategy Name
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards
T-2	Transportation	LCFS (Discrete Early Action)
T-3	Transportation	Regional Transportation-Related GHG Targets
T-4	Transportation	Vehicle Efficiency Measures
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)
T-6	Transportation	Goods-movement Efficiency Measures
T-7	Transportation	Heavy Duty Vehicle GHG Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization
T-9	Transportation	High Speed Rail
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs More stringent Building and Appliance Standards
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000GWh
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
CR-1	Electricity and Natural Gas	Energy Efficiency
CR-2	Electricity and Natural Gas	Solar Water Heating
GB-1	Green Buildings	Green Buildings
W-1	Water	Water Use Efficiency
W-2	Water	Water Recycling
W-3	Water	Water System Energy Efficiency
W-4	Water	Reuse Urban Runoff
W-5	Water	Increase Renewable Energy Production

Table 2. Recommended Actions from CARB Climate Change Scoping Plan

ID #	Sector	Strategy Name
W-6	Water	Public Goods Charge (Water)
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission
I-4	Industry	Refinery Flare Recovery Process Improvements
I-5	Industry	Removal of CH_4 Exemption from Existing Refinery Regulations
RW-1	Recycling and Waste Management	Landfill CH_4 Control (Discrete Early Action)
RW-2	Recycling and Waste Management	Additional Reductions in Landfill CH_4 – Capture Improvements
RW-3	Recycling and Waste Management	High Recycling/Zero Waste
F-1	Forestry	Sustainable Forest Target
H-1	High GWP Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)
H-2	High GWP Gases	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)
H-3	High GWP Gases	Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)
H-4	High GWP Gases	Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)
H-5	High GWP Gases	High GWP Reductions from Mobile Sources
H-6	High GWP Gases	High GWP Reductions from Stationary Sources
H-7[a]	High GWP Gases	Mitigation Fee on High GWP Gases
A-1	Agriculture	CH_4 Capture at Large Dairies

[a] This original measure in the 2008 Scoping Plan was subsequently excluded by CARB in the Final Supplement to the Scoping Plan Functional Equivalent Document in 2011, as CARB staff concluded that implementation of this measure would not be feasible.

SOURCE: CARB, 2008.

Executive Order S-1-07

Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result of this order, CARB approved a proposed regulation to implement the low carbon fuel standard (LCFS) on April 23, 2009, which will reduce GHG emissions from the transportation sector in California by about 16 MMT in 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

Senate Bill 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the state on September 30, 2008. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Southern California Council of Governments (SCAG) will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is 8 percent by 2020 and 13 percent by 2035 (CARB, 2010). The MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule with the SCAG RTP/SCS adopted on April 4, 2012.

Senate Bill 97

Senate Bill (SB) 97, enacted in August 2007, required the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. On April 13, 2009, the OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

California Green Building Standard Code

In January 2010, the State of California adopted the 2010 California Green Building Standards Code (CALGreen), which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

In early 2013 the California Building Standards Commission adopted the 2013 California Building Standards Code that also included the latest 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the code are anticipated to reduce 3 MMT of GHG emissions by 2020, reduce water use by 20 percent or more, and divert 50 percent of construction waste from landfills. The 2013 California Energy Code (Title 24, Part 6), which is also part of the CALGreen Code (Title 24, Part 11, Chapter 5.2), became effective on July 1, 2014.

Assembly Bill 1092

Assembly Bill 1092 was approved in September 2013, and requires that the next edition of the California Building Standards Code (CalGreen) adopt, codify, and publish mandatory building standards for the installation of future electric vehicle charging infrastructure for multi-family and non-residential development. The Bill further requires that the starting point for developing the mandatory standards be the current (2013) CalGreen Code, which provides that at least 3 percent of the total parking spaces in multi-family developments be capable of supporting future electric vehicle supply equipment. Additionally, for non-residential development at least 10 percent of the total parking spaces should be designated for low-emitting, fuel-efficient, and carpool/vanpool vehicles, including electric vehicles.

2.2.3 Regional

South Coast Air Quality Management District

As a method for determining significance under CEQA, SCAQMD developed a draft tiered flowchart in 2008 for determining significance thresholds for GHGs for industrial projects where SCAQMD is acting as the lead agency. In December 2008, SCAQMD adopted a 10,000 $MTCO_{2e}$/year for industrial facilities, but only with respect to projects where SCAQMD is the lead agency. SCAQMD has not adopted a threshold for residential or commercial projects at the time of this writing.

The SCAQMD flowchart uses a tiered approach in which a proposed project is deemed to have a less than significant impact related to GHG emissions when any of the following conditions are met:

- GHG emissions are within GHG budgets in an approved regional plan;
- Incremental increases in GHG emissions due to the project are below the defined Significance Screening Levels, or Mitigated to less than the Significance Screening Level;

- Performance standards are met by incorporating project design features and/or implementing emission reduction measures; and
- Carbon offsets are made to achieve target significance screening level.

2.2.4 Local

San Gabriel Valley of Governments Electrical Energy Action Plan

An Electrical Energy Action Plan (EEAP) was adopted in 2013 for the San Gabriel Valley Council of Governments and the City of San Dimas. The EEAP demonstrates the City's commitment to increasing energy efficiency and thereby reducing GHG emissions. The EEAP identifies the City's long-term vision and commitment to achieve energy efficiency in the community and in government operations. The Plan includes goals, policies, and actions aimed to reduce electricity use within the community. Quantifiable policies from Appendix C of the EEAP that are applicable to the proposed project include:

Policy 1.4: Encourage home energy benchmarking

Policy 3.1: The City will maximize the energy efficiency of new buildings.

Policy 3.2: Encourage the use of smart grid and Energy Star appliances in new development.

Policy 4.1: Integrate energy efficiency into the City's discretionary permit review framework.

Policy 4.2: Create development incentives to encourage energy efficiency improvements and net zero energy in new development and remodels.

Policy 5.1: Maximize the cooling of buildings through tree plantings and shading to reduce building electricity demands.

Policy 5.2: Reduced building electricity demands through voluntary standards and outreach to promote cool roofs and surfaces.

Policy 6.2: Encourage the use of energy- and water-efficient water fixtures for indoor water use to reduce electricity use for water pumping.

Policy 6.3: Support water-efficient landscaping to reduce the electricity demand for water transport and treatment.

3.0 ENVIRONMENTAL SETTING

3.1 Air Quality

3.1.1 Regional Setting

The ambient concentrations of air pollutants within the basin are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute the emissions. Air quality conditions are generated by topography, wind speed, wind direction, air temperature gradients, and emissions released by air pollutant sources, which interact to move and disperse air pollutants.

As described above, the project area is located within SCAB. The topography and climate within SCAB make it an area of high air pollution potential. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation, and sunlight triggers the photochemical reactions that produce ozone.

3.1.2 Local Setting

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The City of San Dimas is located in the Source Receptor Area (SRA) 10, Pomona/Walnut Valley. The closest air monitoring station is the Pomona monitoring station (924 N. Garey Avenue, Pomona), which is approximately five miles northwest of the project area. This station monitors ambient concentrations of ozone, nitrogen dioxide, and carbon monoxide. East San Gabriel Valley monitoring station (840 Laurel Ave, Glendora) is approximately five miles northwest of the project area and monitors PM_{10} and $PM_{2.5}$. The nearest monitoring station for SO_2 and sulfate is the Fontana Monitoring Station, which is located at 14360 Arrow Highway, in Fontana, approximately 23 miles east of the project area. Concentrations from the monitoring stations for the most recent three years (2012 – 2014) are shown in **Table 3**.

Table 3. Air Quality Data Summary (2012-2014)

Pollutant	Standard[a]	Monitoring Data by Year 2012	2013	2014
Ozone				
Highest 1 Hour Average (ppm)		0.117	0.125	0.123
Days over State Standard	0.09 ppm	21	12	22
Highest 8 Hour Average (ppm)		0.062	0.070	0.099
Days over Federal Standard	0.075 ppm	15	15	33
Days over State Standard	0.070 ppm	28	22	56
Carbon Monoxide				
Highest 8 Hour Average (ppm)		1.5	1.6	1.6
Days over Federal Standard	9.0 ppm	0	0	0
Days over State Standard	9.0 ppm	0	0	0
Highest 1 Hour Average (ppm)		-	-	2
Days over Federal Standard	35 ppm	-	-	0
Days over State Standard	20 ppm	-	-	0
Nitrogen Dioxide				
Highest 1 Hour Average (ppm)		0.0816	0.0788	0.0889
Days over Federal Standard	0.100 ppm	0	0	0
Days over State Standard	0.18 ppm	0	0	0
Annual Average (ppm)		0.0214	0.0225	0.0221
Days over Federal Standard	0.053 ppm	0	0	0
Days over State Standard	0.030 ppm	0	0	0
Sulfur Dioxide				
Highest 1 Hour Average (ppm)		0.0025	0.0038	0.0040
Days over Federal Standard	0.14 ppm	0	0	0
Days over State Standard	0.04 ppm	0	0	0
Particulate Matter (PM_{10})				
Highest 24 Hour Average ($\mu g/m^3$)[b]		78	76	96
Days over Federal Standard (measured)[c]	150 $\mu g/m^3$	0	0	0
Days over State Standard (measured)[c]	50 $\mu g/m^3$	6	6	22
Annual Average ($\mu g/m^3$)[b]	20 $\mu g/m^3$	30.3	33.0	44.1
Particulate Matter ($PM_{2.5}$)				
Highest 24 Hour Average ($\mu g/m^3$)[b]		39.6	29.6	32.4
Days over Federal Standard (measured)[c]	35 $\mu g/m^3$	1	0	0
Annual Average ($\mu g/m^3$)[b]		11.02	10.54	11.63

NOTES:
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[a] Generally, state standards and national standards are not to be exceeded more than once per year.

[b] Values represent federal statistics and are midnight-to-midnight 24-hour averages. State and federal statistics may differ because of different sampling methods.

[c] Measurements are usually collected every six days. Days over the standard represent the measured number of days that the standard has been exceeded.

SOURCE: SCAQMD, 2014, 2013, 2012.

Both CARB and USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The current attainment status for the SCAB is provided in **Table 4**.

Table 4. South Coast Air Basin Attainment Status

	Attainment Status	
Pollutant	**Federal Standards**	**State Standards**
Ozone (1-hour)	No Federal Standard	Non-attainment
Ozone (8-hour)	Non-attainment/Extreme	Non-attainment
PM_{10}	Attainment/Maintenance	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon Monoxide	Attainment/Maintenance	Attainment
Nitrogen Dioxide	Attainment/Maintenance	Attainment
Sulfur Dioxide	Attainment	Attainment
Sulfates	N/A	Attainment
Lead	Non-attainment	Non-attainment
Hydrogen Sulfide	N/A	Unclassified
Visibility Reducing Particles	N/A	Unclassified
Vinyl	N/A	Unclassified

SOURCE: CARB, 2013; USEPA, 2013.

Toxic Air Contaminants

In 1999, the CARB identified particulate emissions from diesel-fueled engines as a Toxic Air Contaminant (TAC). Once a substance is identified as a TAC, the CARB is required by law to determine if there is a need for further control. This is referred to as risk management. The process of further studies is ongoing at the CARB, with committees meeting to analyze both stationary and mobile diesel engine sources, as well as many other aspects of the problem. No guidance has been issued on impact analysis or control measures. Therefore, other than recognition of CARB actions, no analysis can be made at this time for TAC impact from diesel engine exhaust. The status of impact analysis of diesel engine exhaust is not unlike the consideration of $PM_{2.5}$, which was defined as a federal criteria pollutant in 1997.

Specific mitigation measures have been included in projects that would create or be located near facilities that have high concentrations of diesel engine vehicles, such as distribution warehouses or bus yards. There are no similar facilities as part of the proposed project or near the project area. Therefore, impacts related to TACs would not occur and are not discussed further in this air quality analysis.

3.2 Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are called GHG). The major concern with GHGs is that increases in their concentrations are causing global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long term global temperature increases.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different warming potential and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_{2e}). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG with 22,800 times the global warming potential as CO_2. Therefore, an emission of one metric ton (MT) of SF_6 could be reported as an emission of 22,800 MT of CO_{2e}. Large emission sources are reported in million metric tons (MMT) of CO_{2e}.

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years (CARB, 2009). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;

- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

California produced 459 gross $MMTCO_{2e}$ in 2012 (CARB, 2014). Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2012, accounting for 36 percent of total GHG emissions in the state (CARB, 2014a). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB, 2014).

3.3 Related Projects

The Traffic Impact Study that was prepared for the proposed project, which identified 12 related projects for inclusion in the cumulative analysis for the proposed project that are listed in **Table 5**.

Table 5. Related Projects Lists

Project	Address	Size
Single-Family Residential	301 S. San Dimas Avenue	19 units
Single-Family Residential	299 E. Foothill Boulevard	21 units
Single-Family Residential	216-300 Walnut Avenue	7 units
Single-Family Residential	405 W. Gladstone Street	4 units
Single-Family Residential	526 W. Gladstone Street	4 units
Costco Commercial Center	1024-1054 E. Gladstone Street	19,127 square feet
Single-Family Residential	Lone Hill Avenue at Gordon Ranch Road	19 units
Glendora Marketplace	Gladstone Street at Lone Hill Avenue	50,000 square feet retail + 4,200 square feet restaurant
Walmart Expansion	1950 Auto Centre Drive	29,000
Single-Family Residential	De Anza Heights Road	15
Gilead Sciences	1800 Wheeler Avenue	380,000
University Parking Structure + Office	2021 D Street	1,000 parking spaces + 1,900 square feet office

SOURCE: LLG, 2016.

4.0 Thresholds of Significance

Appendix G of the California Environmental Quality Act (CEQA) Guidelines states that a project could have a significant adverse effect on air quality if any of the following would occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in cumulative considerable net increase of any criteria pollutant for which the project region is nonattainment under any applicable federal or state ambient air quality standard (including releasing emission which exceeds quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and
- Create objectionable odors affecting a substantial number of people.

In addition, Appendix G of the CEQA Guidelines states that a project could have a significant adverse effect on GHG if any of the following would occur:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.1 Air Quality

4.1.1 Regional Air Quality Significance Thresholds

The City of San Dimas has not developed specific air quality thresholds for air quality impacts. However, as stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. As such, the significance thresholds and analysis methodologies in SCAQMD's CEQA Air Quality Handbook are used in evaluating project impacts. SCAQMD has established daily mass thresholds for regional pollutant emissions, which are shown in **Table 6**.

Table 6. SCAQMD Regional Air Quality Significance Thresholds

Pollutant	Mass Daily Thresholds (lbs/day)	
	Construction	Operations
Oxides of Nitrogen (NO_X)	100	55
Reactive Organic Gases (ROG)	75	55
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead[a]	3	3
TACs (including carcinogens and non-carcinogens	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

[a] As the proposed project would not involve the development of any major lead emissions sources, lead emissions are not analyzed further.

SOURCE: SCAQMD, 2011.

4.1.2 Localized Air Quality Significance Thresholds

SCAQMD has developed Local Significance Thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and thus would not cause or contribute to localized air quality impacts. LSTs are developed based on the ambient concentrations of that pollutant for each of the 38 source receptor areas (SRAs) in the SCAB. The localized thresholds, which are found in the mass rate look-up tables in SCAQMD's Final Localized Significance Threshold Methodology document, were developed for use on projects that are less than or equal to 5-acres in size or have a disturbance of less than or equal to 5 acres daily. LSTs are only applicable to the following criteria pollutants: NOx, CO, PM_{10}, and $PM_{2.5}$. As described in the methodology section below, the construction and operational LSTs for a 5-acre site in SRA 10 (Pomona/Walnut Valley) at a distance of 82 feet from a sensitive receiver (shown in **Table 7**), were be used to evaluate the project's localized air quality impacts.

Table 7. SCAQMD Localized Significance Thresholds for a Five-Acre Site

Pollutant Monitored Within SRA 10 – Pomona/Walnut Valley	Allowable Emissions (pounds/day) at 82 Feet (25 Meters)
Nitrogen Oxides (NOx)	236
Carbon Monoxide (CO)	1,566
Respirable Particulate Matter (PM_{10})	14
Fine Particulate Matter ($PM_{2.5}$)	2

SOURCE: SCAQMD, 2003 (Revised 2009).

Under conditions where the project's onsite emissions would, even with incorporation of mitigation, exceed the LSTs thresholds, air dispersion modeling of the project's emissions would be required to evaluate the potential localized air quality impacts of the proposed project on its surrounding sensitive receptors, in accordance with SCAQMD's recommendation. However, under conditions where it is determined that the project's peak daily emissions would not exceed the LSTs thresholds, then it can be concluded that the project's emissions would not result in adverse localized air quality impacts on surrounding sensitive receptors.

4.1.3 CO Hotspots

Since the 1980s CO concentrations have declined dramatically in California due to existing controls and programs and most areas of the state, including the region in which the proposed project is located, have no problem meeting the state and federal CO standards. Additionally, CO hotspots have not been seen in the most congested intersections in the region in well over a decade. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. The reduction in older polluting vehicles and emissions controls on newer vehicles has increased the number of vehicles that can idle at an intersection before CO impacts occur. Although the SCAQMD's guidelines related to CO impacts have remained the same, and are now obsolete, several air districts, including the Bay Area Air Quality Management District (BAAQMD) (BAAQMD, 2009), have adopted guidelines that focus on criteria other than LOS and percentage traffic increase, and instead focus on total volumes and consistency with congestion management plans. The BAAQMD criteria are as follows:

1. Consistency with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.

2. Traffic volumes at affected intersections would not be increased to more than 44,000 vehicles per hour.

3. Traffic volumes at affected intersections would not be increased to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnels, parking garages, bridge underpass, natural or urban street canyon, below-grade roadway).

Because SCAQMD has yet to adopt screening criteria that do not focus on LOS, and to provide an analysis that is not obsolete, the City requires dispersion modeling to determine whether carbon monoxide at potentially impacted intersections would exceed the 1-hour and 8-hour standards. Where the standards are not exceeded, the project would be determined to be less than significant with respect to localized CO impacts.

4.2 Greenhouse Gas

The increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. Construction and operation of the proposed project would incrementally contribute to GHG emissions along with past, present, and future activities, and the CEQA Guidelines acknowledge this as a cumulative impact. As such, impacts of GHG emissions are analyzed here on a cumulative basis.

While SCAQMD has issued proposed standards and guidelines, there is no adopted state or local standard for determining the cumulative significance of the proposed project's GHG emissions. In December 2008, SCAQMD adopted a 10,000 $MTCO_{2e}$/year for industrial facilities, but only with respect to projects where SCAQMD is the lead agency. Additionally, SCAQMD has proposed, but not adopted, a 3,000 MT/year CO_{2e} threshold for mixed use developments, a 3,500 MT/year CO_{2e} threshold for residential developments, and a 1,400 MT/year CO_{2e} threshold for commercial developments. As an alternative to the aforementioned proposed thresholds for residential, commercial, and mixed-use developments, SCAQMD has also recommended the use of a single numerical threshold of 3,000 $MTCO_{2e}$/year for all non-industrial projects. These thresholds were developed for individual land use projects (SCAQMD, 2010). These thresholds have not been adopted as of this writing.

The City, as the Lead Agency for the proposed project, has determined that the most appropriate threshold that would apply to the proposed project would be the 3,000 MT/year CO_{2e} threshold for all non-industrial projects.

5.0 Methodology

5.1 Air Quality

The air quality analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed project. Air pollutant emissions associated with the proposed project would result from operation of the proposed residences from traffic volumes generated and from equipment emissions. Additionally, construction activities would also generate air pollutant emissions at the project area and on roadways resulting from construction-related traffic. The net increase in emissions generated by these activities and other secondary sources have been estimated and compared to the applicable thresholds of significance recommended by SCAQMD.

5.1.1 Air Qualtity Construction Impacts

Short-term construction-generated emissions of criteria air pollutants and ozone precursors associated with the proposed project were modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, as recommended by SCAQMD. Construction equipment horsepower and load factors are based on the CalEEMod model defaults. The model results were used to determine whether short-term construction-related emissions of criteria air pollutants associated with the proposed project would exceed SCAQMD's applicable regional thresholds and whether mitigation would be required. Modeling Assumptions and output files are provided in Appendix A.

In addition, to determine whether or not construction activities associated with the proposed development project would create significant adverse localized air quality impacts on nearby sensitive receptors, the worst-case daily emissions contribution from the proposed development project were compared to SCAQMD's localized significance thresholds (LSTs). The analysis of localized air quality impacts focuses only on the onsite activities of a project, and does not include emissions that are generated off-site such as from on-road haul or delivery truck trips (SCAQMD, 2003).

For the purpose of analyzing localized air quality impacts, SCAQMD has developed LSTs for three project site sizes: 1 acre, 2 acres and 5 acres. The LSTs established for each of the aforementioned site acreages represent the amount of pollutant emissions that would not exceed the most stringent applicable federal or state ambient air quality standards. Because the LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceeded of applicable air quality standards, if the calculated renovation emissions for a project fall below the applicable thresholds

identified in the mass rate look-up tables, then the proposed project would not be significant.

The LST threshold for a 5-acre site was used because not more than 5 acres of the project area would be disturbed in a day. In addition, to ensure a conservative evaluation, the project activities within the 10.03-acre Oak Valley construction area and 17.9-acre conceptual plan area were evaluated as if they would occur within a five-acre area; thus, concentrating pollutants over a smaller area and increasing potential to exceed an air quality standard. Therefore, if the emissions from the project would not exceed the applicable LSTs for a five-acre site, then the project impacts would not be significant.

Should the project's peak daily renovation emissions exceed the LSTs in the mass rate look-up tables, dispersion modeling of renovation emissions, in accordance with SCAQMD's recommendation, would then be conducted to evaluate the potential localized air quality impacts of the proposed project. However, as described above, under conditions where it is determined that the project's peak daily emissions would not exceed the applicable LSTs for a five-acre site, then it can be concluded that the project would not result in any adverse localized air quality impacts.

The SCAQMD localized thresholds for five-acres from the "Final Localized Significance Threshold Methodology" document's mass rate look-up threshold table provides the guidelines to analyze the project's renovation activity emissions. The SCAQMD only provides LSTs at receptor distances of 82, 164, 328, 656, and 1,640 feet from the emissions source, the LSTs for a receptor distance of 82 feet from the project area is used for determining significance.

In conducting the localized air quality analysis, which focuses only on onsite emissions, the project's onsite construction emissions generated from combustion sources (e.g., off-road construction equipment) under a worst-case construction scenario were extracted from the CalEEMod model run outputs. Overall, the daily total onsite combustion, mobile, and fugitive dust emissions associated with project construction were combined and evaluated against SCAQMD's LSTs for a 5-acre site. CalEEMod data is provided in the Appendix.

As described above, any future construction of the Conceptual Lot Area would not occur at the same time as construction of the proposed Oak Valley Development project, as no applications for this area have been submitted. When developed, it is anticipated that it would occur at a similar construction pace, with a similar mix of construction equipment as the proposed Oak Valley Development, because similar single-family residential uses

would be developed in both areas. Because build out of the Conceptual Lot Area would result in more units than the proposed 28-unit Oak Valley Development, and this area is approximately 5-acres larger, the time length of the development activities would be longer.

5.1.2 Air Quality Operational Impacts

Long-term (i.e., operational) regional emissions of criteria air pollutants and precursors associated with the proposed project, including mobile- and area-source emissions, were also quantified using the CalEEMod computer model. Area-source emissions, which are widely distributed and made of many small emissions sources (e.g., building heating and cooling units, landscaping equipment, consumer products, painting operations, etc.), were modeled according to the size and type of land use proposed. Mass mobile-source emissions were modeled based on the daily vehicle trips that would result from the proposed project. The resulting long-term operational emissions were then compared with the applicable SCAQMD thresholds for determination of significance. Modeling output files are provided in the Appendix.

In addition to the regional air quality impacts, the project's localized air quality impacts during operation is also analyzed by extracting the onsite operational emissions from the CalEEMod model run for the project and evaluating those emissions against SCAQMD's applicable operational LSTs. SCAQMD only provides LSTs at receptor distances of 82, 164, 328, 656, and 1,640 feet from the emissions source. The LSTs for a receptor distance of 82 feet from the project area is used to evaluate the potential localized air quality impacts from operation of the project.

Evaluation of cumulative air quality impacts of the proposed actions is provided pursuant to SCAQMD's cumulative air quality impact methodology, SCAQMD recommends that if an individual project results in air emissions of criteria pollutants (ROG, CO, NOx, SOx, PM_{10}, and $PM_{2.5}$) that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

5.2 Greenhouse Gas

At the time of writing of this report, SCAQMD has not formally adopted uniform methodology for analyzing impacts related to GHG emissions on global climate change. Similarly, the City also has not adopted any guidelines for conducting a CEQA level GHG analysis. According to OPR's CEQA Guidelines that state, "A lead agency should

make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project," the construction and operational emissions associated with the project have been quantified using methods described below.

SCAQMD recommends the use of CalEEMod for estimating construction and operational emissions associated with land use projects. CalEEMod estimates the emissions of CO_2, CH4, and N2O as well as the resulting total CO_{2e} emissions associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles. As CalEEMod currently uses IPCC's 1996 SAR to assign the GWPs for CH_4 and N_2O, the emissions for these two GHGs were taken from the CalEEMod outputs and converted to CO_{2e} emissions outside of CalEEMod using the updated GWPs from IPCC's AR4. The GHG analysis incorporates similar assumptions as the air quality analysis for modeling consistency. Based on SCAQMD's 2008 Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold document, SCAQMD recommends that for construction GHG emissions the total emissions for a project be amortized over a 30-year period and added to its operational emission estimates (SCAQMD, 2008).

Operational emissions of GHGs, including GHGs generated by direct and indirect sources, are estimated according to the recommended methodologies from SCAQMD. Direct sources include emissions such as vehicle trips, natural gas consumption, and landscape maintenance. Indirect sources include off-site emissions occurring as a result of the project's operations such as electricity and water consumption and solid waste disposal. The direct and indirect emissions generated during the proposed project's operations were estimated using CalEEMod. Similar to the calculation of the development project's construction-related GHG emissions, the operational emissions of CH_4 and N_2O were extracted from the CalEEMod output file and converted to CO_{2e} emissions using the GWPs from IPCC's AR4. Modeling was based on project-specific data (e.g., size and type of proposed use) and vehicle trip information.

Increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. The methodology used to analyze the project's contribution to global climate change includes evaluating the project's total annual GHG emissions (construction and operational) against the 3,000 MT/year CO_{2e} threshold for residential developments. All GHG emission calculations are provided in the Appendix.

Because construction and operation of all development projects incrementally contribute to GHG emissions along with past, present, and future activities, the CEQA Guidelines acknowledge this as a cumulative impact. In addition, single projects are not substantial enough to result in a measurable increase in global concentrations of GHG emissions; thus, GHG impacts are considered on a global and cumulative scale, and within this study, GHG impacts are considered on a cumulative basis.

6.0 AIR QUALITY ASSESSMENT

This air quality impact assessment is conducted to determine the significance of the impact created by the short-term construction and long-term operation of the proposed project on the surrounding area. Construction may affect air quality as a result of the (1) construction equipment emissions, (2) fugitive dust from grading and earth moving, and (3) emissions from vehicles to/from the sites by construction workers. Operation related emissions would be generated primarily from vehicle emissions generated from the operation of the project with minor emissions from heating and cooling equipment other gas appliances located in the residences.

The California Emission Estimator Model (CalEEMod) is utilized to estimate emissions from construction and operation of the proposed project, which are compared to the thresholds defined above. Any exceedances of the thresholds created by the proposed project would identify the need to include mitigation measures to reduce the air quality impact created by the proposed project.

6.1 Conflict with or obstruct implementation of the applicable air quality plan

As described above, the project area is located in the South Coast Air Basin, which is under the jurisdictional boundaries of the SCAQMD. The SCAQMD and Southern California Association of Governments (SCAG) are responsible for preparing the Air Quality Management Plan (AQMP), which addresses federal and state Clean Air Act (CAA) requirements. The AQMP details goals, policies, and programs for improving air quality in the Basin. In preparation of the AQMP, SCAQMD and SCAG use land use designations contained in General Plan documents to forecast, inventory, and allocate regional emissions from land use and development-related sources. For purposes of analyzing consistency with the AQMP, if a proposed project would have a development density and vehicle trip generation that is substantially greater than what was anticipated in the General Plan, then the proposed project would conflict with the AQMP. On the other hand, if a project's density is consistent with the General Plan, its emissions would be consistent with the assumptions in the AQMP, and the project would not conflict with SCAQMD's attainment plans. In addition, the SCAQMD considers projects consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause a new violation.

As described above, the project proposes a revise the existing Single Family Very Low (0.2-3 dwelling units per acre) residential General Plan land use to a designation of

Single Family Low (3.1-6 dwelling units per acre) residential, and proposes to amend the existing Single-Family Agricultural zoning (1 dwelling units per acre) to be part of the Single-Family residential zone that allows up to 5.8 dwelling units per acre with a minimum lot size of 7,500 square feet.

The proposed Oak Valley Development project would develop a 28-unit single-family residential unit subdivision on 10.3 acres of the project area, which would result in 4 single-family units per net acre after exclusion of open space areas, setbacks, two streets, and a water quality infiltration basin. Therefore, a General Plan and zoning designation change to Single Family Low Residential (3.1-6 du/ac) would provide consistency.

However, build out assumptions of the City's General Plan were based upon gross acreage, and development of 28 single-family residences within the 10.3-acre area would result in 2.7 units per gross acre, and development of 50 single-family residences within the 17.9-acre Conceptual Lot Area would result in 2.8 units per gross acre. Overall, development of the entire project area would result in 78 single-family residences in a total of 27.12 gross acres, which would result in 2.8 residential units per gross acreage, which is consistent with the existing Single-Family Very Low General Plan land use designation that allows up to 3 units per acre. As a result, development of the project area would be within the development capacity that was previously anticipated by the City's General Plan. Therefore, the development density of the project area at build out would be consistent with the assumptions in the AQMP, and would not conflict with SCAQMD's attainment plans.

In addition, emissions generated by subsequent construction and operation would not exceed thresholds as described in the analysis below, which are based on the AQMP and are designed to bring the Basin into attainment for the criteria pollutants for which it is in nonattainment. Therefore, because the proposed project does not exceed any of the thresholds it will not conflict with SCAQMD's goal of bringing the Basin into attainment for all criteria pollutants and, as such, is consistent with the AQMP. As a result, impacts related to conflict with the AQMP from the proposed project would be less than significant.

6.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Construction

Proposed Oak Valley Development: Construction activities associated with the proposed project would generate pollutant emissions from the following: (1) demolition,

site preparation, grading, and excavation; (2) construction workers traveling to and from project site; (3) delivery and hauling of construction supplies to, and debris from, the project site; (4) fuel combustion by onsite construction equipment; (5) building construction; application of architectural coatings; and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously at the time.

Construction emissions are considered short term and temporary, but have the potential to represent a significant impact with respect to air quality. Particulate matter (i.e., PM_{10} and $PM_{2.5}$) are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of particulate matter can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO_x are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with debris hauling, delivery of construction materials, vendor trips, and worker commute trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. A large portion of construction-related ROG emissions also result from the application of architectural coatings and vary depending on the amount of coatings applied each day.

It is mandatory for all construction projects to comply with SCAQMD Rule 403 for controlling fugitive dust. Incorporating Rule 403 into the proposed project would reduce regional PM_{10} and $PM_{2.5}$ emissions from construction activities. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the proposed project site, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12-inches, and maintaining effective cover over exposed areas. Compliance with Rule 403, which included twice daily watering during construction, was accounted for in the construction emissions modeling.

In addition, implementation of Rule 1108 governing the VOC content of asphalt, Rules 1113 and 1143 that govern the VOC content in architectural coating, paint, thinners, and solvents, was accounted for in the construction emissions modeling. Furthermore, the use of low VOC coatings was included to reduce the ROG emissions that would be generated from the application of architectural coating.

As shown in **Table 8**, with the use of low VOC coatings and twice daily watering during construction, as required pursuant to Mitigation Measures 1 and 2, the proposed project would not result in a significant impact to air quality during construction activities. The calculated emission results from CalEEMod demonstrate that the construction of this project would not exceed average daily thresholds created by the SCAQMD with implementation of these measures. Thus, construction related impacts on regional air quality would be less than significant. Construction of the proposed project with the use of low VOC coatings and twice daily watering during construction would not worsen ambient air quality, create additional violations of federal and state standards, or delay the Basin's goal for meeting attainment standards.

Table 8. Peak-Day Construction Emissions (lbs/day)

Construction Season	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer	20.56	5.0	44.87	0.07	5.13	2.74
Winter	20.56	5.0	44.87	0.07	5.13	2.74
SCAQMD Significance Threshold	75	100	550	150	150	55
Exceed Significance?	No	No	No	No	No	No

Cumulative Impacts: It is anticipated that the future build out of the Oak Valley development, the conceptual plan and other projects under construction and/or proposed in the project area would not occur at the same time. It is predicted that over the next 20 years only 10 percent of the planned development would be constructed and the various phases of construction would not occur simultaneously. Maximum daily construction emissions resulting from 10 percent of the planned development being constructed for the cumulative years 2018 and 2035 are presented in Tables 9 and 10 respectively. The results presented incorporate the use of low VOC coatings and twice daily watering during construction, as required pursuant to Mitigation Measures 1 and 2, the proposed project would not result in a significant impact to air quality during construction activities. The calculated emission results from CalEEMod demonstrate that the construction of this project would not exceed average daily thresholds created by the SCAQMD with implementation of these measures. Thus, construction related impacts on

regional air quality would be less than significant. Construction of the proposed project with the use of low VOC coatings and twice daily watering during construction would not worsen ambient air quality, create additional violations of federal and state standards, or delay the Basin's goal for meeting attainment standards.

Table 9. 2018 Peak-Day Construction Emissions (lbs/day)

Construction Season	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer	70	6.50	44.31	0.07	5.14	2.74
Winter	70	6.11	44.36	0.07	5.14	2.74
SCAQMD Significance Threshold	75	100	550	150	150	55
Exceed Significance?	No	No	No	No	No	No

Table 10. 2035 Peak-Day Construction Emissions (lbs/day)

Construction Season	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer	57.75	5.00	42.61	0.081	5.08	2.71
Winter	57.75	5.01	42.66	0.081	5.09	2.71
SCAQMD Significance Threshold	75	100	550	150	150	55
Exceed Significance?	No	No	No	No	No	No

Mitigation Measures

Mitigation Measure 1: The construction plans and specifications shall stipulate that all architectural coatings shall be low-volatile organic compound (VOC) paints that meet a VOC content of 50 grams per liter (g/L) or less for interior coating and 100 g/L or less for exterior coatings; or a content consistent with Rule 1113 (i.e., super compliant paints).

Mitigation Measure 2: The construction plans and specifications shall stipulate that loose soils and other materials subject to fugitive dust be watered twice daily during construction in compliance with Rule 403.

Operation

Proposed Oak Valley Development: Implementation of the proposed 28 single-family development would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with area sources, such as natural gas consumption, landscaping, applications of architectural coatings, and consumer products, in addition to operational mobile emissions. Development of the proposed project would result in a net increase in 266 vehicle trips per day, over existing conditions.

Operations emissions associated with the proposed project were modeled using CalEEMod. Model defaults were adjusted to reflect project-specific data, where available, including the size and type of the proposed land use and project specific trip rates. Modeled operations emissions are presented in **Table 11**. Significance is determined based on the total project contribution to regional criteria pollutant emissions.

As shown in Table 11, the proposed project would result in long-term regional emissions of the criteria pollutants that would be below the SCAQMD's applicable thresholds. Therefore, the project's operational emissions would not substantially contribute to emissions concentrations that exceed the NAAQS and CAAQS and impacts would be less than significant.

Table 11. Operational Emissions from 28 Single-Family Units in 2018 (lbs/day)

Source	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	1.20	0.03	2.34	0.0001	0.04	0.04
Energy	0.03	0.21	0.09	0.0001	0.02	0.02
Mobile	1.10	3.21	12.45	0.028	1.97	0.56
Total Emissions	**2.33**	**3.45**	**14.88**	**0.03**	**2.03**	**0.62**
SCAQMD Significance Thresholds	75	55	550	150	150	55
Exceed thresholds?	No	No	No	No	No	No

Cumulative Impacts in 2018: The combined effect of development of the proposed 28-unit Oak Valley Development and the 50 single-family units in the Conceptual Lot Area would result in 78 single-family residences that would generate approximately 742 vehicular trips per day from the combined 27.12-acre area. In addition, the 12 related projects listed in Table 5 would generate additional trips. The total emissions from the proposed development project, future build out of the Conceptual Lot Area, and related projects are estimated and listed in **Table 12**. As shown, the combined emissions from all of the projects in 2018 would not exceed SCAQMD's applicable thresholds and together would not substantially contribute to emissions concentrations that would exceed the NAAQS and CAAQS. Therefore, impacts would be less than significant.

Table 12. Total Estimated Cumulative Operational Emissions in 2018 (lbs/day)

Source	ROG	NOx	CO	SO2	PM_{10}	$PM_{2.5}$
Area	14.10	0.10	8.17	0.004	0.15	0.15
Energy	0.32	2.90	2.16	0.17	0.22	0.22
Mobile	24.62	62.31	261.90	0.58	38.84	10.97
Total Emissions	**39.04**	**12.71**	**272.23**	**0.60**	**39.22**	**11.34**
SCAQMD Significance Thresholds	**75**	**55**	**550**	**150**	**150**	**55**
Exceed thresholds?	No	No	No	No	No	No

Cumulative Impacts in 2035: In addition, the total emissions from in 2035 the proposed development project, future build out of the Conceptual Lot Area, and related projects are estimated and listed in **Table 13**. As shown, the combined emissions from all of the projects in 2035 would not exceed SCAQMD's applicable thresholds and together would not substantially contribute to emissions concentrations that would exceed the NAAQS and CAAQS. Therefore, impacts would be less than significant.

Table 13. Total Estimated Cumulative Operational Emissions in 2035 (lbs/day)

Source	ROG	NOx	CO	SO2	PM_{10}	$PM_{2.5}$
Area	25.56	0.16	13.90	0.007	0.27	0.27
Energy	0.04	3.43	2.40	0.02	0.27	0.27
Mobile	23.34	52.02	237.54	1.03	65.30	18.43
Total Emissions	**49.19**	**55.62**	**253.84**	**1.05**	**65.84**	**18.96**
SCAQMD Significance Thresholds	**75**	**55**	**550**	**150**	**150**	**55**
Exceed thresholds?	No	No	No	No	No	No

6.3 Expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are populations that are more susceptible to the effects of air pollution than are the population at large. The SCAQMD identifies the following as sensitive receptors: residences, long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, schools, playgrounds, child care centers, and athletic facilities.

CO Hotspots

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours and certain

meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals. Because of reduced speeds and vehicle queuing, "hot spots" typically occur at high traffic volume intersections.

Proposed Oak Valley Development: As described above, the proposed project would in 266 vehicle trips per day. Of these trips 21 would occur in the am peak hour and 28 would occur in the pm peak hour. This number of trips would not produce the volume of peak hour traffic required to generate or contribute to a CO hotspot. Dispersion modeling was conducted to quantify the generation of carbon monoxide at the intersection of San Dimas Avenue and Gladstone Avenue and to compare it to the 1-hour and 8-hour standards, to ensure they are not exceeded. As shown in **Table 14**, the proposed project would result in emissions that are less than the federal and state 8-hour and 1-hour standards. Therefore, impacts related to hotspots from operation of the project in 2018 would be less than significant.

Table 14. Carbon Monoxide at San Dimas Avenue and Gladstone Avenue in 2018

	2016 Existing		**2018 with Project**		**2018 with Cumulative**	
	1 hr ppm	8 hr ppm	1 hr ppm	8 hr ppm	1 hr ppm	8 hr Ppm
Project Emissions	2.1	1.7	2.1	1.7	2.1	2.1
Federal Standards (ppm)	35	9	35	9	35	9
Exceed Federal Standards	**No**	**No**	**No**	**No**	**No**	**No**
State Standards (ppm)	20	9	20	9	20	9
Exceed State Standards	**No**	**No**	**No**	**No**	**No**	**No**

Cumulative Projects in 2018: The combined effect of development of the proposed 28-unit Oak Valley Development project and the 50 single-family units in the Conceptual Lot Area would result in 78 single-family residences that would generate approximately 742 vehicular trips per day. Of these trips 59 are estimated to occur in the am peak hour and 78 are estimated to occur in the pm peak hour. In addition, related projects (listed in Table 5) would generate vehicular trips and emissions. However, the combined number of trips from development of the project site and the related projects during the am and pm peak hours would not produce the volume of peak hour traffic required to generate or

contribute to a CO hotspot. Dispersion modeling was conducted to quantify the generation of emissions at the intersection of San Dimas Avenue and Gladstone Avenue and to compare it to the 1-hour and 8-hour standards. As shown in Table 15, the proposed project would result in emissions that are less than the federal and state 8-hour and1-hour standards in 2018 with the cumulative emissions from related projects. Therefore, impacts related to hotspots from operation of the project in combination with related projects in 2018 would be less than significant.

Cumulative Projects in 2035: The combined effect of development of the proposed 28-unit Oak Valley Development project, the 50 single-family units in the Conceptual Lot Area, and the related projects (listed in Table 5) would generate vehicular emissions that are listed in **Table 15**. As shown, the proposed project in 2035 with the cumulative projects would result in emissions that are less than the federal and state 8-hour and1-hour standards. Therefore, impacts related to hotspots from operation of the project in combination with related projects in 2035 would be less than significant.

Table 15. Carbon Monoxide at San Dimas Avenue and Gladstone Avenue in 2035

	2035 with Project		**2035 with Cumulative**	
	1 hr ppm	8 hr ppm	1 hr ppm	8 hr Ppm
Project Emissions	2.0	1.6	2.0	1.6
Federal Standards (ppm)	35	9	35	9
Exceed Federal Standards	**No**	**No**	**No**	**No**
State Standards (ppm)	20	9	20	9
Exceed State Standards	**No**	**No**	**No**	**No**

Localized Construction Air Quality Impacts – Criteria Air Pollutants

Localized emissions that could expose sensitive receptors to substantial pollutant concentrations from construction activities, emissions that would be generated from construction of the school facility were analyzed using SCAQMD's Mass Rate LST Look-up Tables and Localized Significance Threshold Methodology, which were developed by SCAQMD to determine if daily emissions of CO, NOx, PM_{10}, and $PM_{2.5}$ would result in a significant impact to the local air quality.

As discussed previously, the daily onsite construction emissions generated by the proposed project are evaluated against SCAQMD's LSTs for a 5-acre site to determine whether the emissions would cause or contribute to adverse localized air quality impacts. The LST threshold for a 5-acre site was used because not more than 5 acres of the project site would be disturbed in a day. In addition, the 5-acre site LST threshold provides a conservative evaluation because the project activities within the 10.03-acre project area were evaluated as if they would occur within a five-acre area; thus, concentrating pollutants over a smaller area and increasing potential to exceed an air quality standard. Therefore, if the emissions from the project would not exceed the applicable LSTs for a five-acre site, then the project impacts would not be significant.

The nearest off-site sensitive receptors are the single-family residences located approximately 30 feet from the project site and Chaparral High School, which is approximately 90 feet from the site project site. As described previously, because the mass rate look-up tables provided by SCAQMD only provides LSTs at receptor distances of 82, 164, 328, 656, and 1,640 feet, the LSTs for a receptor distance of 82 feet is used to evaluate the potential localized air quality impacts. Although a sensitive receptor is located closer than 82 feet of the project site, SCAQMD's LST methodology states that projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet.

Proposed Oak Valley Development: As shown in **Table 16,** with the use of low VOC coatings and twice daily watering during construction (as described above in Mitigation Measures 1 and 2), the daily emissions would not exceed the applicable SCAQMD LST thresholds for a 5-acre site for NO_x, CO, PM_{10}, or $PM_{2.5}$. Therefore, localized impacts would be less than significant for all criteria pollutants.

Table 16. Proposed Project Localized Daily Construction Emissions (lbs/day)

Construction Season	NOx	CO	PM_{10}	$PM_{2.5}$
Summer	25.10	44.87	5.13	2.74
Winter	25.12	44.87	5.13	2.74
SCAQMD Significance Threshold	236	1,566	14	2
Exceed Significance?	No	No	No	No

Cumulative Impacts 2018: As shown in **Table 17**, with the use of low VOC coatings and twice daily watering during construction (as described above in Mitigation Measures 1 and 2), the daily emissions would not exceed the applicable SCAQMD LST thresholds for a 5-acre site for NO_x, CO, PM_{10}, or $PM_{2.5}$. Therefore, localized impacts would be less than significant for all criteria pollutants. It is anticipated that the potential future construction of the Oak Valley Development, the Conceptual Lot Area and the planned projects under construction would not occur at the same time. Therefore the results presented do not take into account phased construction of projects, therefore results are conservative. The localized construction related emissions from the 2018 build out of the project area would not result in a combined significant effect, and localized air quality impacts would be less than significant.

Table 17. 2018 Proposed Project Localized Daily Construction Emissions (lbs/day)

Construction Season	NOx	CO	PM_{10}	$PM_{2.5}$
Summer	6.50	44.31	5.14	2.74
Winter	6.11	44.36	5.14	2.74
SCAQMD Significance Threshold	236	1,566	14	2
Exceed Significance?	No	No	No	No

Cumulative Impacts 2035: As shown in **Table 18**, with the use of low VOC coatings and twice daily watering during construction (as described above in Mitigation Measures 1 and 2), the daily emissions would not exceed the applicable SCAQMD LST thresholds for a 5-acre site for NO_x, CO, PM_{10}, or $PM_{2.5}$. Therefore, localized impacts would be less than significant for all criteria pollutants. It is anticipated that the potential future construction of the Oak Valley Development, the Conceptual Lot Area and all planned projects would not occur at the same time. Therefore the results presented do not take into acount phased construction of projects, therefore results are over conservative. The localized construction related emissions from the 2035 build out of the project area would not result in a combined significant effect, and localized air quality impacts would be less than significant.

Table 18. 2035 Proposed Project Localized Daily Construction Emissions (lbs/day)

Construction Season	NOx	CO	PM_{10}	$PM_{2.5}$
Summer	5.01	42.61	5.08	2.71
Winter	5.01	42.66	5.09	2.71
SCAQMD Significance Threshold	236	1,566	14	2
Exceed Significance?	No	No	No	No

Localized Operational Air Quality Impacts – Criteria Air Pollutants

Proposed Oak Valley Development: During project operations, the daily amount of localized pollutant emissions generated onsite by the project would not be substantial, as they would be limited to onsite gas appliances, such as water heaters. The total combined operational emissions are compared to the 82-foot LST threshold, which is shown in **Table 19.** As shown, the proposed project's operational-related emissions generated onsite would not exceed SCAQMD's screening operational LSTs. Thus, project operations would result in less than significant impacts related to exposure of sensitive receptors to substantial pollutant concentrations.

Table 19. Proposed Project Localized Daily Operational Emissions in 2018 (lbs/day)

Source	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	0.03	2.34	0.04	0.04
Energy	0.21	0.09	0.02	0.02
Total Emissions	**0.24**	**2.45**	**0.06**	**0.06**
SCAQMD Significance Thresholds	**236**	**1,566**	**14**	**2**
Exceed thresholds?	No	No	No	No

Cumulative Impacts in 2018: The total estimated localized daily on-site operational emissions from the proposed development project, future build out of the Conceptual Lot Area, and the related projects are estimated and listed in **Table 20**. As shown, the combined emissions from both projects would not exceed SCAQMD's applicable thresholds and together would not exceed SCAQMD's screening operational LSTs. Therefore, cumulative impacts related to operational LSTs in 2018 would be less than significant.

Table 20. Localized Daily Cumulative Operational Emissions in 2018 (lbs/day)

Source	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	0.09	8.17	0.16	0.15
Energy	2.90	2.16	0.22	0.22
Total Emissions	**2.99**	**10.33**	**0.38**	**0.37**
SCAQMD Significance Thresholds	**236**	**1,566**	**14**	**2**
Exceed thresholds?	No	No	No	No

Cumulative Impacts in 2035: The cumulative emissions from the proposed project, development of the Conceptual Lot Area and the related projects are provided in **Table 21**. As shown, the combined emissions from both projects would not exceed SCAQMD's applicable thresholds and together would not exceed SCAQMD's screening operational LSTs. Therefore, cumulative impacts related to operational LSTs in 2035 would be less than significant.

Table 21. Localized Cumulative Daily Operational Emissions in 2035 (lbs/day)

Source	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	0.16	13.90	0.27	0.27
Energy	3.44	2.40	0.27	0.27
Total Emissions	**3.60**	**16.30**	**0.54**	**0.54**
SCAQMD Significance Thresholds	**236**	**1,566**	**14**	**2**
Exceed thresholds?	No	No	No	No

6.4 Create objectionable odors affecting a substantial number of people

The SCAQMD Air Quality Handbook identifies the following uses as having a potential odor issues: wastewater treatment plants, food processing plants, agricultural uses, chemical plants, composting, refineries, landfills, dairies, and fiberglass moldings.

Proposed Oak Valley Development: The proposed project would develop single-family residential uses. Residential land uses do not involve the types of uses that would emit objectionable odors affecting a substantial number of people.

In addition, odors generated that could be generated by construction activities are required to be in compliance with SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

During construction, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be temporary and are not expected to affect a substantial number of people. Therefore, impacts relating to both operational and construction activity odors from the proposed project would be less than significant.

Cumulative Impacts: As described above, the potential future construction of the Conceptual Lot Area would not occur at the same time as construction of the proposed 28-unit Oak Valley Development project. Therefore, construction related odors from the two project actions would not combine, and would not affect a substantial number of

people. Similarly, other related development projects could generate some localized odors during construction, but would be limited in time and extent and odors from the proposed project would not combine with odors from related projects to become cumulatively considerable. Thus, cumulative odor impacts would be less than significant.

Similarly, the combined effect of development of the proposed 28-unit Oak Valley Development project and the 50 single-family units in the Conceptual Lot Area would result in 78 single-family residences. As described above, residential land uses do not involve the types of uses that would emit objectionable odors affecting a substantial number of people.

The related projects mostly include single-family residential uses and retail, which also are not anticipated to generate noxious odors. As a result, the potential operation of both single-family residences in the future would not combine with other related impacts to result in cumulatively considerable odors, and cumulative impacts related to odors would be less than significant.

6.5 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The Basin is considered the cumulative study area for air quality. Because the Basin is currently classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, cumulative development consisting of the proposed project along with other reasonably foreseeable future projects in the Basin as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. However, based on SCAQMD's cumulative air quality impact methodology, SCAQMD recommends that if an individual project results in air emissions of criteria pollutants (ROG, CO, NO_x, SO_x, PM_{10}, or $PM_{2.5}$) that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

Proposed Oak Valley Development: The implementation of Mitigation Measures 1 and 2, which would ensure use of low-VOC architectural coatings and the use of water to reduce fugitive dust, the project's construction emissions would not exceed SCAQMD's daily thresholds. Thus, because the proposed project's construction-period impact would

be less than significant, the proposed project would not result in a significant cumulative impact, when considered with other past, present and reasonably foreseeable projects.

Operational emissions associated with the proposed project would not exceed the SCAQMD's thresholds of significance for any criteria pollutants. Thus, because the proposed project's operational impacts would be less than significant, the proposed project would not result in a cumulatively considerable net increase in any nonattainment pollutants, and impacts would be less than significant.

7.0 GREENHOUSE GAS EMISSIONS ASSESSMENT

This GHG assessment evaluates the potential for the proposed project to cumulatively contribute to GHG emissions. GHG impacts are considered on a global scale, as single projects are not substantial enough to result in a measurable increase in global concentrations of GHG emissions, GHG impacts of a project are considered on a cumulative basis.

This section also evaluates consistency of the project with the strategies outlined in the California Air Resources Board's (CARB) Scoping Plan in accordance with the GHG reduction goals of Assembly Bill 32 (AB 32), strategies proposed by the Southern California Association of Governments (SCAG) to reduce vehicle miles traveled (VMT) in the region, in accordance with Senate Bill 375 (SB 375).

7.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction Emissions

Construction activities would be temporary, but could contribute to global climate change impacts. Construction activities would result in the emission of GHGs from equipment exhaust, construction-related vehicular activity and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers.

Proposed Oak Valley Development: Total estimated construction-related GHG emissions for construction of the proposed 28-unit Oak Valley Development project are shown in **Table 22**. As shown, the estimated mitigated GHG emissions during construction would equal approximately 406.77 $MTCO_{2e}$, which is equal to approximately 13.56 $MTCO_{2e}$ per year after amortization over 30 years per SCAQMD methodology.

Table 22. Proposed Development's Construction-Related GHG Emissions

Emission Type	Estimated CO_2e Emissions
Total Mitigated Construction Emissions	406.77 (MT)
Annual Construction (Amortized over 30 years)	**13.56 (MT/Yr)**

NOTES: CO_2e= carbon dioxide equivalent; MT =metric tons; MT/yr = metric tons per year.

Operational Emissions

Area and indirect sources of operational GHG emissions associated with residential land uses primarily result from electricity and natural gas consumption, water transport (the energy used to pump water), and solid waste generation. GHG emissions from electricity consumed by the residences would be generated off-site by fuel combustion at the electricity provider. GHG emissions from water transport are also indirect emissions resulting from the energy required to transport water from its source. In addition, the growth resulting from development of residential uses would generate GHG emissions from motor vehicle trips.

Proposed Oak Valley Development: The estimated operational GHG emissions that would be generated from implementation of the proposed 28-unit Oak Valley Development project are shown in **Table 23**. Additionally, in accordance with SCAQMD's recommendation, the project's amortized construction-related GHG emissions were are added to the operational emissions estimate in order to determine the project's total annual GHG emissions.

As shown in **Table 23**, the proposed 28-unit Oak Valley Development project's total net annual GHG emissions would be approximately 550.62 $MTCO_{2e}$ per year (detailed calculations are included in the Appendix). This would not exceed the City's threshold of 3,000 $MTCO_{2e}$ per year. Therefore, the net increase in GHG emissions resulting from implementation of the proposed Oak Valley Development project would be less than significant.

Table 23. Proposed Development's Estimated Construction and Operations-Related GHG Emissions

Emission Source	Estimated Emissions CO_2e (MT/yr)
Construction	
Annual Mitigated Construction (Amortized over 30 years)	13.56
Project Operations	
Area Sources	6.23
Energy Consumption	103.47
Mobile Sources	413.23
Solid Waste	14.92
Water Consumption	12.76
Total (Construction and Operational Emissions)	**550.62**
City Significance Thresholds	3,000
Exceed thresholds?	No

NOTES: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year.

7.2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

As described above, the net GHG emissions generated by the both the proposed 28-unit single-family Oak Valley Development project and build out of the Conceptual Lot Area would not exceed 3,000 MT/Yr of CO_{2e} and as such, would not be considered to have a significant impact on the environment. Consequently, the proposed project would not hinder the state's ability to achieve AB 32's goal of achieving 1990 levels of GHG emissions by 2020 and impacts would not occur.

Consistency with CARB Scoping Plan

Out of the Recommended Actions contained in CARB's Scoping Plan that are listed in Table 2, the actions that are most applicable to residential development projects would be Actions E-1 (increased Utility Energy efficiency programs including more stringent building and appliance standards), GB-1 (Green building), and W-1 (Increased water use efficiency). CARB Scoping Plan Action E-1, together with Action GB-1 (Green Building), aims to reduce electricity demand by increased efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards, while Action

W-1 aims to promote water use efficiency. Development within the City is required to be designed to comply with the CalGreen Code to ensure that the new residential uses would use resources (energy, water, etc.) efficiently and significantly reduce pollution and waste. Therefore, the residential projects would be consistent with the Scoping Plan measures through incorporation of stricter building and appliance standards.

San Gabriel Valley of Governments Electrical Energy Action Plan

SB 375 requires the San Gabriel Valley of Governments to provide a Sustainable Communities Strategy (SCS) that will reduce GHG emissions from passenger vehicles and achieve the Regional Reduction Targets for GHG emissions from light-duty autos and trucks in the San Gabriel Valley area. In response the San Gabriel Valley of Governments adopted an Electrical Energy Action Plan (EEAP) in 2013, which identifies the ability to meet the Regional Reduction Targets by implementing policies within the EEAP.

Development of new single-family residential uses within the City would implement many of the EEAP policies related to maximizing the energy efficiency of new buildings, use of Energy Star appliances, cooling of buildings through tree plantings, use of energy efficient water fixtures, and use of water-efficient landscaping. Overall, development and operation of the new residential uses would not result in a conflict with the EEAP, and impacts would be less than significant.

8.0 CONCLUSION

8.1 Air Quality

The air quality assessment demonstrates that the proposed project would result in less than significant impacts to the ambient air quality. The South Coast Air Basin is designated as attainment for criteria pollutants CO, NO_2, and SO_2. However, the basin is currently in nonattainment for ozone, PM_{10}, $PM_{2.5}$ and lead emissions.

Short-term impacts would be generated from construction of new residential uses that are proposed under the development project, and would be allowed under the proposed zoning. However, the emissions generated with implementation of Mitigation Measures 1 and 2, which would require the use of low VOC coatings and twice daily watering during construction, would be below the SCAQMD thresholds. Therefore, impacts related to construction emissions after implementation of mitigation would be less than significant.

Operation of both the proposed 28-unit single-family Oak Valley Development project and the 50 single-family residential units that would be developed with build out of the Conceptual Lot Area would result in long-term regional emissions of the criteria pollutants that would be below the SCAQMD's applicable thresholds. This air quality assessment demonstrates that the proposed 28 single-family residences, along with potential future build out of the Conceptual Lot Area and related projects would not worsen air quality, create addition violations, or delay the areas re-designation to attainment for criteria pollutants in nonattainment. Therefore, the operational emissions would not substantially contribute to emissions concentrations and impacts would be less than significant. No mitigation measures are required for operations.

Build out assumptions of the City's General Plan were based upon gross acreage. Build out of the entire project site would result in 78 single-family residences in a total of 27.12 gross acres, which would result in 2.8 residential units per gross acreage, which is consistent with the existing Single-Family Very Low General Plan land use designation that allows up to 3 units per acre. As a result, the proposed project would result in development that would be within the development capacity anticipated by the City's General Plan, and would be consistent with the assumptions in the AQMP, and would not conflict with SCAQMD's attainment plans.

In addition, emissions generated by construction and operation of the proposed project would not exceed thresholds. As a result, impacts related to conflicts with or obstruction of implementation of the SCAQMD's AQMP would be less than significant.

Residential uses do not involve the types of uses that would emit objectionable odors affecting a substantial number of people, and operational impacts related to odors would not occur. During construction, emissions from construction equipment and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be temporary and are not expected to affect a substantial number of people. Therefore, impacts relating to both operational and construction activity odors would be less than significant. In addition, the odors from construction would not combine with related projects to become cumulatively considerable, and cumulative impacts related to odors would be less than significant.

8.2 Greenhouse Gas

The GHG assessment demonstrates that both the proposed development project would result in less than significant impacts related to GHG. Modeling and estimating of the GHG emissions from the construction and operation of the anticipated residential uses demonstrate the threshold of 3,000 MT/year CO_{2e} would not be exceeded.

The residential uses would incorporate components that would reduce GHG emissions further, such as green building requirements, energy efficient lighting, Energy Star appliances, water conservation provisions, and recycling. Implementing these components are consistent with the EEAP policies. Further, development and operation of single-family uses within the project area would not conflict with any applicable plan, policy or regulation for the purposes of reducing GHG emissions levels. Therefore, GHG emissions related to the proposed development project and the Conceptual Lot Area would not result in a significant impact on the environment.

9.0 REFERENCES

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9.2 Greenhouse Gas

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Appendix A CalEEMod Results